

---

**APPENDIX F.10**  
**Plan of Development**  
**(continued)**

---



**Pacific Connector Gas Pipeline, LP**

## **Hydrostatic Test Plan**

**Pacific Connector Gas Pipeline Project**

**October 2018**

## Table of Contents

1.0	Introduction.....	1
2.0	General Hydrostatic Testing Process.....	1
2.1	Contractor Responsibility .....	1
2.2	Cleaning .....	1
2.3	Filling.....	2
2.4	Pressurizing.....	2
2.5	8-Hour Test .....	2
2.6	Dewatering .....	2
2.7	Drying .....	3
2.8	Tie-Ins .....	3
3.0	Source Water .....	3
4.0	Dewatering .....	6
5.0	Horizontal Directional Drill (HDD)/Direct Pipe Hydrostatic Testing .....	11
6.0	Test Failure .....	11
7.0	Potential Effects and Best Management Practices .....	12
7.1	Schedule .....	12
7.2	Water Withdrawal.....	12
7.2.1	Waterbody Source Testing .....	12
7.2.2	Invasive Species and Pathogens.....	13
7.2.3	Bio-Invasive Research.....	13
7.2.4	Waterbody Source Best Management Practices.....	15
7.2.5	Temperature and Flow Effects.....	19
7.3	Dewatering – Land Application .....	19
8.0	Monitoring.....	20
9.0	References .....	21

## List of Tables

Table 1	Potential Hydrostatic Source Locations .....	4
Table 2	Potential Hydrostatic Dewatering (Test Header) Locations within the Construction Right-of-Way ..	7

## List of Attachments

Attachment A	Hydrostatic Test Dewatering Structure Typicals
Attachment B	Potential Treatment Matrix
Attachment C	Hydrostatic Test Water Withdrawal Equipment Cleaning and Sanitizing Procedures
Attachment D	Hydrostatic Test Dewatering Location Maps
Attachment E	Hydrostatic Test Plan Impacts Assessment
Attachment F	Hydrostatic Test Water Withdrawal Hydrologic Assessment

## **1.0 INTRODUCTION**

In accordance with DOT 49 CFR Part 192, Pacific Connector Gas Pipeline, LP (PCGP) will strength test (or hydrostatic test) the pipeline system (in sections) after it has been lowered into the pipe trench and backfilled. The purpose of the hydrostatic test is to verify the manufacturing and construction integrity of the pipeline before placing it in service to flow natural gas. Should a leak or break occur during the hydrostatic test, the pipeline will be repaired and retested to ensure the required specifications are achieved. Once a segment of pipe has been successfully tested, cleaned, and dried the pipe will be joined to the adjacent pipeline segment. The physical capacity of the pipeline to hold hydrostatic test water is approximately 64.3 million gallons or about 197 acre feet. The actual volume to be used is significantly reduced below the total pipe capacity through the re-use of water by cascading test water from segment to segment as practically achievable. Figure 1 in Attachment D provides an overview of the Project alignment, test segment locations, potential hydrostatic test sources, and the basins crossed by the Project as described in this Plan.

## **2.0 GENERAL HYDROSTATIC TESTING PROCESS**

### **2.1 Contractor Responsibility**

The construction contractor is responsible for implementing PCGP's hydrostatic test design, drawings, and specifications. The contractor is also responsible for following applicable environmental stipulations, right-of-way restrictions and completing the necessary hydrostatic test documentation as required in the construction contract. The construction contractor will then provide PCGP with a specific hydrostatic test plan and schedule detailing the specific methods for cleaning, filling, pressurizing, proof testing, dewatering, and drying of the pipeline during the testing process. The contractor is also responsible to provide all of the necessary equipment, instrumentation, qualified personnel and materials necessary to complete the hydrostatic test plan. PCGP will review and approve the contractor's hydrostatic test plan and provide final acceptance of the test.

### **2.2 Cleaning**

As part of the construction process and prior to hydrostatic testing, the pipeline is lowered into the trench and prepared for cleaning. The majority of the pipe should be backfilled and compacted with the exception of valve sites and test header break locations which are left open to access the pipeline during the hydrostatic test process. Pig launchers and receivers are welded onto the test segment and a series of cleaning pigs are pushed through the pipeline with compressed air. All debris removed from the pipeline during the cleaning process is disposed of at an authorized waste disposal facility or other appropriate locations if approved by the landowner. Once the cleaning pig runs are complete, the pig launcher and receiver are removed from the pipeline test segment, and the hydrostatic test headers are welded into place to allow the test segment to be filled with water and tested.

### **2.3 Filling**

Once the contractor has cleaned the pipeline test segment, the contractor uses hoses/hard piping to fill the pipeline with clean test water (see Sections 3.0 and 7.2). Water is pumped via hose from the approved water source site(s) or from the previous test segment into the new test segment. Depending on the proximity of the source water location to the test segment, water trucks may be used to transport the water. All fill lines and water pumps are rated to sustain the hydrostatic test procedures. Water is pumped into the test segment behind fill pigs to completely fill the test segment with water and to minimize potential air entrainment during the filling process. Fill plugs/pigs are pushed in a controlled manner with pressure during the filling process from one end of the test segment and are received at the other end to ensure all air is removed from the pipeline prior to testing.

### **2.4 Pressurizing**

Calibrated temperature recorders, pressure recorders, and deadweight testers are connected to the hydrostatic test headers to document the test. The contractor secures the test area to prevent all unauthorized personnel from being in the area. Once the test segment is completely filled with water, the fill pump is removed, the pressure pump is connected, and the pipeline test segment pressurization begins. The test pressure is brought to 500 psig and held until the pressure and temperatures are stabilized. All connections are checked for leaks. Providing there are no leaks, the pressure pump raises the internal pipe pressure slowly to 80% of the required test pressure at the low point of the test section. Once the pressure and temperatures stabilize, the stroke count is started and continued until the internal pipe pressure reaches the required test pressure.

### **2.5 8-Hour Test**

The hydrostatic test pressure is maintained on the test section for the duration of the test, which is anticipated to last 8-hours. During the first two hours of the pressure test the time, pipe temperature, ambient temperature, and dead weight pressure readings are recorded. After the second hour, the same readings are taken every half hour for the remainder of the test. Acceptance of the hydrostatic test is done by PCGP's Chief Construction Inspector. If a leak is encountered during the hydrostatic test, the test is stopped, the leak is located, and the pipe is excavated to repair the leak. If at any time during the 8-hour hydrostatic test, the test pressure falls below the minimum test pressure, the test will be unacceptable and test section shall be re-pressurized and the entire test started again.

### **2.6 Dewatering**

At the end of the 8-hour test, the contractor lowers the pipeline pressure by slowing venting water. The water that is vented may be cascaded into the next test section, or into a dewatering structure, or into a frac tank for further testing pending the location and need in the hydrostatic test plan. Test water is only released for land application at previously approved locations through an approved dewatering structure. Where water is being released in an upland area, the contractor is responsible for taking water samples, if required, for analysis. Once the samples have been analyzed and meet the permit requirements, the water may be released through an approved dewatering structure in an upland area according to the conditions stipulated in the Oregon Department of Environmental Quality (ODEQ) Water Pollution Control Facility (WPCF) permit.

## 2.7 Drying

Once the hydrostatic test has been approved and the water removed from the pipeline, the contractor will use dry compressed air to push a series of drying pigs through the pipeline. Pigs will be run until the pipeline is dried to a specified dew point.

## 2.8 Tie-Ins

Following the pipeline drying, the test segments are welded together. The welds are x-rayed and the pipeline is prepared for service.

## 3.0 SOURCE WATER

Water for hydrostatic testing will be obtained from commercial or municipal sources, private supply wells, or surface water right owners (see Table 1). Hydrostatic test water for the compressor station will be obtained from nearby municipalities. If water for hydrostatic testing is acquired from public surface water sources, PCGP will obtain all necessary appropriations and withdrawal permits through the Oregon Water Resources Department (OWRD). As part of the application process, OWRD provides the application(s) to ODEQ and the Oregon Department of Fish and Wildlife (ODFW) for review. These agencies comment if there are concerns regarding the impacts the withdrawal(s) may have on water quality, or other beneficial uses, and/or fish and wildlife species and their habitat, respectively. OWRD also provides public notice of the application(s) and encourages comments. OWRD then completes its review and issues the permit(s) or denies the application(s). Private owners will be contacted to discuss water acquisition during landowner negotiations in the year prior to construction.

As required by ODFW, pumps used to withdraw surface water will be screened according to ODFW and NOAA Fisheries' screening criteria to prevent entrainment of aquatic species<sup>1</sup>. When pumping water from a source location, the pump head will be submerged and maintained on average at the center of the water column so as to prevent sucking in sediments and/or algae lying at the water level surface or sediments (i.e. heavy metals) resting on the bed of the waterbody. The targeted ramping rate will be managed such that there is no significant decrease of river flows. Estimated ramping rates will be submitted to ODFW as part of the ODWR permitting process. Attachment F provides the estimated ramping rates for the proposed water withdrawal volumes associated with the proposed waterbody sources listed in Table 1. The only substance that would be added to the hydrostatic test water would be chlorine to prevent the potential transfer of aquatic invasive species, which was a concern for the BLM and Forest Service, as described in Section 7.0.

---

<sup>1</sup> [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5366394.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5366394.pdf) and [https://www.oregon.gov/owrd/pubs/docs/forms/pumpcert\\_fishscreen.pdf](https://www.oregon.gov/owrd/pubs/docs/forms/pumpcert_fishscreen.pdf)

**Table 1  
Potential Hydrostatic Source Locations**

County	MP	Primary Source		Owner	Estimated Withdrawal Requirement (Longest Test Segment Volume plus pre-test water for HDD/Direct pipe <sup>1)</sup> (acre feet)	Test Section	Spread	ESA Species
		Alternate Source						
<b>South Coast Basin - Coos Bay Frontal Pacific Ocean (1710030403) - Fifth Field Watershed</b>								
Coos	0.00	Coos Bay - North Bend Water Board (North Spit Pump House MP 0.00)		Coos Bay - North Bend Water Board	1,938,000 (5.95)	1 -2	Early Works	N/A (municipal water)
	1.31	Fire Hydrant at base of Hwy 101 MP 1.31						
Coos	11.08R	Coos River		Oregon Department of Water Resources	2,825,000 (8.67)	3-6	1	In Coos River: • Southern DPS Green Sturgeon • Oregon Coast ESU Coho Salmon
<b>South Coast Basin – E. F. Coquille River (1710030503) - Fifth Field Watershed</b>								
Coos	29.64	East Fork Coquille River		Oregon Department of Water Resources		3-6	1	In EF Coquille River: • Oregon Coast ESU Coho Salmon
Coos	29.64	East Fork Coquille River		Oregon Department of Water Resources	2,458,000 (7.54)	7-10	2	In EF Coquille River: • Oregon Coast ESU Coho Salmon
<b>South Coast Basin - M. F. Coquille River (1710030501) - Fifth Field Watershed</b>								
Douglas	50.28	Middle Fork Coquille River		Oregon Department of Water Resources		7-10	2	In MF Coquille River: • None
<b>Umpqua Basin - Olalla Creek-Lookingglass Creek (1710030212) - Fifth Field Watershed</b>								
Douglas	57.30 (TEWA 55.90)	Water Impoundment	Ben Irving Reservoir	Douglas County Public Works/ Looking Glass Olalla Water District/ Winston-Dillard Water District		11-12	3	In Ben Irving Reservoir/Berry Creek: • Oregon Coast ESU Coho Salmon
Douglas	58.79	Looking Glass Olalla Water District (Olalla Creek Crossing)		Looking Glass Olalla Water District		11-12	3	In Olalla Creek: • Oregon Coast ESU Coho Salmon

County	MP	Primary Source	Owner	Estimated Withdrawal Requirement (Longest Test Segment Volume plus pre-test water for HDD/Direct pipe <sup>1</sup> ) (acre feet)	Test Section	Spread	ESA Species
		Alternate Source					
<b>Umpqua Basin - Clark Branch-South Umpqua River (1710030211) - Fifth Field Watershed</b>							
Douglas	71.25	S. Umpqua River Crossing #1	Oregon Department of Water Resources	4,042,000 (12.40)	11-12	3	In S. Umpqua River: • Oregon Coast ESU Coho Salmon
Douglas	71.25	S. Umpqua River Crossing #1	Oregon Department of Water Resources	2,878,000 (8.83)	13-17	4	In S. Umpqua River: • Oregon Coast ESU Coho Salmon
<b>Umpqua Basin - Days Creek-South Umpqua River (1710030205) - Fifth Field Watershed</b>							
Douglas	94.73	S. Umpqua River Crossing #2	Oregon Department of Water Resources	2,878,000 (8.83)	13-17		In S. Umpqua River: • Oregon Coast ESU Coho Salmon
Douglas	94.73	S. Umpqua River Crossing #2	Oregon Department of Water Resources	2,535,000 (7.78)	18-20	5a	In S. Umpqua River: • Oregon Coast ESU Coho Salmon
<b>Rogue Basin - Shady Cove-Rogue River (1710030707) - Fifth Field Watershed</b>							
Jackson	122.80	Rogue River Crossing	Oregon Department of Water Resources	2,872,000 (8.81)	21-24	5b	In Rogue River: • SONCC ESU Coho Salmon
<b>Rogue Basin - Little Butte Creek (1710030708) - Fifth Field Watershed</b>							
Jackson	141.00	Star Lake	Frances Jensen – Star Ranch (JK-542.000RT)	3,060,000 (9.39)	25-27	6	In Star Lake: • None
Jackson	133.38	Medford Aqueduct	Eagle Point Irrigation		25-27		In Medford Aqueduct: • None
<b>Klamath Basin -Lake Ewauna-Klamath River (1801020412)</b>							
Klamath	199.20	Klamath River	Oregon Department of Water Resources	4,817,000 (14.78)	28-32	7	In Klamath River: • Lost River Sucker • Shortnose Sucker
<b>Klamath Basin -Mills Creek–Lost River (1801020409)</b>							
Klamath	212.0	Lost River	Oregon Department of Water Resources		28-32	7	In Lost River: • Lost River Sucker • Shortnose Sucker
<b>Total</b>				<b>N/A <sup>2</sup></b>			

<sup>1</sup> The volumes in the table represent the estimated withdrawal volume from a potential hydrostatic test source, and, in some cases, alternate sources are identified for the same test segment(s) because water withdrawals would be based on conditions at the time of construction.

<sup>2</sup> Totalling the potential withdrawal volumes is not applicable because, as stated in footnote #1, multiple (alternate) sources have been identified for the same test segments. Without cascading (not proposed), the physical volume for all individual test segments would be approximately 64.3 million gallons, or about 40.2 acre feet. With the use of cascading, which is proposed, the minimum test water volume to be withdrawn would be approximately 25,832,000 gallons or 79.28 acre feet across all sources, an approximate 43 percent reduction in water use. The actual volume will be within this range and is expected to be at the lower end of the range.

## 4.0 DEWATERING

The pipeline will be tested in approximately 32 sections, each with varying lengths and water volume requirements (see Table 2). The required test pressure ranges, pipe strength (wall thickness and pipe grade), topography (specifically elevation changes), available access and work areas to stage testing equipment, and the availability of test water are used to determine the length of each test segment. During the test, it may be necessary to release some volume of water at each of the section breaks; however, PCGP will conserve water as much as practical and minimize dewatering, where feasible, by cascading, or transferring, water between test sections. If the volume of water required to test the successive segment(s) is less than the preceding test segment, the extra test water may be stored in the previously tested segments or portable tanks and then pumped to subsequent segments for testing as necessary to minimize water withdrawals and potential water hauling requirements. After testing of the segment or series of segments is complete, the hydrostatic test water will be released to an upland area within the basin from which it was withdrawn. The hydrostatic test would be dewatered through a filter bag or straw bale structure to remove particulates and prevent the potential for sediment transport and ground surface erosion (see Attachment A). PCGP does not propose to release hydrostatic test water outside the basin from which it was withdrawn (i.e., South Coast, Umpqua, Rogue, or Klamath). It is expected that the volume of water to be released within a basin would be the largest volume of water associated with the longest test segment within the basin for each construction spread. Table 2 provides the volume of water for each test segment and footnotes the total volumes for each basin for each spread, which are listed below:

- South Coast Basin – 6,097,000 gallons (7.80 ac/ft)
  - Umpqua Basin – 9,274,000 gallons (12.17 ac/ft)
  - Rogue Basin – 5,768,000 gallons (3.39 ac/ft)
  - Klamath Basin – 4,693,000 (14.40 ac/ft)
- Total = 25,832,000 (79.28 ac/ft)

At some locations it may be necessary to locate the dewatering structures outside the construction right-of-way, as allowed under FERC Procedures (IV. A. 1.), to direct water away from the disturbed right-of-way areas. In these locations, small brush or trees may be cleared by a rubber-tired rotary or flail motor (brush hog) or by hand with machetes/chainsaws. No soil disturbance will occur. A rubber-tired or track hoe will be utilized to lay the dewater line and to remove the saturated straw bales or filter bags upon completion of hydrostatic dewatering.

The hydrostatic test dewater locations are shown on the maps provided in Attachment D. The hydrostatic test design was developed from alignment and elevation surveys and detailed pipe design. The design will be provided to construction contractors, once selected. Potential stream flow effects (or ramping rates) from hydrostatic test dewatering are not expected because water will be released to an upland area and through an energy dissipation dewatering structure to promote infiltration into the ground and will not occur within 150 feet of any sensitive wetland (i.e., non-agricultural wetland) or waterbody, where feasible. Further, BMPs, as described in Section 7.0, will be implemented to control dewatering to minimize potential increases in stream flow.

**Table 2  
Potential Hydrostatic Dewatering (Test Header) Locations within the Construction Right-of-Way**

Test Segment	Oregon Plan Watershed Basin	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3,4</sup> (gallons) (acre feet)	Potential Water Source (Primary Sources Are in Bold / Alternates are Un-Bolded)	Jurisdiction (Ending MP)	Milepost (MP) Waterbodies Closest to Dewatering Locations <sup>5</sup> (Reach Code)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
<b>Spread - E.W.</b>												
1	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	0.00	1.31	6,917	366,000 (1.12)	MP 0.00 - North Spit Pump House (Coos Bay) <b>MP 1.31 - Fire Hydrant on West side of Hwy 101 Bridge</b>	Private	MP 0.00 Tributary to Coos Bay (17100304022002)	500	43.432966 Begin -124.238834 Begin
										MP 0.00 Coos Bay	850	
										MP 1.31 Coos Bay/ Coos River (17100304006491)	650	43.422047 End -124.221637 End
2	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	1.31	8.35R	17,383	1,181,000 (3.62)		Private	MP 8.4 BR Tributary to Willanch Slough (17100304000413)	240	43.405267 -124.159758
										MP 8.4BR Willanch Slough (17100304001393)	480	
<b>Spread 1</b>												
3	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	8.35R	11.04R	19,154	751,000 (2.30)		Private	MP 11.04BR Coos River (17100304000093)	350	43.375797 -124.141648
										MP 11.04BR Tributary to Coos River (17100304015694)	50	
4	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	11.04R	19.62BR	45,302	2,395,000 <sup>4</sup> (7.35)	<b>MP 11.08R - Coos River</b> MP 29.64 - East Fork Coquille River	BLM-Coos	No Water Release at MP 19.62BR.		
5	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	N.F. Coquille River 1710030504	19.62BR	23.95	21,701	1,147,000 (3.52)		Private	23.95 Tributaries to N. Fork Coquille (17100305012274, 17100305012275,)	300-800	43.209046 -124.061842
6	South Coast	N.F. Coquille River 1710030504	E. F. Coquille River 1710030503	23.95	29.54	48,101	2,543,000 (7.80)		Private	MP 29.54 East Fork Coquille River (17100305000286)	500	43.1561 -123.994802
<b>Spread 2</b>												
7	South Coast	E. F. Coquille River 1710030503	M. F. Coquille River 1710030501	29.54	37.15	40,181	2,215,000 (6.80)		BLM-Coos	No Water Release at MP 37.15.		
8	South Coast	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	37.15	38.90	9,240	489,000 (1.50)		BLM-Coos	No Water Release at MP 38.90.		
9	South Coast	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	38.90	47.40	44,880	2,373,000 (7.28)	<b>MP 29.64 - East Fork Coquille River</b> MP 50.28 - Middle Fork Coquille River	Private	MP 47.40 Deep Creek (17100305022950, 17100305005863)	400-500	43.051877 -123.737828
										MP 47.40 Trib. To Reed Creek (17100305022461)	300	
10	South Coast	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	47.40	51.58 (50.23) <sup>6</sup>	22,070	1,167,000 (3.58)		Private	MP 50.23 Middle Fork Coquille River (17100305000232)	300	43.055668 -123.682629
										MP 51.58 Tributary to Jim Belieu Creek (17100305022641)	1380	43.050645 -123.658768
<b>Spread 3</b>												
11	Umpqua	M. F. Coquille River 1710030501	Olalla Creek-Lookingglass Creek 1710030212	51.58 (50.23) <sup>6</sup>	57.76	32,630	1,725,000 (5.29)	MP 57.30 - Ben Irving Reservoir MP 58.79 - Olalla Creek	Private	MP 57.76 Trib. To Olalla Creek (17100302002221)	570	43.066609 -123.551655

Test Segment	Oregon Plan Watershed Basin	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3,4</sup> (gallons) (acre feet)	Potential Water Source (Primary Sources Are in Bold / Alternates are Un-Bolded)	Jurisdiction (Ending MP)	Milepost (MP) Waterbodies Closest to Dewatering Locations <sup>5</sup> (Reach Code)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
12	Umpqua	Olalla Creek-Lookingglass Creek 1710030212	Clark Branch-South Umpqua River 17100302011	57.76	71.37	75,029	3,967,000 <sup>4</sup> (12.17)	<b>MP 71.25 - South Umpqua River</b>	Private	MP 57.76 Olalla Creek (17100302000048)	900	43.052768 -123.328794
										MP 71.37 Tributaries to South Umpqua River (17100302006366)	100	
										MP 71.37 South Umpqua River (17100302000086)	500	
<b>Spread 4</b>												
13	Umpqua	Clark Branch-South Umpqua River 17100302011	Myrtle Creek 1710030210	71.37	81.30	52,430	2,772,000 (8.51)	<b>MP 71.25 - South Umpqua River</b>  Additional Potential Sources: South Myrtle Creek	Private	81.30 South Myrtle Creek (17100302008796)	500	43.034704 -123.187105
14	Umpqua	Myrtle Creek 1710030210	Days Creek-South Umpqua River 1710030205	81.30	88.63	38,702	2,046,000 (6.27)	<b>MP 71.25 - South Umpqua River</b>  MP 94.70 - South Umpqua River	Private	MP 88.63 Days Creek (171003020000511)	325	42.987597 -123.100547
15	Umpqua	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	88.63	89.30	3,538	187,000 (0.57)		Private	No Water Release at MP 89.30.		
16	Umpqua	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	89.30	92.00	14,256	754,000 (2.31)		Private	No Water Release at MP 92.00.		
17	Umpqua	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	92.00	94.65	13,992	740,000 (2.27)		Private	MP 94.65 Trib. to South Umpqua River (17100302036587)	460	42.933586 -123.040408
										MP 94.65 South Umpqua River (17100302011455)	1000	
<b>Spread 5</b>												
18	Umpqua	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	94.65	96.20	8,184	433,000 (1.33)	<b>MP 94.70 - South Umpqua River</b>	Private	MP 96.20 Tributary To Lick Creek (17100302036576, 17100302036782)	300-600	42.914216 -123.029303
										MP 96.20 Tributary To East Fork Stouts Creek (17100302037851, 17100302037373)	300-450	
19	Umpqua	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	96.20	101.15	26,136	1,382,000 (4.24)		Private	MP 101.15 East Fork Stouts Creek (17100302000619)	830	42.865092 -123.001491
										MP 101.15 Trib. to E. F. Stouts Creek (17100302037549)	800	
										MP 101.15 Tributary to Hatchet Creek (17100302036849, 17100302036895)	370-775	
20	Umpqua	Days Creek-South Umpqua River 1710030205	Upper Cow Creek 1710030206	101.15	110.23	47,942	2,535,000 (7.78)	<b>MP 94.70 - South Umpqua River</b>	USFS-Umpqua	No Water Release at MP 110.23.		
21	Umpqua Rogue (MP 110.23)	Upper Cow Creek 1710030206	Trail Creek 1710030706	110.23	114.70	23,602	1,248,000 (3.83)	<b>MP 122.80 - Rogue River</b>	Private	MP 114.70 Tributary to Wall Creek (17100307010304, 17100307020372, 17100307018181)	850-1000	42.733301 -122.876871

Test Segment	Oregon Plan Watershed Basin	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3,4</sup> (gallons) (acre feet)	Potential Water Source (Primary Sources Are in Bold / Alternates are Un-Bolded)	Jurisdiction (Ending MP)	Milepost (MP) Waterbodies Closest to Dewatering Locations <sup>5</sup> (Reach Code)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
										MP 114.70 Tributary to West Fork Trail Creek (17100307008733, 17100307008734, 17100307013978)	540-650	
22	Rogue	Trail Creek 1710030706	Trail Creek 1710030706	114.70	118.23	18,638	986,000 (3.03)	<b>MP 122.80 - Rogue River</b> Additional Potential Sources: South Myrtle Creek and Indian Lake (Segment 22)	Private	MP 118.23 Tributary to Buck Rock Creek (17100307015562, 17100307009117, 17100307014926)	800-1000	42.688283 -122.852207
									Private	MP 118.23 Tributary to West Fork Trail Creek (17100307010045, 17100307020541, 17100307018799)	1000-1150	
23	Rogue	Trail Creek 1710030706	Shady Cove-Rogue River 1710030707	118.23	122.80	24,130	1,276,000 (3.92)		Private	No Water Release at MP 122.80.		
24	Rogue	Shady Cove-Rogue River 1710030707	Big Butte Creek 1710030704	122.80	132.50	51,216	2,708,000 (8.31)		Private	MP 132.50 Trib. to Quartz Creek (17100307003292)	250	42.577342 -122.680434
<b>Spread 6</b>												
25	Rogue	Big Butte Creek 1710030704	Little Butte Creek 1710030708	132.50	141.00	44,880	2,373,000 (7.28)	<b>MP 141.00 - Star Lake</b>  MP 133.4 - Medford Aquifer (if this is used, will have to cut in another test)	BLM-Medford	MP 141.00 Tributary to Salt Creek (17100307004267, 17100307014303)	650-1000	42.485451 -122.610284
26	Rogue	Little Butte Creek 1710030708	Little Butte Creek 1710030708	141.00	151.44	55,123	2,915,000 (8.95)		BLM-Medford	MP 151.44 Tributary to North Fork Little Butte Creek (17100307010462, 17100307013836, 17100307013832)	500-770	42.379242 -122.525296
									BLM-Medford	MP 151.44 Tributary to South Fork Little Butte Creek (17100307015744, 17100307016676)	400-475	
27	Rogue	Little Butte Creek 1710030708	Little Butte Creek 1710030708	151.44	162.00	55,757	3,060,000 <sup>+</sup> (3.39)		USFS-Rogue River	No Water Release at MP 162.00.		
<b>Spread 7</b>												
28	Rogue Klamath (MP 167.58)	Little Butte Creek 1710030708	Spencer Creek 1801020601	162.00	179.00	89,760	4,635,000 (14.22)	<b>MP 199.2 - Klamath River</b> MP 212.00 - Lost River	Private	MP 179.00 Tributary to Clover Creek (18010206005432)	1000	42.230473 -122.084719
							4,635,000 (14.22)		Private	MP 179.00 Tributary to Clover Creek (18010206003627)	550	
29	Klamath	Spencer Creek 1801020601	Lake Ewauna / Upper Klamath River 1801020412	179.00	191.39	65,419	3,459,000 (10.62)		Private	MP 191.39 Tributary to Klamath River (18010204013935)	600	42.135675 -121.905079
30	Klamath	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	191.39	199.20	41,237	2,236,000 (6.86)		Private	No Water Release at MP 199.20.		
31	Klamath	Lake Ewauna / Upper Klamath River 1801020412	Mills Creek - Lost River 1801020409	199.20	212.00	67,584	3,518,000 (10.80)		Private	MP 212.00 Lost River (18010204004545)	250	42.057325 -121.637374

Test Segment	Oregon Plan Watershed Basin	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3,4</sup> (gallons) (acre feet)	Potential Water Source (Primary Sources Are in Bold / Alternates are Un-Bolded)	Jurisdiction (Ending MP)	Milepost (MP) Waterbodies Closest to Dewatering Locations <sup>5</sup> (Reach Code)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
32	Klamath	Mills Creek - Lost River 1801020409	Mills Creek - Lost River 1801020409	212.00	228.81	88,757	4,693,000 <sup>4</sup> (14.40)		Private	MP 228.81 T Canal (18010204015324)	2500	42.035247 -121.373198
<b>Total <sup>7</sup></b>							<b>64,275,000</b> <b>(197.25)</b>					
<b>Trenchless Crossings (HDD &amp; Direct Pipe)</b>												
Coos Bay West HDD	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	MPs 0.15 to 1.10 Release: TEWA 1.09-W		5,192	277,488 <sup>7</sup> (0.85)	MP 0.00 - North Spit Pump House (Coos Bay) <b>MP 1.31 - Fire Hydrant on West side of Hwy 101 Bridge</b>	Private	MP 1.09 Coos Bay (17100304006491)	500	43.442502 -124.225453
Coos Bay East HDD	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	MPs 1.46 to 3.1 Release: TEWA 1.09-W		8,972	479,512 <sup>7</sup> (1.47)		Private			
Coos River HDD	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	MPs 11R to 11.3BR Release: TEWA 11.27-W		1,602	85,000 <sup>7</sup> (0.26)	<b>MP 11.08R - Coos River</b> MP 29.64 - East Fork Coquille River	Private	MP 11.27R Trib. to Coos River (17100304000783)	240	43.3371332 -124.139012
MP 25 Powerline HDD	South Coast	N.F. Coquille River 1710030504	N.F. Coquille River 1710030504	MPs 24.95 to 25.8 Release: TEWA 24.55-N		3,550	191,000 <sup>7</sup> (0.59)		Private	MP 24.55 Trib. to Cherry Creek (17100305012612)	560	43.202472 -124.047765
S. Umpqua #1 Direct Pipe	Umpqua	Clark Branch-South Umpqua River 17100302011	Clark Branch-South Umpqua River 17100302011	MPs 71.1 to 71.37 Release: TEWA 71.01-N		1,381	75,000 <sup>7</sup> (0.23)	<b>MP 71.25 - South Umpqua River</b>	Private	MP 71.37 Trib. to South Umpqua River (17100302006216)	185	43.054123 -123.337544
Rogue River HDD	Rogue	Shady Cove-Rogue River 1710030707	Shady Cove-Rogue River 1710030707	MPs 122.2 to 122.8 Release: TEWA 121-95-W		3,050	164,000 <sup>7</sup> (0.50)	<b>MP 122.80 - Rogue River</b>	Private	MP 122.2 Trib. to Rogue River (17100307012513)	330	42.645617 -122.828899
Klamath River HDD	Klamath	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	MPs 199.2 to 199.65 Release: TEWA 198.72-N		2,300	124,000 <sup>7</sup> (0.38)	<b>MP 199.2 - Klamath River</b>	Private	MP 199.2 Klamath River (18010204002564)	670	42.17182 -121.810408

<sup>1</sup> Mileposts were not calculated from engineering stationing. "R" and "BR" represent a revised milepost location based on the incorporation of reroutes into the Proposed Route.

<sup>2</sup> Section length is calculated directly from engineering footage.

<sup>3</sup> Section volumes were calculated using section length directly from engineering footage.

<sup>4</sup> Water will be cascaded between test sections, where practical, to minimize test water volume requirements, withdrawals, and potential water hauling. It is expected that the largest volume of water to be released would be associated with the longest test segment within a basin.

<sup>5</sup> Waterbodies were determined from USGS National Hydrography Dataset water course data(<http://nhd.usgs.gov/>). Distances are between the test break/header location (at MPs provided in this column) to the closest water course regardless of flow characteristics (i.e., perennial, intermittent, or ephemeral); dewatering structures for the test break/header locations will be located a minimum of 150 feet from waterbodies/wetlands.

<sup>6</sup> MP 50.23 is an alternative test break/hydrostatic test water release location for this test segment

<sup>7</sup> Without cascading (not proposed), the maximum test volume for all individual test segments would be 64,275,000 gallons. With the use of cascading, which is proposed, the minimum test water volume to be withdrawn would be 25,832,000 gallons. The actual volume will be within this range and is expected to be at the lower end of the range. (Volumes of water needed to pre-test the pipe for the HDD and Direct Pipe crossings would be within the stated range.)

Typical dewatering rates can range from several hundred gallons per minute to several thousand gallons per minute and are dependent on the following, which will be reviewed by the contractor and EI to determine the appropriate dewatering rate prior to construction:

- Length of test section (volume);
- Profile of test section (head);
- Position of dewatering site relative to streams, drainages, roads, housing, cropland;
- Topography (slope);
- Land use (vegetation); and
- Soil type (ability to absorb).

The pipeline test segment(s) will be dewatered once the hydrostatic test has been successfully completed. Dewatering pigs driven by compressed air will be utilized to remove the water. The volumes and rates of dewatering will be determined at the time of construction based on site-specific conditions and released at a rate to prevent scour and erosion (see Section 7.3). Prior to dewatering, water quality will be tested and monitored according to permit conditions to ensure test water meets upland application requirements; however, since the pipe will be internally coated and cleaned prior to filling, the water quality is not expected to differ significantly from the quality of the fill water used. Dewatering to land will follow specific procedures developed to minimize water quality impacts and localized erosion and will comply with hydrostatic test permits and approvals (see Section 7.3). In the unlikely event a testing parameter does not meet the release requirements/limits, PCGP would implement appropriate treatment methods to ensure that the limits are satisfied.

PCGP will implement FERC's Wetland and Waterbody Procedures regarding hydrostatic testing as well as any conditions specified in the ODEQ WPCF permit. PCGP will follow FERC's Wetland and Waterbody Procedures (Section VII. C.4.) and will locate all hydrostatic test manifolds/dewatering structures at least 150 feet outside of wetlands and riparian areas to the maximum extent practicable based on engineering test constraints to ensure that water infiltrates into the ground and does not flow into wetlands or waterbodies (see Section 7.3).

## **5.0 HORIZONTAL DIRECTIONAL DRILL (HDD)/DIRECT PIPE HYDROSTATIC TESTING**

Each HDD and Direct Pipe crossing require pre-installation and post-installation hydrostatic testing. Should a leak or break occur, the pipeline would be repaired and retested to ensure the required specifications are met. HDD segment testing requires a small volume of water due to the relatively short section of pipe involved. The volumes are accounted for in Table 2 and the release locations are shown on the maps in Appendix D.

## **6.0 TEST FAILURE**

As experienced by PCGP on previous pipeline projects and as reported by Kirkwood and Cosham (2000), hydrostatic test failure on new pipeline construction is extremely rare due to modern steel and construction techniques that include better controls, non-destructive testing (e.g., X-Ray or ultrasonic testing), and inspection of the whole pipeline fabrication process. In the unlikely event a failure occurs during hydrostatic testing, water may be released at the point of the failure. The quantity of water released at the point of failure is dependent on the nature and location of the failure; typically a test failure is the result of a small pin-hole leak with little water loss. During testing, the contractor's testing engineers and PCGP's inspectors will monitor the testing results for pressure drops. PCGP's EIs will monitor the length of the test

section if a failure occurs to mitigate potential effects from a water release and will implement appropriate BMPs to minimize erosion or sedimentation into sensitive areas. Extra straw bales, silt fencing, stakes, fabric, and other appropriate erosion control devices will be available during the hydrostatic testing process and will be utilized as necessary to control any released water that may seep to the surface and into a sensitive area. As stated above, the water used for the test will be from surface water or municipal sources, permitted as necessary for appropriations and no additives (other than potentially chlorine, see Section 7.2.4) will be included in the water for the testing. If a discharge to surface waters occurred from a hydrostatic test, the appropriate agency would be notified if required by permit conditions. Should a leak or break occur during the hydrostatic test, the pipeline will be repaired and retested to ensure the required specifications are met.

## **7.0 POTENTIAL EFFECTS AND BEST MANAGEMENT PRACTICES**

The measures outlined below are to ensure the protection of aquatic and terrestrial resources at water withdrawal and dewatering locations.

### **7.1 Schedule**

It is projected that pipeline construction would be completed in late summer to early fall of the pipeline construction season which will also minimize potential adverse impacts to terrestrial and aquatic ecosystems. The pipeline must be tested immediately following completion of construction so that any failures could be repaired and retested. Also, the hydrostatic test must be completed prior to introducing natural gas into the pipeline system and putting it in-service. Intentionally delaying hydrostatic testing after construction activities until late fall or winter would result in unnecessarily extending the entire construction duration of the project, extending the length the construction contractor remains on-site, continued right-of-way and access disturbance as well as delaying final cleanup and restoration of the right-of-way. Winter testing would be particularly problematic in that much of the right-of-way would be under snow and in wet/muddy condition.

### **7.2 Water Withdrawal**

Water withdrawal requirements for each identified water source are noted in Table 1 in Section 3.0. The construction contractor will filter all water removed from the source locations to ensure clean “debris free” water is used for the hydrostatic testing of the pipeline. There is a potential for transfer of water-borne aquatic pathogens, forest pathogens, and invasive species between watershed drainages. This section outlines the steps PCGP will follow to prevent the potential inter-drainage transfer of pathogens and invasive species of concern of the federal and state agencies.

#### **7.2.1 Waterbody Source Testing**

During development of this Plan, PCGP included commitments to test all non-municipal waterbody sources to determine if there is a presence of water-borne aquatic and forest pathogens. The intent of the proposed waterbody testing program was to prevent the potential transfer of these pathogens and invasive species from one watershed to another. However, during a consultation meeting with the federal land-managing agencies and the Center for Lakes and Reservoirs and Aquatic Bioinvasion Research and Policy Institute (Portland State University) on November 19, 2009, it was determined that testing was not a definitive tool to establish the absence of a potential invasive species or forest pathogens in non-municipal source waters. As suggested by Mark Sytsma with Aquatic Bioinvasion Research and Policy

Institute, water testing would only confirm the absence of a potential invasive species in the sample aliquot and therefore would not confirm the potential presence of an invasive species within the entire waterbody source. Because of the lack of certainty in sampling and testing results and the impracticality of testing the entire volume of hydrostatic test water that would be required for the project, it was concluded that PCGP should assume that all non-municipal test water sources could contain a potential invasive species and that water treatment methods should be implemented to prevent the potential spread of aquatic invasive species or forest pathogens.

### 7.2.2 Invasive Species and Pathogens

Below is a list of invasive species and pathogens that are currently of concern that potentially may occur within identified water sources that have been targeted for treatment in non-municipal test water sources. Attachment B provides current information on the presence of these species in the project area.

- Scotch broom
- Himalayan blackberry
- Yellow starthistle
- Port-Orford-cedar root disease
- Sudden Oak Death
- Quagga mussel
- Zebra mussel
- New Zealand mud snail<sup>2</sup>
- Brackish water snail
- Whirling disease
- Didymo
- Blue-green algae (Cyanobacteria)
- Chytrid fungus
- Freshwater mold
- Other terrestrial and aquatic non-native, noxious weed fragments and seeds that may be identified at the time of construction
- Other forest and fish pathogens that may be identified at the time of construction.

### 7.2.3 Bio-Invasive Research

Prior to water withdrawal, PCGP will review United States Geological Survey (USGS) biological research division data, as well as other pertinent presence data sources as referenced in Attachment B, to determine where known locations of invasive species and pathogen infestations exist along the project area and at proposed water source locations. Attachment B provides documentation of the presence of the aquatic invasive species and pathogens in Oregon.

PCGP has evaluated the locations where the potential exists for Port-Orford-cedar root disease based on Oregon Department of Forestry statewide forest health survey data currently available between 2012 and 2016<sup>3</sup> ([www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx](http://www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx)). Based on this data, Port-Orford-cedar root disease is most prevalent in the project area

---

<sup>2</sup> Including *Assiminea parasitological* within Coos Bay estuary which is very similar to New Zealand mudsnail (Boatner, 2018)

<sup>3</sup> As of August 2018, survey data from ODF is available up to 2016. ([www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx](http://www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx)) is only available up to 2016.

watersheds between about MPs 0.00 and 42.62. The proposed water source for hydrostatic testing between MPs 0.00 and 8.35R (see Table 1) would come from a treated municipal source (i.e., Coos Bay – North Bend Water Board). Therefore, the risk of spreading Port-Orford-cedar root disease or any other invasive species or pathogens from hydrostatic test dewatering from this source is avoided.

Other potential water sources for hydrostatic testing include Coos River located in the Coos Bay Frontal Pacific Ocean watershed; East Fork Coquille River located in the E. F. Coquille River watershed; and the Middle Fork Coquille River located in the Middle Fork Coquille watershed, which are crossed by the project between MPs 8.35R and 53.15. According to the Oregon Department of Forestry annual survey data between 2012 and 2016<sup>3</sup>, the proposed hydrostatic test water withdrawal location on the Middle Fork Coquille River is located above Port-Orford-cedar root disease infestations in the Middle Fork Coquille watershed. Ben Irving Reservoir and Olalla Creek, potential hydrostatic test water sources in the Olalla Creek-Lookingglass Creek Watershed, which are crossed by the project between MPs 53.15 and 62.41, do not have recorded infestations of Port-Orford-cedar root disease nor does any other watershed east of MP 62.41 (based on Oregon Department of Forestry survey data 2012 through 2016<sup>3</sup>). Therefore, the potential for transmission of this pathogen should be low, especially with the proposed treatment BMPs outlined in Section 7.2.4, which include chlorine treatment, an effective treatment method for Port-Orford-cedar root disease (see Attachment B).

As noted in Attachment B, currently there are no quagga or zebra mussels known to occur in Oregon. Although both New Zealand mud snails and brackish water snails are known to occur in the Coos Bay Estuary, hydrostatic test water sources for the project between MPs 0.00 and 8.35R (Test Segments 1 and 2) would be from a municipal source and would not occur from the bay, preventing the potential spread or transfer of these invasive species. The Coos River in the lower estuary of Coos Bay is a proposed hydrostatic test source for test segments 3-6 between MPs 8.35R and 29.54 (see Tables 1 and 2) and has known occurrences of New Zealand mud snails and Brackish water snail. The potential for transmission of these snails is low with the proposed treatment BMPs outlined in Section 7.2.4, which include water filtration with upland discharge and no direct discharge to waterbodies; these are effective treatment methods for these snails (see Attachment B).

Whirling disease (*Myxobolus cerebralis*) in Oregon has only been identified outside the project area localized in tributaries of the Grande Ronde system in northeastern Oregon and in Clear Creek on the Clackamas River system in northwestern Oregon (Oregon Department of Fish and Wildlife. 2018 Invasive Species Compendium). Therefore, transmission of this disease is currently not a concern. Further, the potential risk of transferring or spreading this disease is low because the principle vector for the spread of whirling disease is contaminated fish parts, and according to BLM (2009), this disease is typically not spread through water withdrawal activities. The proposed treatment BMPs outlined in Section 7.2.4 are designed to minimize the potential pathways through which this disease is known to spread.

Currently in Oregon there have been no nuisance blooms of didymo (EDDMapS, 2018 and Draheim, 2009). Blue-green algae (Cyanobacteria) blooms are commonly found in many freshwater systems across the world and also occur in many lakes, rivers and reservoirs in Oregon. The Oregon Human Authority (2018) monitors harmful algae blooms across Oregon, and PCGP would monitor these health advisories<sup>4</sup> prior to water withdrawal to prevent potential transfer of high levels of toxins. To date there have been no health advisories posted for any of

---

<sup>4</sup> <https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/RECREATION/HARMFULALGAE/BLooms/Pages/index.aspx>

the proposed hydrostatic test water sources posted by the Oregon Department of Human Services (2018). A permanent advisory has been established for pools of water in bedrock along the South Umpqua River banks. Hydrostatic test water would be withdrawn from the main channel of the flowing river and not from the small stagnant pools in the rocks; therefore, the potential for transmission from this source would be low. Further, the proposed treatment BMPs outlined in Section 7.2.4, including water filtration, chlorine treatment, and upland discharge with no direct discharge to waterbodies, are effective treatment methods for Cyanobacteria (see Attachment B) and would avoid the potential transmission of Cyanobacteria, if present.

As noted in Attachment B, both chytrid fungus and freshwater mold (*Saprolegnia*) likely occur in the project area, but specific locations are not known from the literature PCGP has reviewed. The proposed water treatment BMPs outlined in Section 7.2.4 are intended to minimize the potential spread of these species, if present.

#### **7.2.4 Waterbody Source Best Management Practices**

PCGP will implement the following BMPs to avoid the potential spread of the aquatic invasive species and pathogens of concern:

- If determined to be feasible for hydrostatic testing requirements, return all water back to its source watershed after use; however, cascading water from one test section to another to minimize water withdrawal requirements may make it impractical to release water within the same fifth field watershed where the water was withdrawn. Pacific Connector will return or release all water from the same basin from which it was withdrawn (i.e., South Coast, Umpqua, Rogue or Klamath).
- Because of the BLM, Forest Service, and Reclamation concern regarding the potential for the spread of aquatic invasive species and pathogens, if hydrostatic test water cannot be returned to the same fifth field watershed from where it was withdrawn, PCGP would employ an effective and practical water treatment method described below. The hydrostatic test water would be treated after it is withdrawn and prior to hydrostatic testing.

PCGP researched various water treatment methods to disinfect non-municipal surface water sources that might harbor potential aquatic invasive species and pathogens. The potential treatment methods considered were previously identified and discussed with the land-managing agencies during the development of this Plan and included: various filtrations/screening treatment methods, UV treatment, Acrolein and Chlorine treatment. It was noted during the agency conversations that only chlorine has been approved for use as treatment for disinfection purposes on BLM-managed lands. The Forest Service also noted that a Pesticide Use Proposal would need to be prepared prior to the use of any chemical to treat/disinfect water on NFS lands. A Pesticide Use Proposal form is provided in Appendix 3 of the Integrated Pest Management Plan which is included as Appendix N to the POD.

The use of ultraviolet irradiation (UV) was initially considered as a potential treatment method because it is used extensively in municipal and industrial water treatment applications and is well known to be effective against a wide range of microorganisms, including viruses and cysts (Oram, B. 2018). However, it was concluded during the consultation meeting held on November 19, 2009, that because there is limited information available regarding the rate/dose and effectiveness of UV treatment on the various invasive species and pathogens (OSU, 2009; EPA, 1999; and Bettina, et al., 2000) that potential UV treatment methods would not be considered

further at this time. UV treatment was not effective on chytrid fungus (Johnson et al., 2003). Currently, UV disinfection treatment technologies are being employed in some marine ballast water treatment applications (Raunek K. 2017). PCGP may consider this treatment technology in the future if additional information is available regarding its effectiveness on the aquatic invasives and pathogens of concern and if it is a cost effective and efficient treatment method.

PCGP also concluded during the consultation meeting held on November 19, 2009, that while Acrolein (Magnacide H Aquatic Herbicide) is a registered aquatic herbicide for the control of invasive aquatic plants in canals, this potential treatment method would be dropped from further consideration because of its extreme toxicity to humans and fish species (Baker Hughes, 2009 and EPA, 2009). Baker Hughes, the manufacturer of Magnacide H Aquatic Herbicide, provides that fish are very sensitive to this herbicide and that fish are killed at concentrations less than those required for aquatic weed control and that as a rule, MAGNACIDE H Herbicide should not be used where fish are considered a resource (Baker Hughes, 2009).

Chlorine, an oxidizing agent, is approved for use in drinking water and is effective in disinfecting a number of aquatic invasive species. Chlorine is one of the most widely used drinking water disinfectants in the United States (including Oregon) (Center for Disease Control and Prevention, 2018; Oregon Health Authority, 2018c). Chlorine guidelines have been established to treat waterborne diseases such as cholera, typhoid, and dysentery. Chlorine also eliminates slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks. To disinfect drinking water, chlorine is applied as either elemental chlorine (chlorine gas) or through the use of chlorinating chemicals such as calcium hypochlorite (tablets or granules) or solutions of sodium hypochlorite (liquid bleach or Clorox<sup>®</sup>) (World Chlorine Council, 2018). On federal lands, Clorox<sup>®</sup> bleach is registered for Port-Orford-cedar root disease management activities (Forest Service and BLM, 2003 and Forest Service, 2004). Diluted bleach solutions are used to disinfect equipment, shoes, and boots when working in areas infested with Sudden Oak Death (California Oak Mortality Task Force, 2006) and to treat irrigation water in nurseries that grow *Phytophthora*-susceptible plants (for Port-Orford-cedar root disease and Sudden Oak Death) (OSU, 2009). Because of chlorine's use as a disinfectant for drinking water and vehicles and equipment potentially contaminated with various aquatic invasive and pathogens (see Attachment B), it was determined during the November 19, 2009 consultation meeting that chlorine treatment should be considered as a practical water treatment method for all non-municipal surface water sources that would be utilized for hydrostatic testing purposes.

### **Best Management Practices to Treat Non-Municipal Surface Water Sources Used for Hydrostatic Testing**

PCGP would implement a three-step BMP treatment process to prevent the potential spread of invasive species and forest pathogens from non-municipal surface water sources used during hydrostatic testing. The hydrostatic test water treatment process would incorporate screening/filtration during water withdrawal, chlorine treatment, and upland dewatering at least 150 feet from sensitive wetlands (i.e., non-agricultural wetlands) or waterbodies, where feasible, with no dewatering to these features. Further, all hydrostatic dewatering locations would be monitored after construction to ensure noxious weeds have not established. Any weed populations would be treated as described in the Integrated Pest Management Plan (see Appendix N to the POD). This hydrostatic test water treatment process has been developed based on the invasive species and pathogens of concern and the management information available for their control (see Attachment B). A summary of and rationale for the proposed treatment process is described below:

1. **Screening/filtering.** Hydrostatic test water withdrawal from non-municipal surface water sources would be screened during the initial intake process. The screening/filtration process would meet NOAA<sup>5</sup> and ODFW<sup>6</sup> criteria to prevent the entrainment of small fish. These screening requirements would prevent the potential transfer of the noted noxious weeds of concern listed in Section 7.2.2 and Attachment B as the maximum screen mesh size (i.e., 2.38 mm) required by NOAA and ODFW is smaller than the smallest seed size documented for these weeds in Attachment B (i.e., 1/8 inch or about 3mm for seeds of yellow starthistle). Therefore, the screening/filtering requirements should prevent the potential transfer of noxious weed seeds and other weed propagules (i.e., rhizomes, roots, stems) from hydrostatic test dewatering.

There are other types of industrial screening technologies that exceed ODFW and NOAA fish screening criteria that PCGP would also employ to further remove solids and organics from non-municipal surface water sources. These types of filters include media or sand filters, bag filters<sup>7</sup>, or various types of cartridge or screen filters<sup>7</sup>. These filters can remove solids and organic materials from water significantly smaller than 1 millimeter in size with some types having a submicron filter rating or capacity. However, smaller filtering capacities (i.e., < 100-200  $\mu\text{m}$ ) may not be practical because of required hydrostatic testing pumping requirements. Depending on the filter technology selected, any potential disposal, cleaning, or backwashing of the filters would be conducted in a manner to prevent contamination of surface waters. Further, any necessary disposal of filtered materials or medium would occur to an approved disposal area or landfill.

Although currently there are no known infestations of quagga or zebra mussels in Oregon, micro filtration has been shown to be effective in preventing the potential spread of these mussels, as well as New Zealand mud snails downstream of research facilities (Cope, et al. 2002) or into hatcheries (Oplinger et al. 2009).

The principle vector for the spread of whirling disease is contaminated fish parts, and according to BLM (2009), this disease is typically not spread through water withdrawal activities. Although spores may reside in organics and mud (BLM, 2009), as noted in Section 3.0, when pumping water from a source location, the pump head will be submerged and maintained on average at the center of the water column so as to prevent sucking in organic materials, sediments and/or algae lying on the surface or in sediments resting on the bed of the waterbody. Therefore, PCGP's proposed screening procedures, upland discharge with no direct to release to waterbodies should prevent the potential transfer of this disease. Furthermore, as indicated in Attachment B, this disease has not been detected in the Project area.

2. **Chlorine Treatment.** As shown in Attachment B, chlorine disinfection is effective for most aquatic invasive species and forest pathogens of concern. However, most of the disinfection guidelines in the literature are for preventative treatments used on equipment, boats, boots/waders, etc. that may be infected from working or recreating in waters; they are not developed for treating entire waterbody sources. According to Oregon State University (2009), chlorine injection (Sodium hypochlorite) at a maximum concentration of 2 ppm for a contact time of at least 10 minutes is used to treat irrigation

---

<sup>5</sup> [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5366394.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5366394.pdf)

<sup>6</sup> [https://www.oregon.gov/owrd/pubs/docs/forms/pumpcert\\_fishscreen.pdf](https://www.oregon.gov/owrd/pubs/docs/forms/pumpcert_fishscreen.pdf)

<sup>7</sup> <https://www.rainforrent.com/Products/Filtration/>

water in nurseries to kill *Phytophthora* (Port-Orford-cedar root disease and Sudden Oak Death).

For treating potentially contaminated materials and equipment, chlorine treatments as low as 0.5 ppm have also been shown to be an effective control on *Dreissenia* spp. mussels (quagga and zebra mussels) (Utah Division of Wildlife Resources, 2009; Brooks, 1993). Although higher concentrations of chlorine (i.e., 1 percent solutions) are recommended for disinfecting equipment or flushing tanks to prevent the potential spread of whirling disease, a type of zooplankton (BLM, 2009), ballast water research indicates most zooplankton are killed with filtration and chlorine treatments of 0.5 ppm (USGS, 2006). Chlorine treatments of 0.5 ppm and above have been shown to be effective in destructing cyclic peptides (toxin) of cyanobacteria, a blue-green algae (Hoeger, et. al., 2002). According to the World Health Organization (1999), chlorine is used mainly for control of algae in water treatment works but is also known to have been employed in reservoir situations. The effective dose rates are dependent on the chlorine demand of the water, but most algae are reported to be controlled by residuals of free chlorine between 0.25 and 2.0 mg/L. According to the Oregon Health Authority (2018c), the residual chlorine used in most disinfected water systems typically ranges between 0.5-1.0 mg/L, with the maximum residual disinfectant level limit being 4.0 mg/L (Oregon Health Authority, 2018d).

Using bleach to disinfect field equipment of chytrid fungus requires a minimum exposure of 10 minutes using a concentration of 0.4 percent sodium hypochlorite (Johnson, et al, 2003). Chlorine treatment is expected to be effective on Saprolegnia, a freshwater mold, known primarily to be problematic in fish hatcheries. Oregon Health Authority (2018b) requires chlorinated water systems to provide a minimum free chlorine residual of 0.2 mg/L with a detention time of 30 minutes before reaching the first point of use.

Proposed Treatment Dose. Based on the various chlorine treatments methods for the various aquatic invasive species and pathogens that potentially may occur within identified water sources, PCGP proposes to use a treatment of 2 ppm or 2 mg/L of free chlorine residual with a detention time of 30 minutes to treat all non-municipal surface waters that would be used as a water source for hydrostatic testing purposes. Higher chlorine treatment concentrations (i.e., 1 percent solutions), such as those suggested to treat potential contaminated equipment for whirling disease (zooplankton), are not proposed because, as noted by the BLM (2009), the principle vector for the spread of whirling disease is contaminated fish parts, not water withdrawal activities. Further, as noted by the USGS (2006), filtration and 0.5 ppm chlorine is shown to be effective in killing most zooplankton in ballast water research. The higher chlorine concentrations recommended to decontaminate equipment for didymo (1 minute of 2 percent bleach) are also not proposed because currently there are no nuisance blooms reported in Oregon (Draheim, 2009) and all dewatering of hydrostatic test water would occur to an upland area at least 150 feet from sensitive wetlands (i.e., non-agricultural wetlands) and waterbodies, where feasible, with no discharge to these features.

- Upland Dewatering. During the hydrostatic testing process, all hydrostatic test water will be released to an upland area through a dewatering device such as a straw bale structure or sediment bag, in a manner to promote inflation. All dewatering devices will be at least 150 feet from sensitive wetlands (i.e., non-agricultural wetlands) and waterbodies, where feasible, and dewatering will not occur to these features, as described in Section 7.3 below. The hydrostatic test dewatering BMPs are important

measures to prevent the potential spread of aquatic invasives. As noted in Section 7.3 below, chlorinated water would be released according to the Oregon Department of Environmental Quality criteria to prevent water quality impacts, potential effects to aquatic species, and to minimize potential impacts to sensitive areas. Additionally, as described in Section 8.0 below, all dewatering locations will be monitored after construction for potential noxious weed establishment and treated if necessary.

After hydrostatic test water withdrawal, all equipment used in the withdrawal process would be cleaned and sanitized to prevent the potential spread of aquatic invasives and pathogens from the use of this equipment in other waterbody sources. Attachment C provides equipment cleaning and sanitization procedures.

These hydrostatic test water treatment BMPs are intended to ensure the prevention of invasive species and pathogen transfer between watershed drainages. The final design of the treatment BMPs will be completed once PCGP has finalized the design of the pipeline and prepared the preliminary hydrostatic test plan and has selected the construction contractors for the project. Prior to implementing the final BMP treatment design, PCGP would notify and receive appropriate approvals from federal land-managing agencies and state agencies.

### **7.2.5 Temperature and Flow Effects**

Based on data from the USGS National Water Information System, anticipated average flow rate of the Rogue River near the proposed crossing location (near Dodge Bridge) is 1330 cubic feet per second (cfs). Anticipated withdrawal volumes from the Rogue for hydrostatic testing will be approximately 300 - 800 gallons per minute (gpm) (0.67 - 1.78 cfs) which will have an immeasurable impact on the flow rate and temperature of the crossing at the time (average daily temperatures ranges from 68-71.6 degrees Fahrenheit). Attachment E provides a thermal effects analysis for all of the potential hydrostatic test water sources.

Considering that water is essentially a non-compressible material, temperature increases from pressurization during hydrostatic testing is negligible. During the hydrostatic testing phase of the project, the pipeline will already be buried and is therefore not exposed to potential solar heating, except for a small area (approximately 200 feet) at either end of the test segment where the hydrostatic test headers are located. Therefore, the test water is at ground temperature and the potential to increase water temperatures during hydrostatic testing is inconsequential.

Where water source locations are proposed, PCGP's Environmental Inspectors (EIs) will monitor withdrawal procedures and screening requirements to ensure that aquatic biota within the streams are not adversely affected.

### **7.3 Dewatering – Land Application**

Hydrostatic test water will be released at a rate to prevent scour, erosion, and sediment migration to sensitive resources such as wetlands and waterbodies. The test water will be released into a dewatering device such as a straw bale structure or sediment bag to minimize possible peak flow effects by dissipating the energy of the test water flow, filter the test water to avoid sedimentation, and by allowing release of the test water as sheet flow onto the ground (see Attachment A - Drawing 3430.34-X-0012 (Sheets 1-3) and Drawing 3430.34-X-0013 (Sheets 2 of 3 and 3 of 3)). The dewatering will occur to an appropriately sized dewatering structure based on the expected quantity of water. Hydrostatic test water will be released in upland areas through a dewatering structure prior to entering the ground at least 150 feet from

sensitive wetlands (i.e., non-agricultural wetlands) and waterbodies, where feasible. The hydrostatic test water will not be allowed to discharge to these features.

The hydrostatic test dewatering will be conducted utilizing dewatering structures that dissipate the velocity of the release and filter out any potentially-present dirt, grit or oxidation that would be present collectively as total suspended solids (see Attachment A). All bales used to construct straw bale structures will be certified weed free. On federally managed lands, straw bales are required to consist of an annual variety of straw such as annual wheat, rye, or rice straw. The dewatering structures will be placed in upland locations that are topographically appropriate to allow the flow to “pool” and dewater uniformly through the structure to promote infiltration of the water. The water is not released at any appreciable pressure regardless of site location as the test pressure is bled off prior to dewatering the test segment. Flow rates to the dewatering structure can be controlled using the dewatering valve to ensure flows do not exceed the carrying capacity of the structure(s). Additionally, dewatering rates/volumes can be controlled by releasing the water into a central tank and then pumping the water to multiple dewatering structures concurrently or successively (one then the other) to promote infiltration, minimize overland flow, and to prevent overland flow to waterbodies (see Attachment A - Drawing 3430.34-X-0012 [Sheets 1-3] and Drawing 3430.34-X-0013 [Sheets 2 of 3 and 3 of 3]). PCGP’s EIs will be responsible for monitoring dewatering activities (rate and quantity) and making appropriate adjustments to facilitate proper infiltration through the dewatering structures to stay in compliance with permit conditions. PCGP’s EIs will also monitor the structures to prevent any potential failures or “break outs” from occurring to the structure during dewatering activities by adding additional straw bales, fabric, or stakes as needed. The success rate of straw bale structures is solely dependent on the construction, inspection, monitoring, and maintenance of each structure. PCGP’s EIs will ensure all structures meet the performance standard of 100%.

If chlorinated municipal water or non-municipal treated water (see Section 7.2.3 above) is used, dewatering will be treated, if necessary, according to Oregon Department of Environmental Quality criteria to prevent water quality impacts, potential effects to aquatic species, and to minimize potential impacts to sensitive areas. It is not expected that contamination of the hydrostatic test water with oil and grease will occur during hydrostatic testing because the test will be conducted on a new pipeline system constructed with new pipe. PCGP’s EIs will also ensure that all threaded valves and fittings that may be used on the hydrostatic test headers are cleaned of potential incidental oil and grease before the hydrostatic operations are conducted to minimize the potential for oil and grease contact from these potential incidental sources. Straw bales have been effective in removing oil and grease from test water (Tallon et al., 1992).

In addition, the EIs will ensure that turbid water is not discharged to waters of the state. If an inadvertent discharge to a surface water occurs, the dewatering operations would be immediately halted and modified to ensure that the discharge to surface water is stopped and/or minimized and water quality standards are not exceeded.

Permission to release the hydrostatic test water through land application will be applied for through the ODEQ WPCF process.

## **8.0 MONITORING**

After project construction, PCGP’s operations personnel will be responsible for inspecting the right-of-way for a period of three to five years in areas where noxious weeds were identified prior to construction and were previously mapped to ensure that potential infestations do not

reestablish and spread. Monitoring will also occur in areas along the right-of-way where equipment cleaning stations and hydrostatic dewatering sites were located to ensure that infestations at these locations do not occur. If necessary, PCGP will contract with local weed control boards, qualified biologists, or agronomists to conduct these operations. All areas of the right-of-way will be monitored by PCGP's staff over the operational life of the pipeline. PCGP will fulfill easement obligations with all landowners crossed by the project during the life of the project including weed control. As stated in Section 3.0 in the Integrated Pest Management Plan (Appendix N to the POD), herbicides may be used to control weeds, if necessary, based on integrated weed management principles and landowner requirements.

## 9.0 REFERENCES

- Baker Hughes. 2009. 2009 Weed Specificity. On Line at:  
<http://www.bakerhughesdirect.com/cgi/bpc/resources/ExternalFileHandler.jsp?bookmarkable=Yes&channelId=-4206911&programId=6587510&path=private/BPC/public/agriculture/aquatic.html>.
- Bettina C. Hitzfeld, Stefan J. Hoger, and Daniel R. Dietrich. 2000. Cyanobacterial Toxins: Removal during Drinking Water Treatment, and Human Risk Assessment. *Environmental Health Perspectives*. Vol 108, supplement 1. March: 113-122.
- Boatner, Rick. 2018. Oregon Department of Fish and Wildlife Invasive Species, Wildlife Integrity Coordinator. Personnel Communications with Dan Duce Edge Environmental. May, 2018.
- Brooks, E. Gary. 1993. Treatment of fresh water for zebra mussel infestation. United States Patent 5,256,310. Oct 26.
- Bureau of Land Management (BLM). 2003. A Range-wide Assessment of Port-Orford-Cedar (*Chamaecyparis lawsoniana*) on Federal Lands. October.
- Bureau of Land Management (BLM). 2009. Interagency Guidance. Preventing Spread of Aquatic Invasive Organisms Common to the Southwest Region. Technical Guidelines for Fire Operations. Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, Arizona Game and Fish Department, and New Mexico Department of Game and Fish.
- California Oak Mortality Task Force. 2006. Sudden Oak Death Guidelines for Forestry. Online at [www.suddenoakdeath.org](http://www.suddenoakdeath.org).
- Centers for Disease Control and Prevention. 2018. Disinfection with Chlorine. Online at: <https://www.cdc.gov/healthywater/drinking/public/chlorine-disinfection.html>.
- Cope, W.G., T.J. Newton, and C.M. Gatenby. 2002. Evaluation of Techniques to Prevent Introduction of Zebra Mussels (*Dreissena Polymorpha*) During Native Mussel (*Unionoidea*) Conservation Activities. A Contract Completion to U.S Fish and Wildlife Service. Denver, CO. September.
- Draheim, C. Robyn. 2009. Pest Risk Assessment for Rock Snot (*Didymo*) in Oregon. Center for Lakes and Reservoirs. Portland State University. Portland, OR. January.

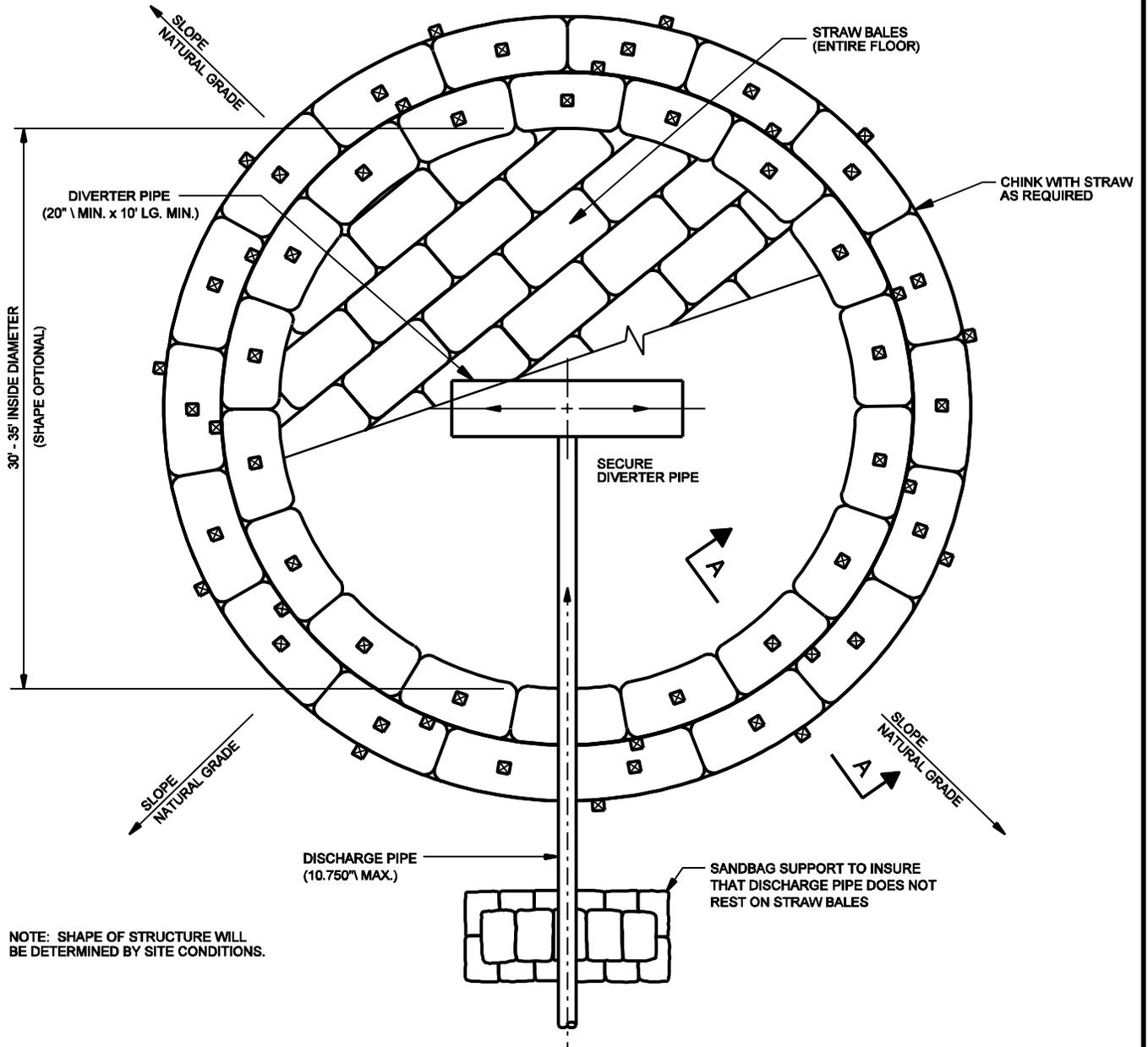
- EDDMaps (Early Detection & Distribution Mapping System. 2018. On line at:  
<http://www.eddmaps.org/>.
- Environmental Protection Agency (EPA). 1999. Wastewater Technology Fact Sheet. Ultraviolet Disinfection. EPA 932-F-99-064. Washington D.C. September.
- Environmental Protection Agency (EPA). 2009. National Recommendation Final Water Quality Criteria for Acrolein. Federal Register. Vol. No. 174. Thursday. Sept. 10, 2009. Notice
- Hoeger, Stefan J., Dainel R. Dietrich, and Bettina C. Hitzeld. 2002. Effect of Ozonation on the Removal of Cyanobacterial Toxins during Drinking Water Treatment. Environmental Health Perspectives. Vol. No. 11. November.
- Invasive Species Compendium. 2018. Myxobolus cerebralis (whirling disease agent) On line at:  
<https://www.cabi.org/isc/datasheet/73782>.
- Johnson, M.L., L. Berger, L. Philips., and R. Speare. 2003. Fungicidal Effects of Chemical Disinfectants, UV Light, Desiccation and Heat on the Amphibian Chytrid *Batrachochytrium dendrobatidis*. Diseases of Aquatic Organisms 57:255-260.
- Kirkwood M and A. Cosham. 2000. Can the Pre-service Hydrotest be Eliminated. Pipes & Pipelines International Vol. 45, No, 4 July-August.
- Lloyd's Register. 2007. Ballast Water Treatment Technology Current Status. June 2007. Houston.
- Oplinger W. R., P. Brown and E. J. Wagner. 2009. Effect of Sodium Chloride, Tricaine Methanesulfonate, and Light on New Zealand Mud Snail Behavior, Survival of Snails Defecated from Rainbow Trout, and Effects of Epsom Salt on Snail Elimination Rate. North American Journal of Aquaculture 71:157-164.
- Oram, B. 2018. Water Research Center. UV Disinfection Drinking Water. available at:  
<https://www.water-research.net/index.php/water-treatment/water-disinfection/uv-disinfection>.
- Oregon Department of Fish and Wildlife. 2018. Whirling Disease and Oregon's Trout and Salmon. On Line at: <https://www.dfw.state.or.us/fish/diseases/whirling.asp>
- Oregon State University (OSU). 2009. Phytophthora Online Course: Training for Nursery Growers. <http://oregonstate.edu/instruct/dce/phytophthora/module2-3d.html>.
- Oregon Human Authority. 2018a. Harmful Algae Blooms On line at:  
<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/RECREATION/HARMFULALGAEBLOOMS/Pages/Blue-GreenAlgaeAdvisories.aspx>.
- Oregon Human Authority. 2018b. OAR 333-061-0050 (5) (d) (B) i.
- Oregon Human Authority. 2018c. Disinfection. On Line at:  
<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/OPERATIONS/TREATMENT/Documents/CT.pdf>.

- Oregon Health Authority. 2018d. Disinfectant Residual Monitoring. Using chorine or cholamines as disinfectant. On Line at:  
<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/MONITORING/Pages/mon-mrdl.aspx>.
- Raunek K. 2017. How Ballast Water Treatment Systems Works. Marine Insight. October. Available at: <https://www.marineinsight.com/tech/how-ballast-water-treatment-system-works/>.
- Tallon, J.T., F.J Myerski, G.E. Mesing, J.P. Fillo. 1992. Characterization of Discharge Waters from Natural Gas Pipeline Hydrostatic Testing Operations-Volume 3. Topical Report Gas Research Institute, Environment and Safety Research Department, Chicago, IL.
- U.S. Department of Agriculture, Forest Service (Forest Service) and U.S. Department of Interior, Bureau of Land Management (BLM). 2004. Final Supplemental Environmental Impact Statement. Management of Port-Orford-Cedar in Southwest Oregon. *Coos Bay, Medford, and Roseburg Bureau of Land Management Districts and the Siskiyou National Forest in Southwest Oregon*.
- U.S. Geological Survey (USGS). 2006. Ballast Water Research at the WFRC. U.S Department of the Interior, USGS FS 2006-3080. May 3. 2006.
- Utah Division of Wildlife Resources. 2009. Utah Aquatic Invasive Species Management Plan. Utah Aquatic Invasive Species Task Force. Publication No. 08-34. January.
- World Chlorine Council. 2018. Drinking Water Chlorination position paper 2008. On line at: <https://worldchlorine.org/publications/>.
- World Health Organization (WHO). 1999. Toxic Cyanobacteria in Water: A guide to their public health consequences, monitoring and management. Chapter 8. Preventative Measures. Edited by Ingrid Chorus and Jamie Bartram.

## **Attachment A**

# **Hydrostatic Test Dewatering Structure Typical**

Drawing 3430.34-X-0012 (Sheets 1-3) and Drawing 3430.34-X-0013 (Sheets 1 of 3 and 3 of 3)

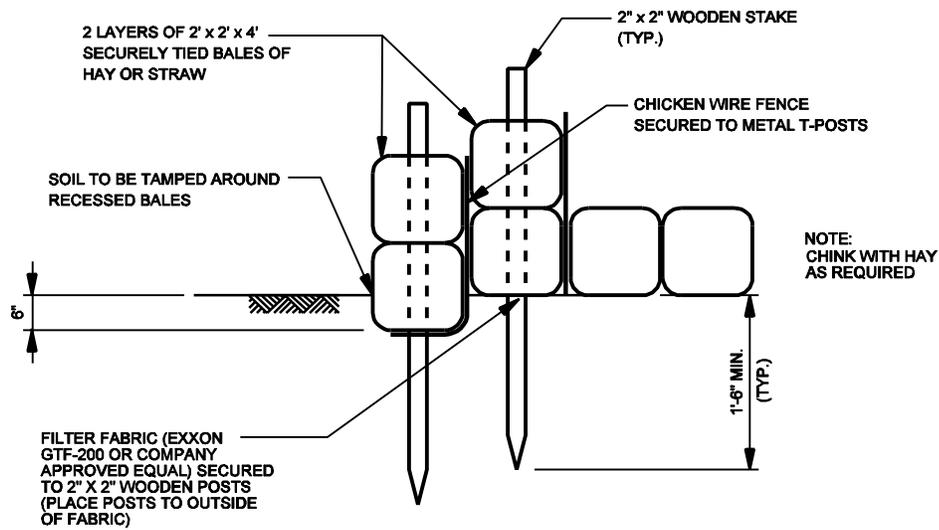


NOTE: SHAPE OF STRUCTURE WILL BE DETERMINED BY SITE CONDITIONS.

## HYDROSTATIC TEST DEWATERING STRUCTURE

### TEMPORARY EROSION CONTROL MEASURE

<b>DRAWING NO.</b>	<b>REFERENCE TITLE</b>	<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP TYPICAL HYDROSTATIC TEST DEWATERING STRUCTURE</b>				<b>HDW</b>				
<b>NO.</b>	<b>DATE</b>	<b>BY</b>	<b>REVISION DESCRIPTION</b>	<b>W.O. NO.</b>	<b>CHK.</b>	<b>APP.</b>	<b>DRAWN BY:</b> KLL	<b>DATE:</b> 02-02-2001	<b>ISSUED FOR BID:</b>	<b>SCALE:</b> NOT TO SCALE
							<b>CHECKED BY:</b>	<b>DATE:</b>	<b>ISSUED FOR CONSTRUCTION:</b>	
							<b>APPROVED BY:</b>	<b>DATE:</b>	<b>DRAWING NUMBER:</b> 3430.34-X-0012	<b>SHEET 1</b>
									6/13/2007	<b>OF 3</b>
									Q:\Oregon_gps\Mapping\Typicals\BMP_03.dgn	



**SECTION A-A**

NOTE:  
STAKES SECURING FILTER FABRIC AND CHICKEN WIRE FENCE ARE NOT SHOWN FOR CLARITY

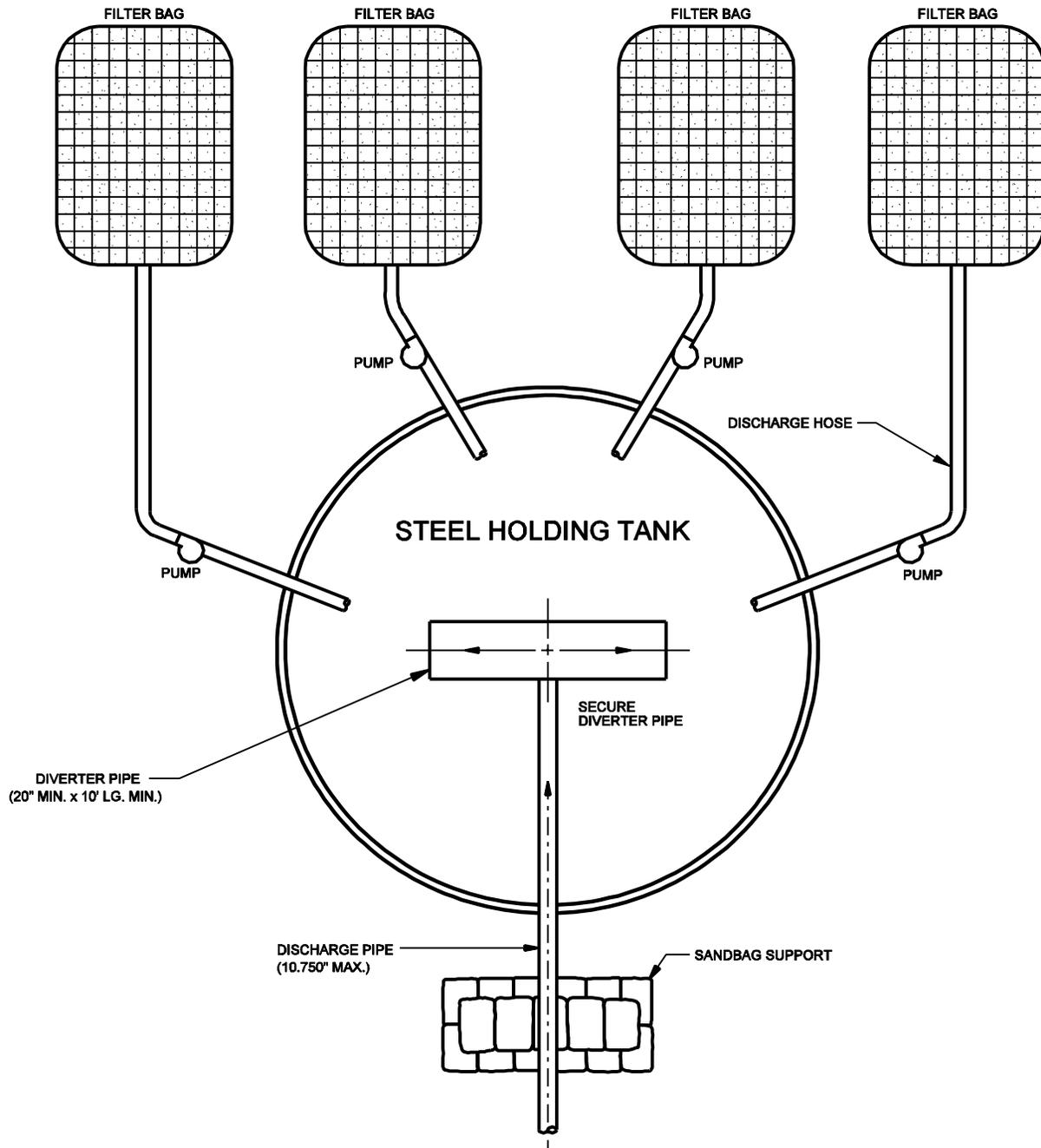
**NOTES:**

1. STRUCTURE SHALL BE PLACED ON A LEVEL WELL VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM STRUCTURE AND ANY WORK AREAS.
2. FLOW RATES THROUGH DISCHARGE AND DIVERTER PIPES SHALL BE SUCH THAT STRUCTURE WILL NOT OVERFLOW.
3. WHERE CONDITIONS WARRANT A 30' x 30' RECTANGULAR STRUCTURE MAY BE SUBSTITUTED FOR THE CIRCULAR CONFIGURATION SHOWN.
4. DIMENSIONS SHOWN ARE THE MINIMUM ACCEPTABLE VALUES AND MAY BE VARIED DEPENDING UPON SPECIFIC LOCATION.
5. CONTRACTOR SHALL USE CERTIFIED NOXIOUS WEED FREE HAY OR STRAW FOR STRUCTURE.

## HYDROSTATIC TEST DEWATERING STRUCTURE

### TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.		REFERENCE TITLE			<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>TYPICAL HYDROSTATIC TEST</b> <b>DEWATERING STRUCTURE</b> <div style="text-align: center; border: 1px solid black; border-radius: 50%; width: 30px; margin: 0 auto; padding: 2px;">HDW</div>					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
							CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
							APPROVED BY:	DATE:	DRAWING NUMBER: <b>3430.34-X-0012</b> 6/13/2007 <small>Q:\Oregon_gps\Mapping\Typicals\BMP_03.dwg</small>	
									SHEET <b>2</b>	
									OF <b>3</b>	

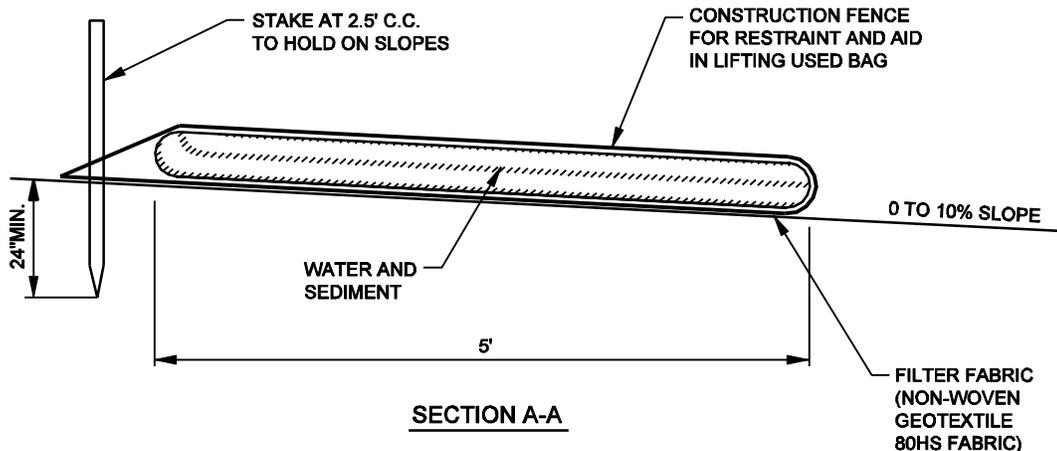
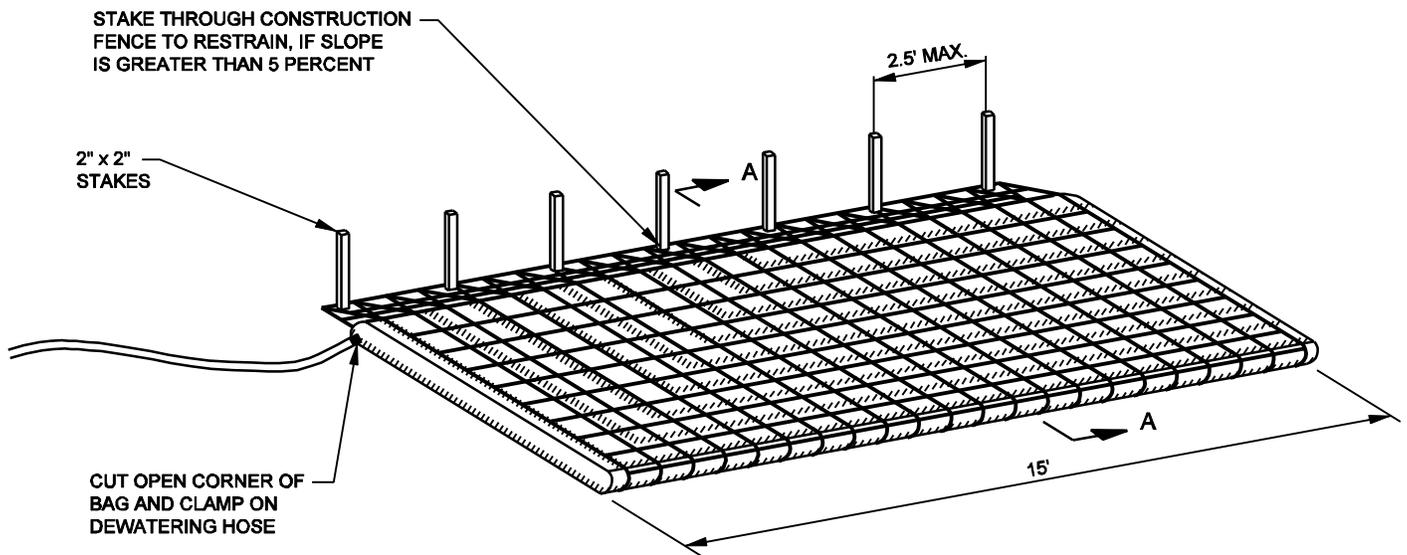


## HYDROSTATIC TEST DEWATERING STRUCTURE

### TEMPORARY EROSION CONTROL MEASURE

<b>DRAWING NO.</b>	<b>REFERENCE TITLE</b>	<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>TYPICAL HYDROSTATIC TEST</b> <b>DEWATERING STRUCTURE</b>				 <b>Pacific Connector</b> <small>GAS PIPELINE</small>				
		(HDW)								
<b>NO.</b>	<b>DATE</b>	<b>BY</b>	<b>REVISION DESCRIPTION</b>	<b>W.O. NO.</b>	<b>CHK.</b>	<b>APP.</b>	<b>DRAWN BY:</b> KLL	<b>DATE:</b> 02-02-2001	<b>ISSUED FOR BID:</b>	<b>SCALE:</b> NOT TO SCALE
							<b>CHECKED BY:</b>	<b>DATE:</b>	<b>ISSUED FOR CONSTRUCTION:</b>	
							<b>APPROVED BY:</b>	<b>DATE:</b>	<b>DRAWING NUMBER:</b> 3430.34-X-0012	<b>SHEET 3</b>
									<b>OF 3</b>	

Q:\Oregon\_gas\Mapping\Typicals\BMP\_03.dwg



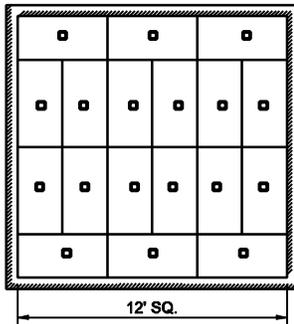
**NOTES:**

1. FILTER BAG SHALL BE PLACED ON A GENTLY SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE, ANY WORK AREAS, WATERBODIES OR WETLANDS.
2. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
3. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
4. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.

## TRENCH DEWATERING

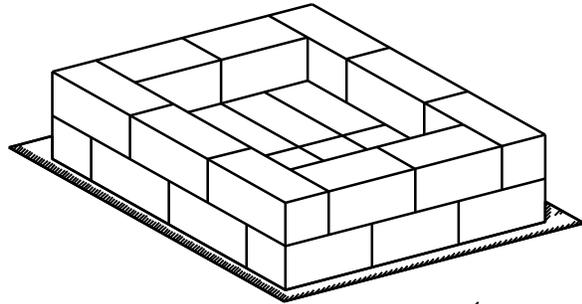
### TEMPORARY EROSION CONTROL MEASURE

<b>DRAWING NO.</b>	<b>REFERENCE TITLE</b>	<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b>				 <b>Pacific Connector</b> <small>GAS PIPELINE</small>				
		<b>PACIFIC CONNECTOR GAS PIPELINE, LP</b>								
		<b>TYPICAL TRENCH DEWATERING</b>								
		<b>TDW</b>								
<b>NO.</b>	<b>DATE</b>	<b>BY</b>	<b>REVISION DESCRIPTION</b>	<b>W.O. NO.</b>	<b>CHK.</b>	<b>APP.</b>	<b>DRAWN BY:</b> KLL	<b>DATE:</b> 02-02-2001	<b>ISSUED FOR BID:</b>	<b>SCALE:</b> NOT TO SCALE
							<b>CHECKED BY:</b>	<b>DATE:</b>	<b>ISSUED FOR CONSTRUCTION:</b>	
							<b>APPROVED BY:</b>	<b>DATE:</b>	<b>DRAWING NUMBER:</b> 3430.34-X-0013	<b>SHEET 1</b>
									6/13/2007	<b>OF 3</b>
									Q:\Oregon_gas\Mapping\Typicals\BMP_03.dgn	



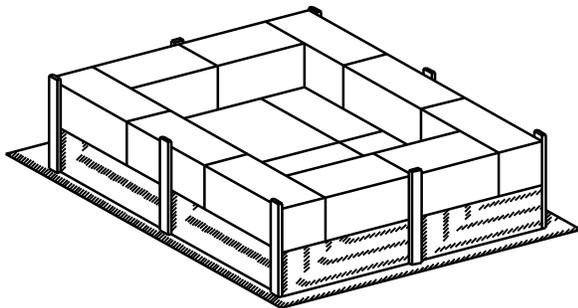
STEP 1

ARRANGE HAY BALES OVER FILTER FABRIC ON LEVEL LAND TIGHTLY PACKED AS SHOWN TO COVER AN AREA APPROXIMATELY 12' x 12'. SECURE EACH HAYBALE IN PLACE BY DRIVING REBAR OR A WOODEN STAKE THROUGH EACH OF THE HAY BALES



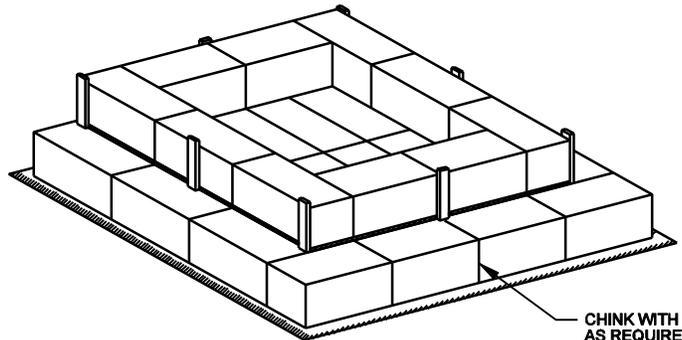
STEP 2

INSTALL ANOTHER LAYER OF HAY BALES ON THE OUTER EDGE AS SHOWN



STEP 3

INSTALL FILTER FABRIC ALL AROUND HAY BALE STRUCTURE AS SHOWN



STEP 4

INSTALL ANOTHER LAYER OF HAY BALES ON THE OUTSIDE OF THE FILTER FABRIC AND SECURE IN PLACE BY DRIVING REBAR OR A WOODEN STAKE THROUGH EACH OF THE OUTER HAY BALES

NOTES:

1. WHERE POSSIBLE STRUCTURE SHALL BE PLACED ON A LEVEL, WELL VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM STRUCTURE AND ANY WORK AREAS, WATERBODIES OR WETLANDS.
2. THIS MEASURE SHALL BE REMOVED UPON COMPLETION OF THE PROJECT. REMOVAL IS NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION. MATERIAL FROM BALES MAY BE SCATTERED ON RIGHT-OF-WAY.
3. CONTRACTOR SHALL USE CERTIFIED NOXIOUS WEED FREE HAY OR STRAW FOR STRUCTURE.

# TRENCH DEWATERING

## TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.		REFERENCE TITLE		PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP TYPICAL TRENCH DEWATERING TDW						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
							CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
							APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0013 6/13/2007 G:\Oregon_qos\Mapping\Typicals\BMP_03.dgn	
									SHEET 3	
									OF 3	

# **Attachment B**

## **Potential Treatment Matrix**

Potential Treatment Matrix

Invasive Species (Scientific Name)	Occurrence in the Project Area	Individual Size	Filter Intake (NOAA/ODFW Criteria) with Discharge to Upland Straw Bale Structure for Infiltration. Implement Integrated Pest Management BMPs	Effectiveness of Potential Treatment Methods	
				Chlorine Treatment	Secondary Filtration: Media, Bag or Cartridge (filter limits to 100 µm- required pumping rate will limit filter size).
<b>Weeds</b>					
Scotch broom ( <i>Cytisus scoparius</i> )	Yes-Coos, Douglas & Jackson counties (PCGP, 2018 & ODA, 2018)	Plant produces a 2-5 cm long pea-pod-like fruit (Peterson and Prasad 1998). Seed size 5 mm diameter (Myers, J.H, and D. Bazely, 2003),	Yes	No data	Yes
Himalayan blackberry ( <i>Rubus discolor</i> )	Yes- All Project counties (PCGP, 2018 & ODA, 2018)	Fruit: up to 0.8 in (2 cm) long, with large succulent drupelets (California Invasive Plant Council)	Yes	No data	Yes
Yellow starthistle ( <i>Centaurea solstitialis</i> )	Yes- All Project counties (PCGP, 2018 & ODA, 2018)	Seeds 1/8 inch long; Fruits 2-4 mm long (California Invasive Plant Council)	Yes	No data	Yes
<b>Forest Pathogens</b>					
Port Orford cedar root disease ( <i>Phytophthora lateralis</i> )	Yes – Coos County; three locations in Douglas County distant from project area & outside crossed watersheds (ODF, 2018)	Zoospores form cysts, 10–12 µm diameter which germinate to produce hyphae; resting spores 50 µm diameter (CAB International, 1998). (note: 1 µm = 1 x 10 <sup>-6</sup> m)	No	Yes Treatments for cleaning equipment/potentially contaminated materials: Clorox® Ultra Institutional (1 gallon of Clorox® to each 1,000 gallons of water) (BLM, 2003)  Chlorine injection to treat irrigation water to kill <i>Phytophthora</i> . Sodium hypochlorite is injected, at a maximum concentration of 2 ppm, for a contact time of at least 10 minutes (Oregon State University, 2009). In California, the registration rate for the treatment of drafted water with Ultra Clorox in areas of <i>Phytophthora</i> is 1 gallon infestation of Ultra Clorox Bleach per 10,000 gallons of water (California Oak Mortality Task Force, 2006).	Sand filtration is suggested to use with other treatments but typical nursery irrigation pumping rates/volumes limit use (i.e., 250-300 GPM per acre) (Oregon State University, 2009). Sand filtration is effective at reducing chlorine demand by removing organics from source waters, which improves treatment.
Sudden Oak Death ( <i>Phytophthora ramorum</i> )	Outside project area in Curry County (USDA, 2018 & California Oak Mortality Task Force, 2018)	Sporangia are oval-shaped, 30-90 µm (Global Invasive Species Database, 2009)	No	Yes Chlorine injection to treat irrigation water to kill <i>Phytophthora</i> . Sodium hypochlorite is injected, at a maximum concentration of 2 ppm, for a contact time of at least 10 minutes (Oregon State University, 2009). In California, the treatment of drafted water with Ultra Clorox is similar to the recommended water treatment for <i>P. lateralis</i> , which causes Port-Orford Cedar Root Disease. The registration rate is 1 gallon of Ultra Clorox Bleach per 10,000 gallons of water (California Oak Mortality Task Force, 2018)	Sand filtration is suggested to use with other treatments but typical nursery irrigation pumping rates/volumes limit use (i.e., 250-300 GPM per acre) (Oregon State University, 2009). Sand filtration is effective at reducing chlorine demand by removing organics from source waters, which improves treatment.
<b>Aquatic Invasives</b>					
<b>Mollusks</b>					
Quagga Mussels ( <i>Dreissena rostriformis bugensis</i> )	None in OR (USGS, 2018)	Microscopic to about two inches long (U.S. Fish & Wildlife Service, 2007). <i>Dreissena</i> mussel larvae (planktonic veligers) are approximately 40µm in length for one to two weeks. Within two to five weeks, the larvae become too large (200 µm) and heavy to freely swim and settle out of the water column (Nichols and Black, 1994).	Yes – (i.e., upland discharge, no direct discharge to waterbodies).  Current Risk = low	Yes Treatment to disinfect contaminated equipment with a bleach rinse ranging between 0.5 mg/L to 250 mg/L (Cope et al., 2003 & Utah Division of Wildlife Resources, 2009) and 3 oz of bleach to 5 gallons of water for 1hr (U.S. Fish & Wildlife Service, 2007)	No data but expected to be similar to effectiveness for zebra mussels

Invasive Species (Scientific Name)	Occurrence in the Project Area	Individual Size	Filter Intake (NOAA/ODFW Criteria) with Discharge to Upland Straw Bale Structure for Infiltration. Implement Integrated Pest Management BMPs	Effectiveness of Potential Treatment Methods	
				Chlorine Treatment	Secondary Filtration: Media, Bag or Cartridge (filter limits to 100 µm- required pumping rate will limit filter size).
Zebra Mussels ( <i>Dreissena polymorpha</i> )	None in OR (USGS, 2018)	Microscopic to about two inches long. <i>Dreissena</i> mussel larvae (planktonic veligers) are approximately 40µm in length for one to two weeks. Within two to five weeks the larvae become too large (200 µm) and heavy to freely swim and settle out of the water column (Nichols and Black, 1994).	Yes (i.e., upland discharge, no direct discharge to waterbodies)	Yes Treatment rates to prevent fouling of water intakes was 0.5 ppm for 24 hours (Brooks, 1993) Treatment to disinfect contaminated equipment with a bleach rinse ranging between 0.5 mg/L to 250 mg/L and 3 oz of bleach to 5 gallons of water for 1hr (Cope et al., 2003; U.S. Fish & Wildlife Service, 2007; Cope, et al. 2002 & Utah Division of Wildlife Resources, 2009)	Yes - Containment procedures commonly used at facilities conducting zebra mussel research have included filtration or disinfectant treatments to remove or kill potential zebra mussels before water is discharged. Filtration of outflow water through small mesh bags (100 µm or smaller), chlorine treatment tanks and sand filters (Cope, et al., 2002)
New Zealand mud snails ( <i>Potamopyrgus antipodarum</i> )	Yes –Coos Bay Estuary & Lower Coos River (USGS, 2018 & Montana State University, 2009)	Sexually mature females (3-6 months old); size from 3 mm long in western Montana & Idaho; average length 4-5 mm in western US, maximum 11 mm in New Zealand. Embryos born live with 3 mm shell length (US Army Corps of Engineers)	Yes (i.e., upland discharge, no direct discharge to waterbodies)	Not Effective (BLM, 2009)  Ely (2009) indicated that chlorine bleach solutions were not effective on adult snails and provided a recommendation of 1 tablespoon bleach /gallon water (i.e., 0.5 oz/gallon) for cleaning equipment for zebra and quagga mussels as a minimum.	Yes - According to Oplinger et al (2009), filtration of incoming water to a hatchery is a controlling option for New Zealand mud snails. Hydrocyclones have been successfully used to remove drifting New Zealand mud snails from hatchery inflow and noted that media filters (e.g., sand) and membrane filters could also be used.
Brackish water snail ( <i>Assiminea parasitologica</i> )	Yes – Including Coos Bay Estuary (Laferriere, et al., 2010 & Carlton, J., 2008)	Mature snails up to 4-6 mm (Carlton, J., 2008).	Yes (i.e., upland discharge, no direct discharge to waterbodies)	No data, but assumed to be effective based on results with Quagga and Zebra mussels.	No data but expected to be similar to effectiveness for zebra mussels
<b>Zooplankton</b>					
(Whirling Disease - <i>Myxobolus cerebralis</i> )	Present in Oregon, outside the Project area in localized tributaries in northeastern and northwestern part of the state (Oregon Department of Fish and Wildlife. 2018 and Invasive Species Compendium. 2018)	Microscopic myxozoan; myxospores produced in salmonids are 7-10 µm long; infectious triactinomyxon spores are 150 µm long with three tails each 200 µm long (US Army Corps of Engineers)	Yes (i.e., upland discharge, no direct discharge to waterbodies)	Yes The principle vector for spread of whirling disease is contaminated fish parts; it is not typically spread through fire water withdrawal activities. Avoiding and removing organics (the spores reside in mud), power washing, and flushing will greatly reduce or eliminate spores on external gear surfaces.  10 minutes with 1 percent bleach (e.g., Clorox – 6 percent sodium hypochlorite (NaClO)) is recommended for washing equipment or flushing tanks (BLM, 2009). Whirling disease and New Zealand mud snails are the most difficult organisms to kill. Treatment for these species will be effective for all other species as well.  Ballast water research results from experiments with filtration and chlorine are most promising: 0.5 ppm chlorine with filtration killed most of the zooplankton (USGS, 2006)	Expected to be effective since, as noted by (BLM, 2009), the principle vector for spread of whirling disease is contaminated fish parts.

Invasive Species (Scientific Name)	Occurrence in the Project Area	Individual Size	Effectiveness of Potential Treatment Methods		
			Filter Intake (NOAA/ODFW Criteria) with Discharge to Upland Straw Bale Structure for Infiltration. Implement Integrated Pest Management BMPs	Chlorine Treatment	Secondary Filtration: Media, Bag or Cartridge (filter limits to 100 µm- required pumping rate will limit filter size).
<b>Algae</b>					
Didymo ( <i>Didymosphenia geminata</i> )	No nuisance blooms in Oregon reported (EEDMaps, 2018 & Draheim, 2009)	Cell ≈70 µm ( Spaulding and Elwell, 2007)	Yes (i.e., upland discharge, no direct discharge to waterbodies)	Yes Decontaminate equipment for 1 minute in 2 percent bleach solution (BLM, 2009 & Spaulding and Elwell, 2007). Also indicated that the treatment for whirling disease may apply to this species (BLM, 2009)	No data
Cyanobacteria - blue-green algae	Yes – Cyanobacteria are commonly found in many freshwater systems across the world and blooms occur in many lakes, rivers, and reservoirs across Oregon. Although, a permeant advisory has been for designated for pools of water in bedrock along the South Umpqua River banks. Hydrostatic test water would be withdrawn from the main channel of the flowing river and not from small stagnant pools in the rocks. (Oregon Human Authority, 2018a).	Anabaena spp. akinetes cells 6-13 microns (µm) diameter, 20-50 µm long; heterocysts are 7-9 µm diameter, 6-10 µm long, for example (Washington State Department of Health, 2009)	Yes (i.e., upland discharge, no direct discharge to waterbodies)  Pacific Connector would also review Oregon Human Authority 2018a health advisories to ensure harmful algae bloom have not been posted for proposed water sources.	Yes To be effective, a residual of ≥ 0.5 Cl <sub>2</sub> mg/l with at least a 30-minute contact time is required to destruct cyanobacteria cyclic peptides (toxin) (Hoeger, et. al., 2002).  Chlorine is used mainly for control of algae in water treatment works but is also known to have been employed in reservoir situations. The effective dose rates are dependent on the chlorine demand of the water, but most algae are reported to be controlled by free chlorine residual rates between 0.25 and 2.0 mg/L (WHO, 1999).	Not effective (Bettina, et al., 2000)
<b>Fungi/Mold (Oomycota)</b>					
Chytrid fungus ( <i>Batrachochytrium dendrobatidis</i> )	Yes (Olson et al., 2013, Pearl et. al., 2009)	Disease-causing zoospores are 3- 5 µm with a single flagellum 19-20 µm long; zoosporangian ~30 µm across (Johnson and Speare, 2003)	Yes (i.e., upland discharge, no direct discharge to waterbodies)	Yes Bleach, was rapidly effective for disinfecting equipment at concentrations of 1 percent sodium hypochlorite and above. At 0.4 percent, it required a minimum exposure time of 10 minutes to kill Chytrid fungus. (Johnson et al., 2003) Spraying down equipment with 409 cleaner and then letting it dry in the sun also effectively kills the spores (Utah Division of Wildlife Resources, 2009)	No data
Water Mold ( <i>Saprolegnia</i> )	Likely (Kiesecker, et al., 2001, Petrisko, et. al., 2008) Aquatic fungi (Saprolegniales) are ubiquitous in natural waters supplies of fish hatcheries (Schreck et al., 1993)	5 – 100 (µm) Spores, Oospore Mycellum and Zoosporangia (Mayer Kent, 2000)	Yes (i.e., upland discharge, no direct discharge to waterbodies)	Yes Chlorine guidelines have been established to treat waterborne diseases such as cholera, typhoid, and dysentery. Chlorine also eliminates slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks (World Chlorine Council, 2018). Oregon Health Authority (2018b) requires chlorinated water systems to administer a minimum free chlorine residual of 0.2 mg/L with a detention time of 30 minutes before reaching the first point of use in the system	No data

## References

- Baker Hughes. (2009) Weed Specificity. On Line at:  
<http://www.bakerhughesdirect.com/cgi/bpc/resources/ExternalFileHandler.jsp?bookmarkable=Yes&channelId=-4206911&programId=6587510&path=private/BPC/public/agriculture/aquatic.html>
- Bettina C. Hitzfeld, Stefan J. Hoger, and Daniel R. Dietrich. 2000. Cyanobacterial Toxins: Removal during Drinking Water Treatment, and Human Risk Assessment. *Environmental Health Perspectives*. Vol 108, supplement 1. March:113-122
- Brooks, E. Gary. 1993. Treatment of fresh water for zebra mussel infestation. United States Patent 5,256,310. Oct 26.
- Buckley, Y.M. et al. 2003. Are Invasives Bigger? A Global Study of Seed Size Variation in Two Invasive Shrubs. *Ecology* 84: 1434-1440.
- Bureau of Land Management (BLM). 2003. A Range-wide Assessment of Port-Orford-Cedar (*Chamaecyparis lawsoniana*) on Federal Lands. October.
- Bureau of Land Management. 2009. Interagency Guidance. Preventing Spread of Aquatic Invasive Organisms Common to the Southwest Region. Technical Guidelines for Fire Operations. Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, Arizona Game and Fish Department, and New Mexico Department of Game and Fish
- CAB International. 1998. *Phytophthora lateralis*. IMI Descriptions of Fungi and Bacteria No. 1065. Online at <http://www.phytid.org/DS/p.%20lateralis.pdf>
- California Invasive Plant Council. Invasive Plants of California's Wildlands. *Centaurea solstitialis*. Online <http://www.cal-ipc.org/ip/management/ipcw/pages/detailreport.cfm@usernumber=28&surveynumber=182.php>
- California Oak Mortality Task Force (2018): Sudden Oak Death Guidelines for Forestry. Online at [www.suddenoakdeath.org](http://www.suddenoakdeath.org).
- Carlton, J.T., 2008. Marine Bioinvasions: A Story of Maritime History, Marine Science, and Environmental Policy. Oregon State University. Fisheries & Wildlife Seminar Series. Oregon Sea Grant Extension. June 2, 2008.
- Cope, W.G., T.J. Newton, and C.M. Gatenby. 2002. Evaluation of Techniques to Prevent Introduction of Zebra Mussels (*Dreissena Polymorpha*) During Native Mussel (*Unionoidea*) Conservation Activities. A Contract Completion to U.S Fish and Wildlife Service. Denver, CO. September.
- Cope, W.G., T.J. Newton, and C.M. Gatenby. 2003. Review of Techniques to Prevent Introduction of Zebra Mussels (*Dreissena polymorpha*) During Native Mussel (*Unionoidea*) Conservation Activities. *Journal of Shellfish Research* 22:177-184.

- Draheim, C. Robyn. 2009. Pest Risk Assessment for Rock Snot (*Didymo*) in Oregon. Center for Lakes and Reservoirs. Portland State University. Portland, OR. January.
- EDDMaps (Early Detection & Distribution Mapping System. 2018. On line at: <http://www.eddmaps.org/>
- Ely, Eleanor. 2009. Volunteer Monitors: Don't Spread Invasive! The National Newsletter of Volunteer Watershed Monitoring. Vol. 20, Num. 1, Spring 2009.
- Environmental Protection Agency. 1999. Wastewater Technology Fact Sheet. Ultraviolet Disinfection. EPA 932-F-99-064. Washington D.C. September.
- Environmental Protection Agency. 2009. National Recommendation Final Water Quality Criteria for Acrolein. Federal Register. Vol. No. 174. Thursday. Sept. 10, 2009. Notice.
- Goheen, D., P. Angwin, R. Sniezko, K. Marshall. Undated. Port-Odford-Cedar Rood Disease in Southwestern Oregon and Northwestern California.
- Goheen, E.M., E. Hansen, A. Kanaskie, N. Osterbauer, J. Parke, J. Pscheidt, and G. Chastagner. 2006. Sudden Oak Death and Phytophthora ramorum, A guide for Forest Managers Christmas Tree Growers, and Forest-tree Nursery Operators in Oregon and Washington. Oregon State University. Extension Service. EM 8877. April 2006. Corvallis, Oregon.
- Global Invasive Species Data Base. 2009. Online at: <http://www.issg.org/database/welcome/>
- Hoeger, Stefan J., Dainel R. Dietrich, and Bettina C. Hitzeld. 2002. Effect of Ozonation on the Removal of Cyanobacterial Toxins during Drinking Water Treatment. Environmental Health Perspectives. Vol. No. 11. November.
- Invasive Species Compendium. 2018. Myxobolus cerebralis (whirling disease agent) On line at: <https://www.cabi.org/isc/datasheet/73782>
- Johnson, M.L., L. Berger, L. Philips., and R. Speare. 2003. Fungicidal Effects of Chemical Disinfectants, UV Light, Desiccation and Heat on the Amphibian Chytrid Batrachochytrium dendrobatidis. Diseases of Aquatic Organisms 57:255-260.
- Johnson, M.L., and R. Speare. 2003. Survival of *Batrachochytrium dendrobatidis* in Water: Quarantine and Disease Control Implications. Emerging Infectious Diseases 8:922-925.
- Kiesecker, Joseph M., Andrew R Blaustein and Cheri L. Miller. 2001. Transfer of a Pathogen from Fish to Amphibians. Conservation Biology, pp 1164-1070 Vol. 15, No. 4 August 2001.
- Laferrier A. M., H. Harris, J. Schaefer. 2010. Early Detection of a New Invasive Mesogastropod, Assiminea Parasitologica, in Pacific Northwest Estuaries. South Slough National Estuarine Research Reserve with The Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians. January.
- Mayer, Kent. 2000. Saprolegnia: There's A Fungus Among Us. Oregon State University. Department of Fisheries and Wildlife. June 1, 2000.

- Montana State University. 2009. New Zealand Mudsnaills in the Wester USA. Online at: <http://www.esg.montana.edu/aim/mollusca/nzms/status.html>
- Myers, J.H and D. Bazely. 2003. Ecology and Control of Introduced Plants. Cambridge University Press, Cambridge, UK.
- Nichols, S. J. and M. G. Black. 1994. Identification of larvae: the zebra mussel (*Dreissena polymorpha*), quagga mussel (*Dreissena rostriformis bugensis*), and Asian Clam (*Corbicula fluminea*). Canadian Journal of Zoology 72:406-417.
- Olson, Deanna, H., D. Aanensen, K. Ronnenberg, C. Powell, S. Walker, J. Bielby, T. Garner, G. Weaver, The Bd Mapping Group, M. Fisher. 2013. Mapping the Global Emergence of *Batrachochytrium dendrobatidis*, the Amphibian Chytrid Fungus. February.
- Oplinger W. R., P. Brown and E. J. Wagner. 2009. Effect of Sodium Chloride, Tricaine Methanesulfonate, and Light on New Zealand Mud Snail Behavior, Survival of Snails Defecated from Rainbow Trout, and Effects of Epsom Salt on Snail Elimination Rate. North American Journal of Aquaculture 71:157-164.
- Oregon Department of Agriculture (ODA) WeedMapper. 2018. On line at: <https://www.oregon.gov/ODA/programs/Weeds/Pages/WeedMapper.aspx>
- Oregon Department of Fish and Wildlife. 2018. Whirling Disease and Oregon's Trout and Salmon. On Line at: <https://www.dfw.state.or.us/fish/diseases/whirling.asp>
- Oregon Department of Forestry (ODF). Forest Health Management. 2018 On line at: [www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx](http://www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx)
- Oregon Human Authority. 2018a. Harmful Algae Blooms On line at: <https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/RECREATION/HARMFULALGAEBLOOMS/Pages/Blue-GreenAlgaeAdvisories.aspx>
- Oregon Health Authority. 2018b. OAR 333-061-0050 (5) (d) (B) i.
- Petrisko, Jill E., C. Pearl, D. Pilliod, P. S Sheridan, C. Williams, C. Peterson and R. Bury. 2008. Saprolegniaceae identified on amphibian eggs throughout the Pacific Northwest, USA, by internal transcribed spacer sequences and phylogenetic analysis. Mycologia, 100 (2) pp 171-180. June.
- Pacific Connector Gas Pipeline LP (PCGP). 2018. Integrated Pest Management Plan (Noxious Weeds, Forest Pathogens, and Soil Pests) January. Plan of Development.
- Pearl CA, Bowerman J, Adams MJ, Chelgren ND. 2009. Widespread Occurrence of the Chytrid Fungus *Batrachochytrium dendrobatidis* on Oregon Spotted Frogs (*Rana pretiosa*). Ecohealth. June.
- Peterson, D.J., R. Prasad. 1998. The biology of Canadian weeds. 109. *Cytisus scoparius* (L.) Link. Canadian Journal of Plant Science 78:497-504.
- Schreck, Carl B., M. S. Fitzpatrick, R. L. Chitwood, Oregon Cooperative Fishery Research Unit; Marking, Leif L., J. J. Rach, T. M. Schreier, National Fisheries Research Center,

- Research to Identify Effective Antifungal Agents, Annual Report 1993, Report to Bonneville Power Administration, Contract No. 1989BP02737, Project No. 198905400, 32 electronic pages (BPA Report DOE/BP-02737-4).
- Spaulding, S. and L. Elwell. 2007. Increase in Nuisance Blooms and Geographic Expansion of the Freshwater Diatom *Didymosphenia geminata*: Recommendations for Response. EPA Region 8, White Paper. Denver, CO
- Stone, D. and K. Hitchko. 2009. Toxic Blooms in Oregon Waters. Oregon State University Extension Service. Corvallis, OR. EC 1631-E July 2009.
- U.S.D.A. Animal and Plant Health Inspection Service. 2018. On line at:  
[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/pram/](http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/)
- U.S.D.A. Forest Service. 2008. Preventing Spread of Aquatic Invasives Organisms Common to the Intermountain Region. Guidance for 2008 Fire Operations.  
[http://www.fs.fed.us/r4/resources/aquatic/guidelines/aq\\_invasives\\_interim\\_fire\\_guidance\\_08\\_final.pdf](http://www.fs.fed.us/r4/resources/aquatic/guidelines/aq_invasives_interim_fire_guidance_08_final.pdf)
- U.S. Fish & Wildlife Service (FWS), 2007. Western Quagga Mussels. Background Information. March 25, 2007.
- U.S. Geological Survey (USGS). 2006. Ballast Water Research at the WFRC. U.S Department of the Interior, USGS FS 2006-3080. May 3, 2006.
- USGS. 2018. NAS-Nonindigenous Aquatic Species. On Line at:  
<https://nas.er.usgs.gov/about/default.aspx>.
- U.S. Army Corps of Engineers Aquatic Nuisance Species Research Program. Online at:  
[http://el.erdc.usace.army.mil/ansrp/species\\_profiles.htm](http://el.erdc.usace.army.mil/ansrp/species_profiles.htm).
- Utah Division of Wildlife Resources. 2009. Utah Aquatic Invasive Species Management Plan. Utah Aquatic Invasive Species Task Force. Publication No. 08-34. January.
- Washington State Department of Health. 2009. Common Species of Cyanobacteria. Online at:  
<http://www.doh.wa.gov/ehp/algae/species.htm>.
- World Chlorine Council. 2018. Drinking Water Chlorination position paper 2008. On line at:  
<https://worldchlorine.org/publications/>.
- World Health Organization (WHO). 1999. Toxic Cyanobacteria in Water: A guide to their public health consequences, monitoring and management. Chapter 8. Preventative Measures. Edited by Ingrid Chorus and Jamie Bartram.

## **Attachment C**

# **Hydrostatic Test Water Withdrawal Equipment Cleaning and Sanitizing Procedures**

## Cleaning and Sanitizing Procedures<sup>1</sup>

- 1) All hydrostatic test water withdrawal equipment and waterbody crossing equipment or materials that come into contact with raw water (non-municipal surface water) should be sanitized. Aquatic invasive species and pathogens can be transported in tanks, buckets, hoses, screens, bilges, flume pipe(s) and any other construction equipment or materials that hold water or aquatic plant or substrate materials including waders and work boots.
- 2) Drying alone may be effective in some situations, depending upon the target species, types of equipment, temperature, and relative humidity; however, precautionary cleaning and/or sanitization should be performed.
- 3) Clean and/or sanitize all equipment and materials before moving from one location to another or when moving between watersheds. Cleaning and sanitizing equipment, as described here, will be necessary before use as well as after use if equipment has been obtained from a source where sanitizing history is unknown.
- 4) Pacific Connector's Environmental Inspector (EI) will establish sanitation areas where there is no potential for runoff into storm drains, waterways, or sensitive habitats. The EI will ensure that wash water will not contaminate another water source.
- 5) Hand remove all visible plant parts, soil, and other materials from external surfaces of equipment and gear. Powerwash all accessible surfaces with clean, hot water (140°F, and 3,000 psi of pressure, if possible). Hot water powerwash should be conducted in a slow and methodical manner. Lower temperatures will require more contact time to achieve desired results for decontamination. For species like quagga or zebra mussel, contact time should be 5-10 seconds at 140°F. Use 120°F hot water and longer contact time for hoses, fan belts, etc. (Elwell and Phillips, 2016). Powerwashing with hot water will greatly reduce the likelihood that aquatic invasive species are present, and chemical sanitation of external surfaces would not be necessary (BLM, 2009). Work boots should be brushed and cleaned and waders should be frozen for 24 hrs and dried completely before using them in another waterbody (Boatner, 2019).
- 6) Intake hoses, pumps, screens, and tanks can become contaminated with infected water or by sucking the organisms up from the bottom of a stream or pond. Disinfect tanks after each incident, and disinfect tanks before use if previous sanitation of the equipment has not occurred or is unknown. Set up a portable disinfection tank (e.g. fold-a-tank, 55-gallon barrel, 5-gallon bucket, etc., depending on the cleaning capacity needed) using a 1 to 2 percent bleach solution.

Pump cleaning solution through portable pumps for 10 minutes. Pump the solution through the hose and then rinse with water. Discharge used cleaning solution back into the disinfection tank for re-use. Alternatively, use a 5% cleaning solution of quaternary ammonium compound. This is a common cleaning agent used in homes, swimming pools, and hospitals, and is safe when used at the recommended concentration (BLM, 2009).

---

## Disposal

Use caution when disposing of the used cleaning solution and follow all federal, state, and local regulations. Do not dump cleaning solution into any stream or lake or on areas where it can migrate into any stormdrain, waterbody, or sensitive habitat. Chlorinated water may be released according to ODEQ criteria. Small quantities may be disposed of down sanitary drains into a municipal sewer system. Larger quantities may need to be transported to a municipal wastewater treatment facility.

<sup>1</sup> Developed from:

Boatner, R. 2018. Wildlife Division. Invasive Species, Wildlife Integrity Coordinator. Personal Communications with Edge Environmental. May.

Bureau of Land Management. 2009. Interagency Guidance. Preventing Spread of Aquatic Invasive Organisms Common to the Southwest Region. Technical Guidelines for Fire Operations. Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, Arizona Game and Fish Department, and New Mexico Department of Game and Fish.

Elwell, LC and S Philips, editors. 2016. Uniform Minimum Protocols and Standards for Watercraft Inspection and Decontamination Programs for Dreissenid Mussels in the Western United States (UMPS III). Pacific States Marine Fisheries Commission, Portland.

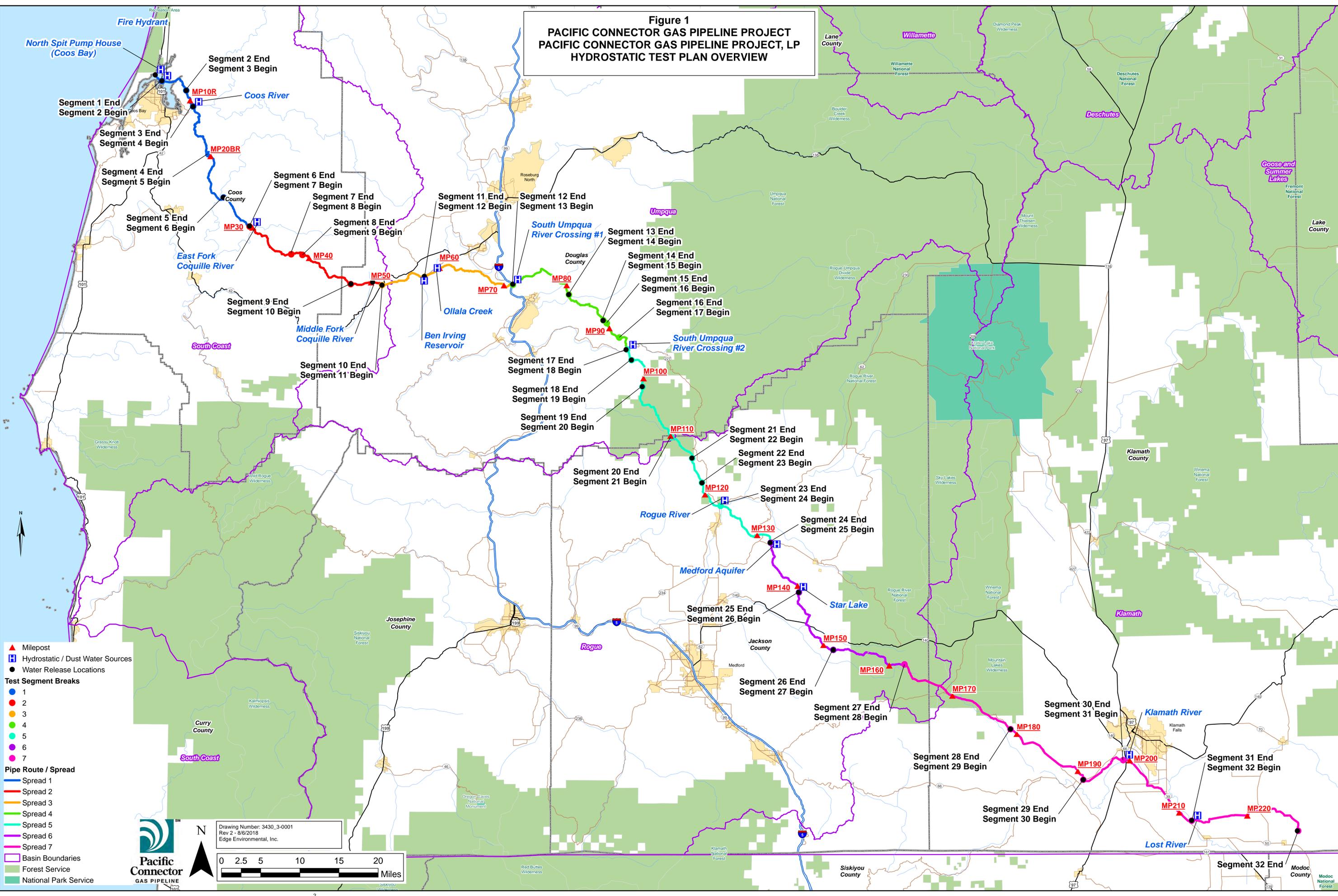
National Wildfire Coordinating Group. 2017. Guide to Preventing Aquatic Invasive Species Transported by Wildland Fire Operations. PMS 444. January. <https://www.nwccg.gov/publications/444>.

Utah Division of Wildlife Resources. 2009. Utah Aquatic Invasive Species Management Plan. Utah Aquatic Invasive Species Task Force. Publication No. 08-34. January.

# **Attachment D**

## **Maps**

**Figure 1**  
**PACIFIC CONNECTOR GAS PIPELINE PROJECT**  
**PACIFIC CONNECTOR GAS PIPELINE PROJECT, LP**  
**HYDROSTATIC TEST PLAN OVERVIEW**



▲ Milepost  
 [H] Hydrostatic / Dust Water Sources  
 ● Water Release Locations

**Test Segment Breaks**

- 1 (Blue circle)
- 2 (Red circle)
- 3 (Orange circle)
- 4 (Green circle)
- 5 (Light Green circle)
- 6 (Purple circle)
- 7 (Pink circle)

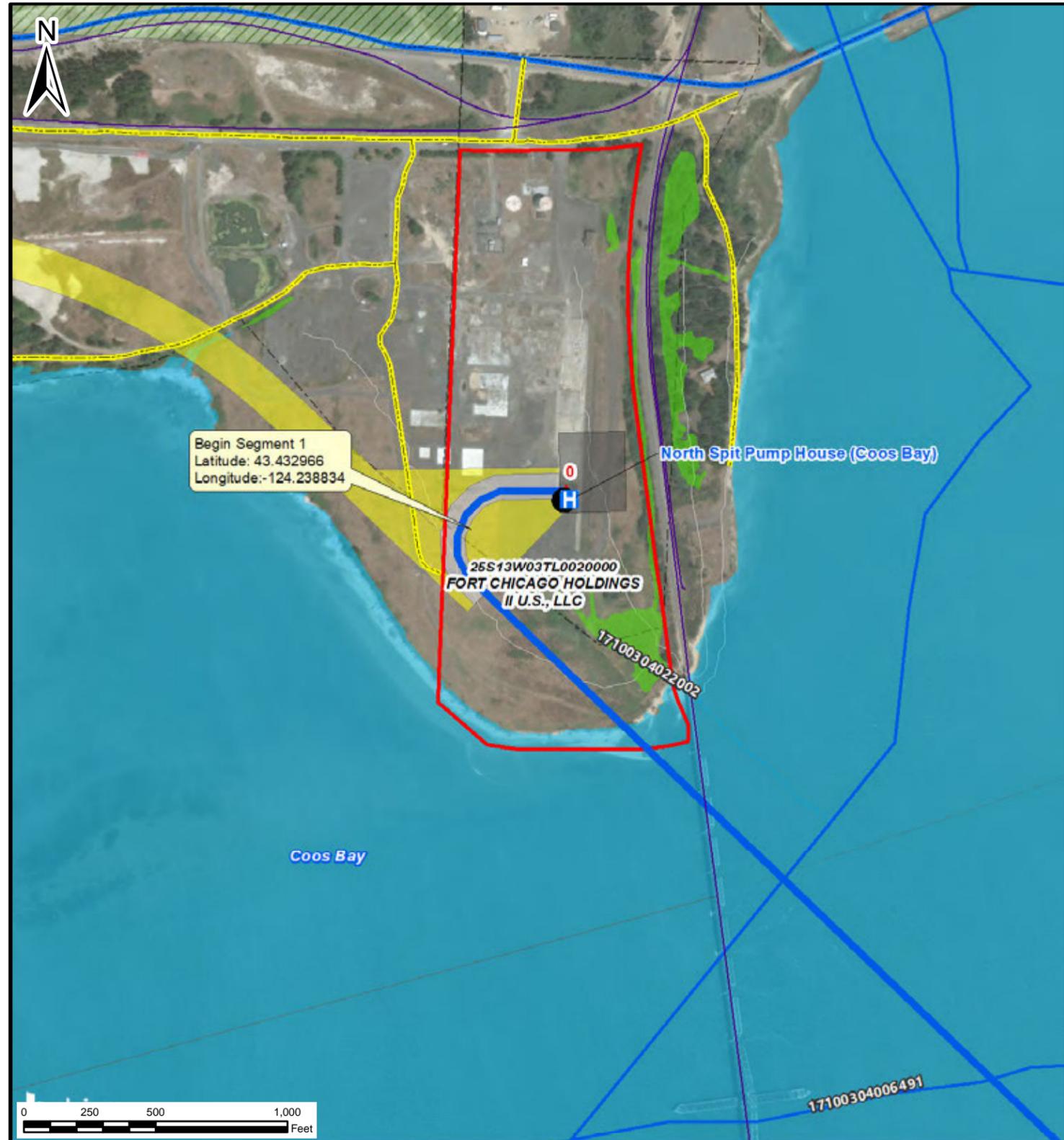
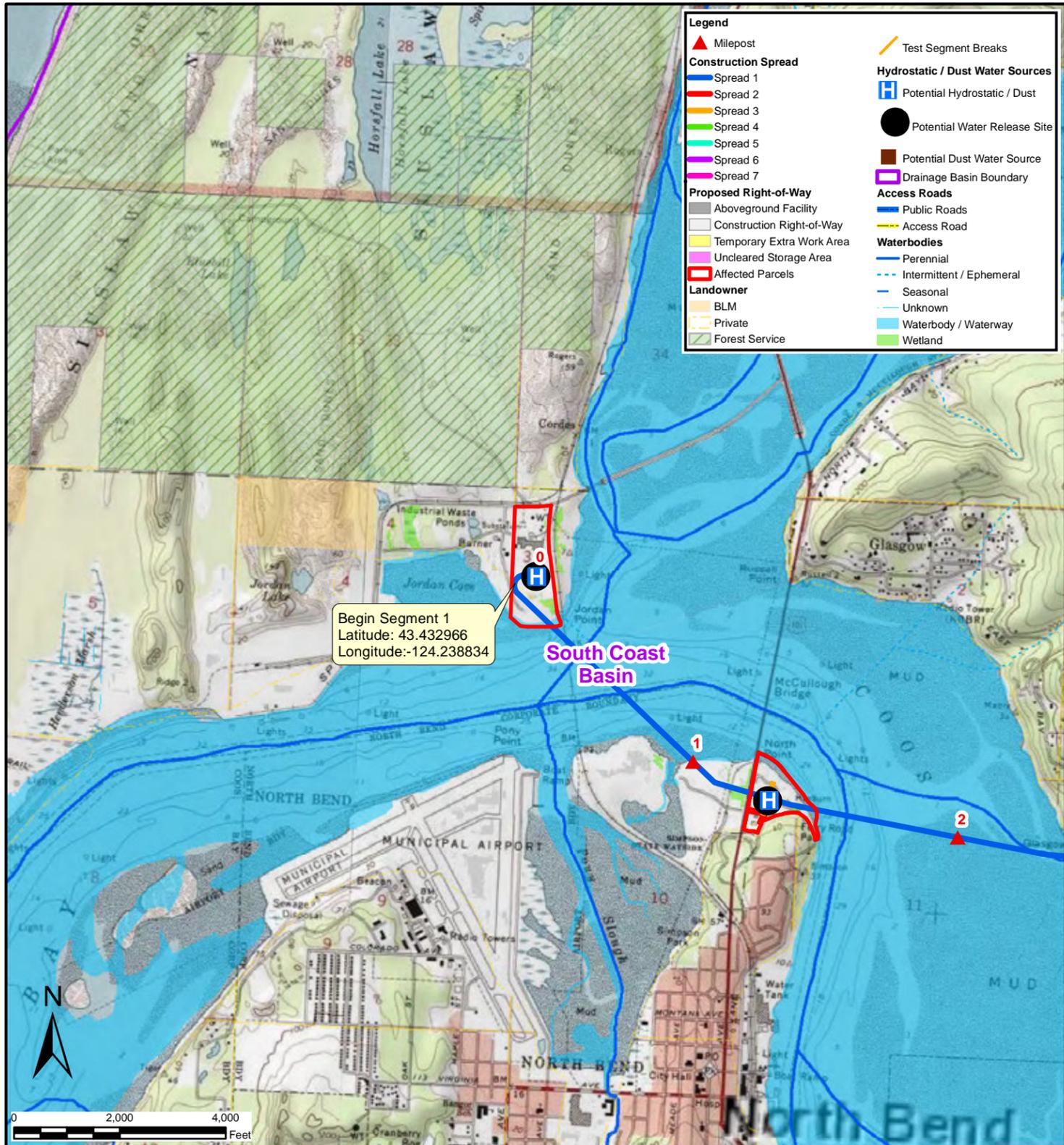
**Pipe Route / Spread**

- Spread 1 (Blue line)
- Spread 2 (Red line)
- Spread 3 (Orange line)
- Spread 4 (Green line)
- Spread 5 (Light Green line)
- Spread 6 (Purple line)
- Spread 7 (Pink line)

□ Basin Boundaries  
 ■ Forest Service  
 ■ National Park Service

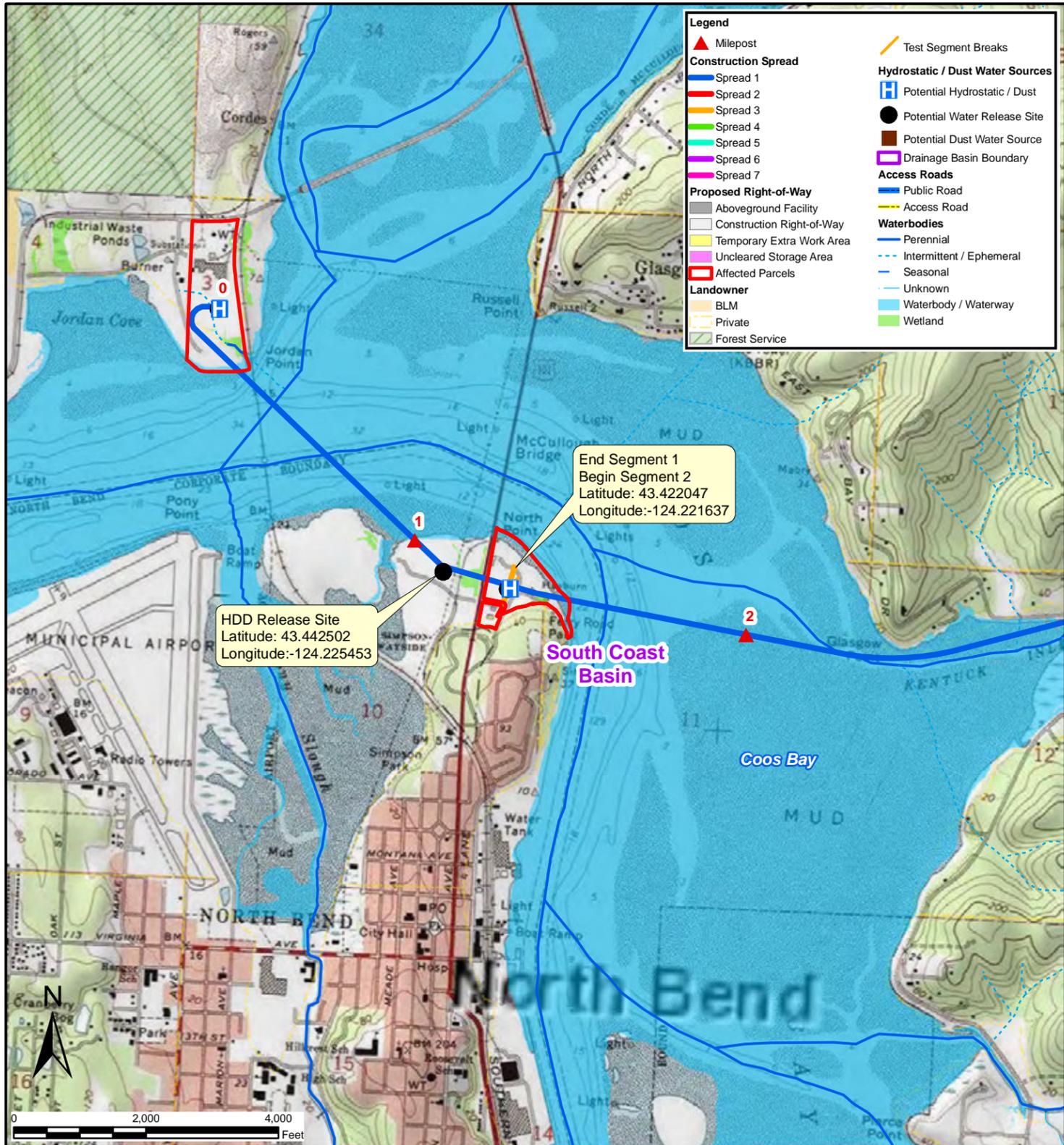
Drawing Number: 3430\_3-0001  
 Rev 2 - 8/6/2018  
 Edge Environmental, Inc.

0 2.5 5 10 15 20 Miles

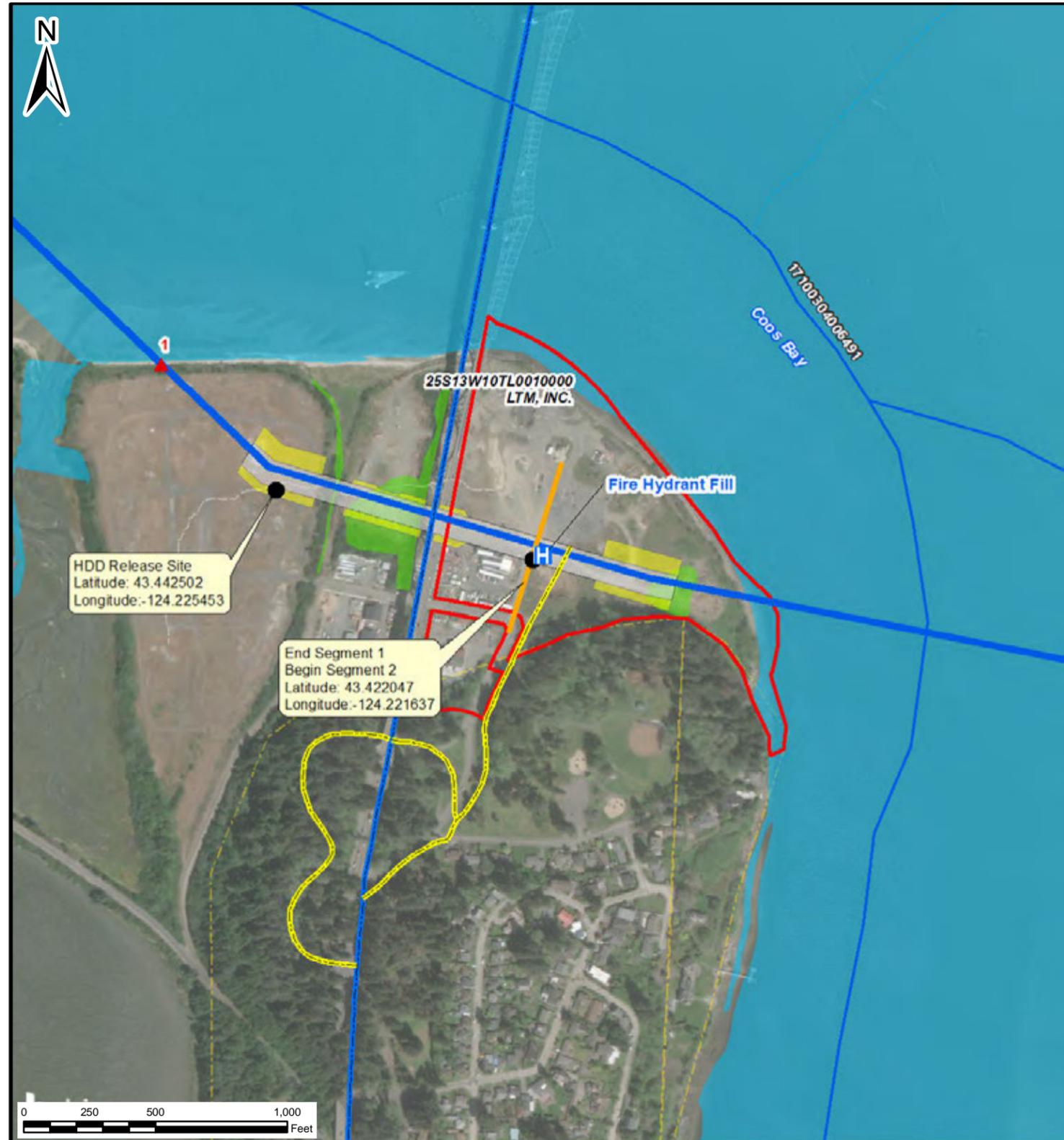


DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 1 BEGIN</b> <b>MP 0.00</b> <b>S-3, T-25-S, R-13-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 1</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segment 1.mxd										

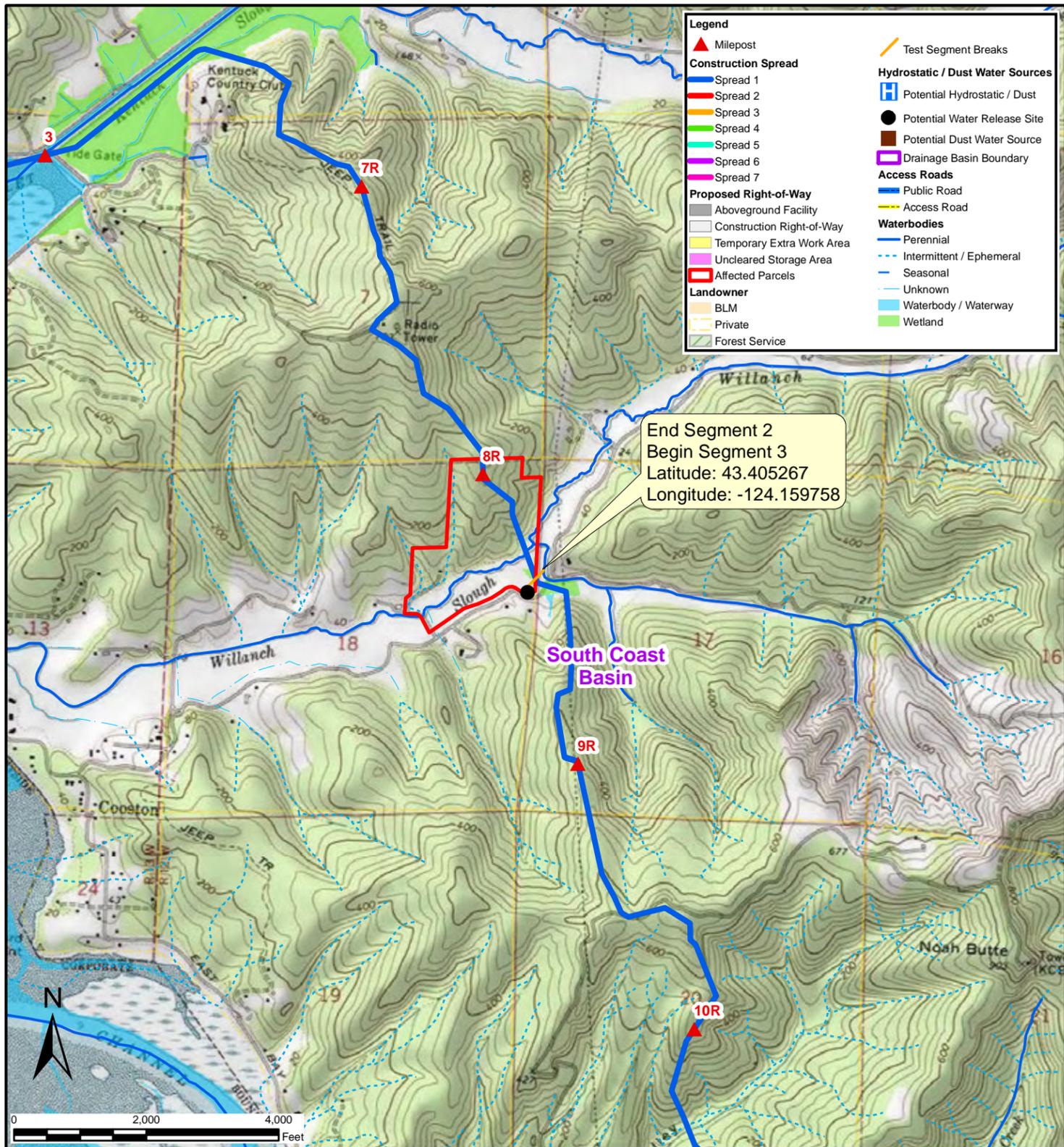
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 1 BEGIN</b> <b>MP 0.00</b> <b>S-3, T-25-S, R-13-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 1</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segment 1.mxd										



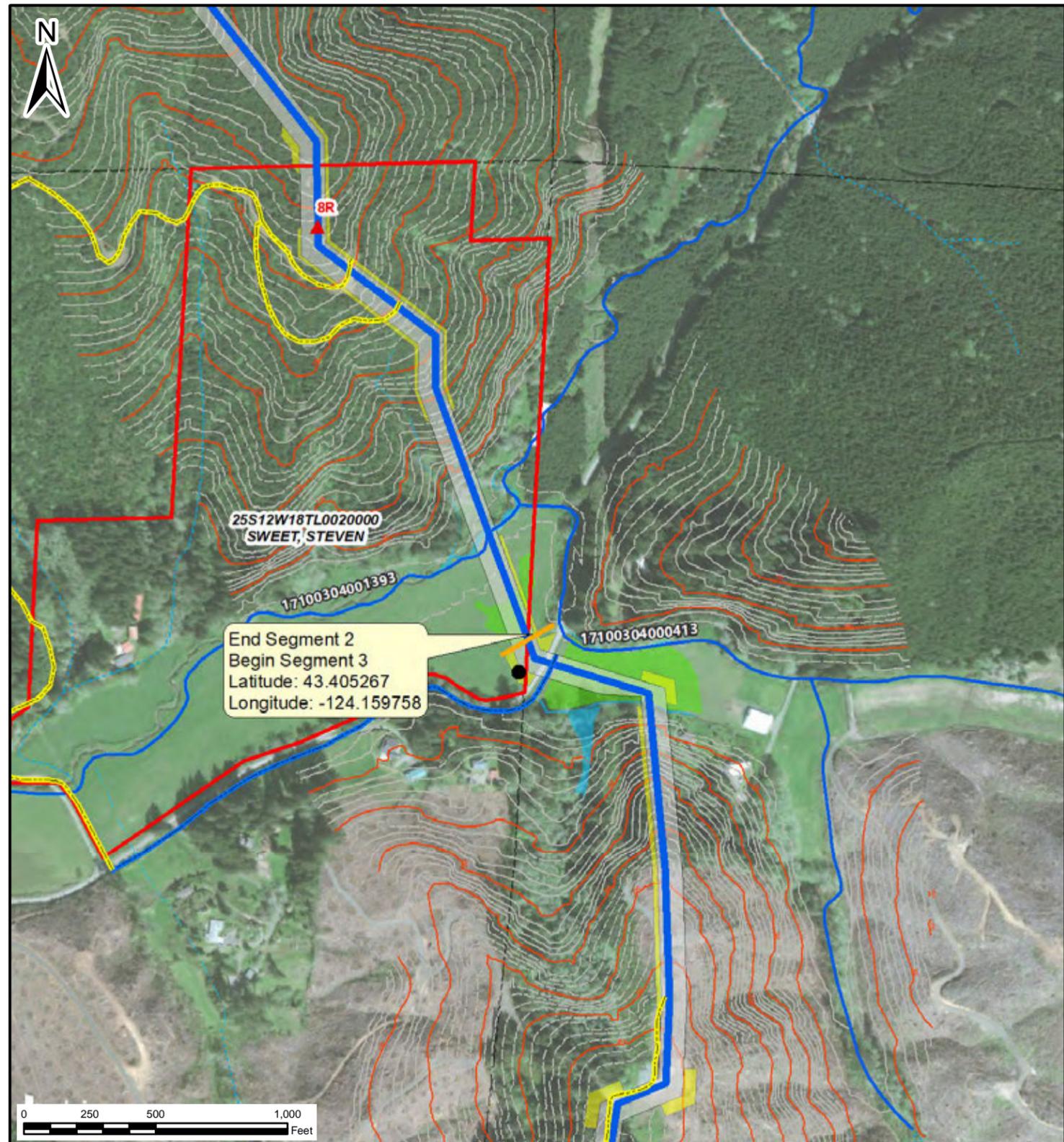
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 1 END / 2 BEGIN</b> <b>MP 1.31</b> <b>S-10, T-25-S, R-13-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 1 / 2</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 1 and 2.mxd										



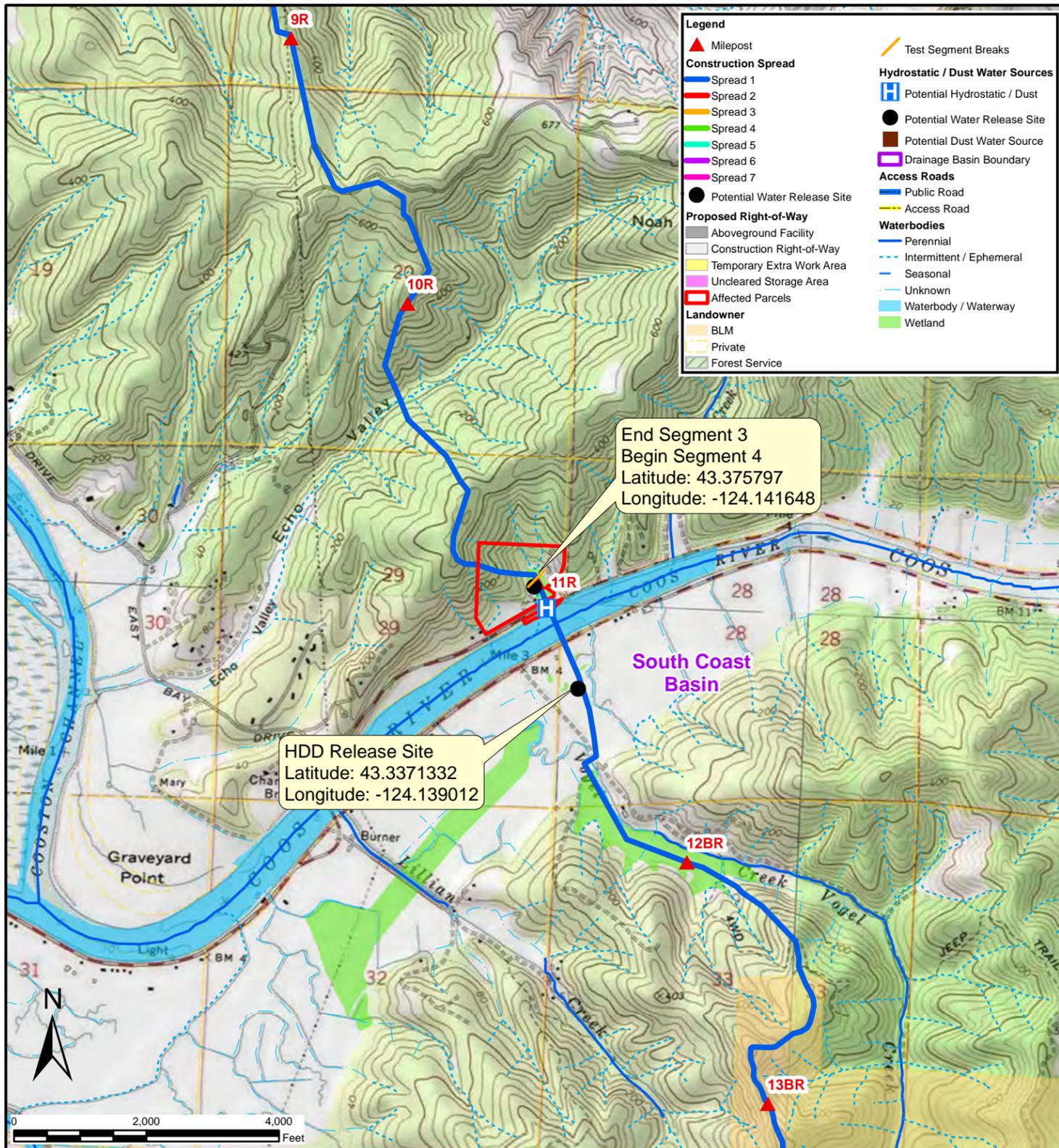
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 1 END / 2 BEGIN</b> <b>MP 1.31</b> <b>S-10, T-25-S, R-13-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 1 / 2</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 1 and 2.mxd										



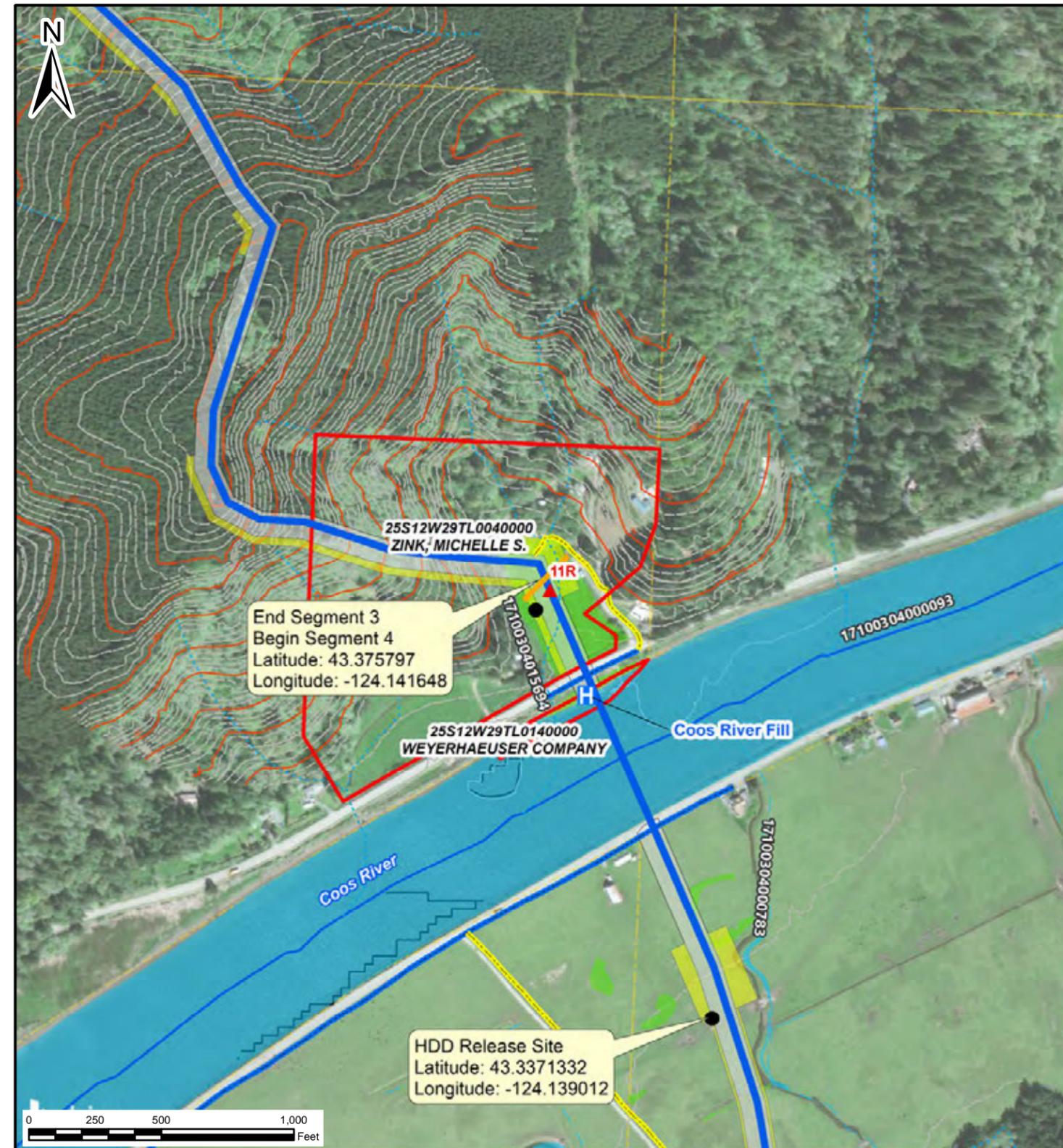
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 2 END / 3 BEGIN</b> <b>MP 8.35R</b> <b>S-18, T-25-S, R-12-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 2 / 3	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 2 and 3.mxd										



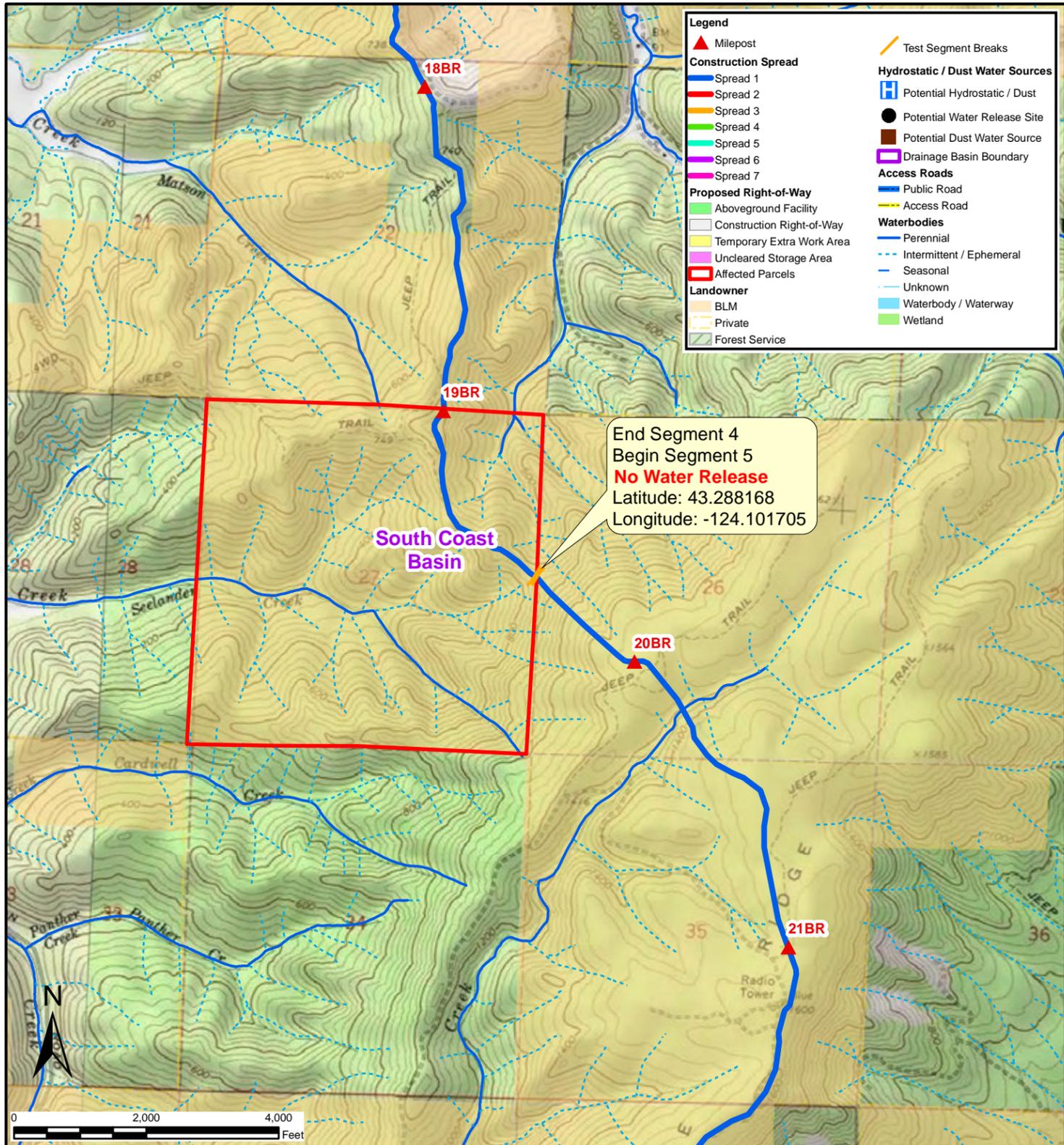
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 2 END / 3 BEGIN</b> <b>MP 8.35R</b> <b>S-18, T-25-S, R-12-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 2 / 3	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 2 and 3.mxd										



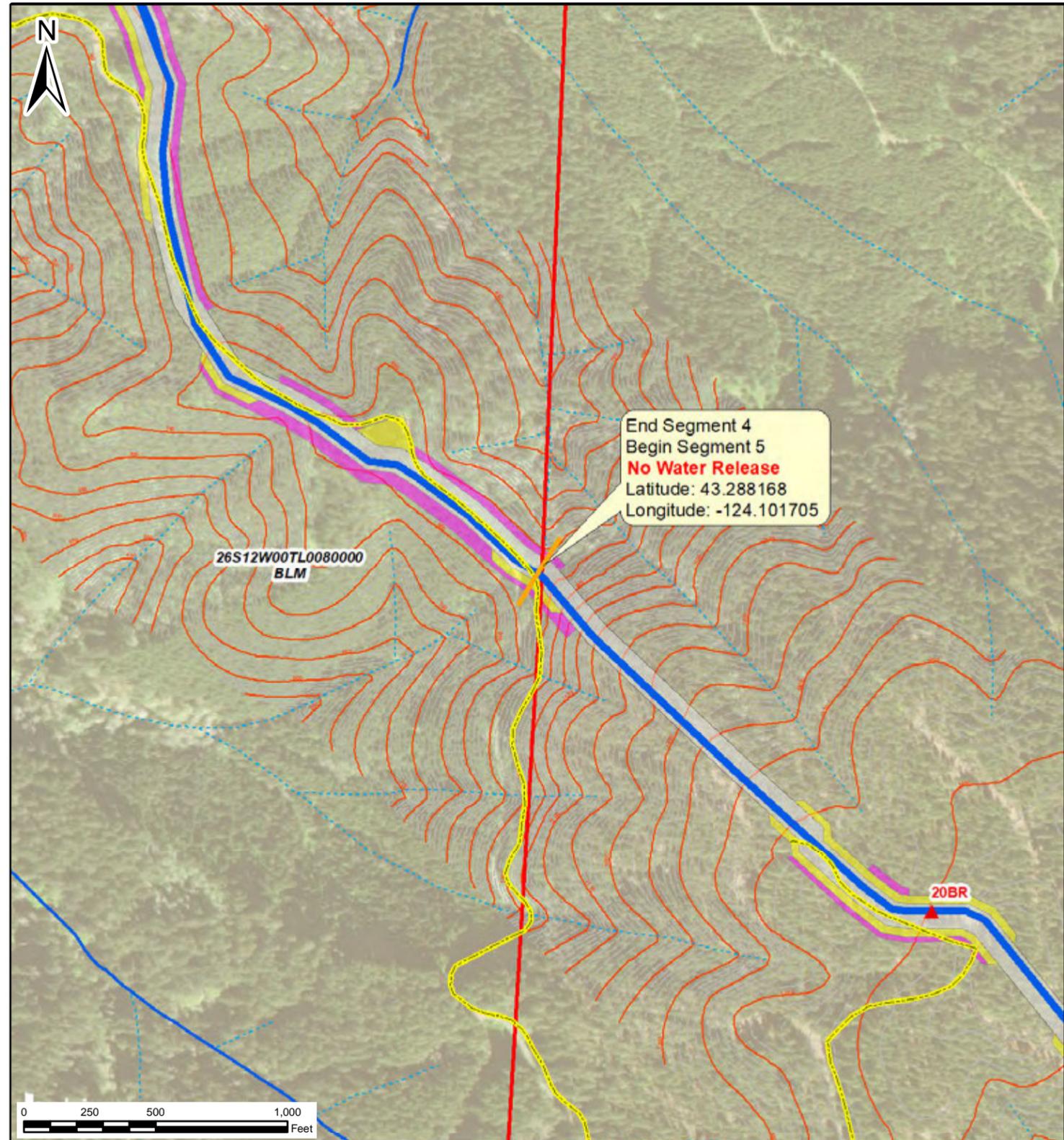
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 3 END / 4 BEGIN</b> <b>MP 11.04R</b> <b>S-29, T-25-S, R-12-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 3 / 4</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 3 and 4.mxd										



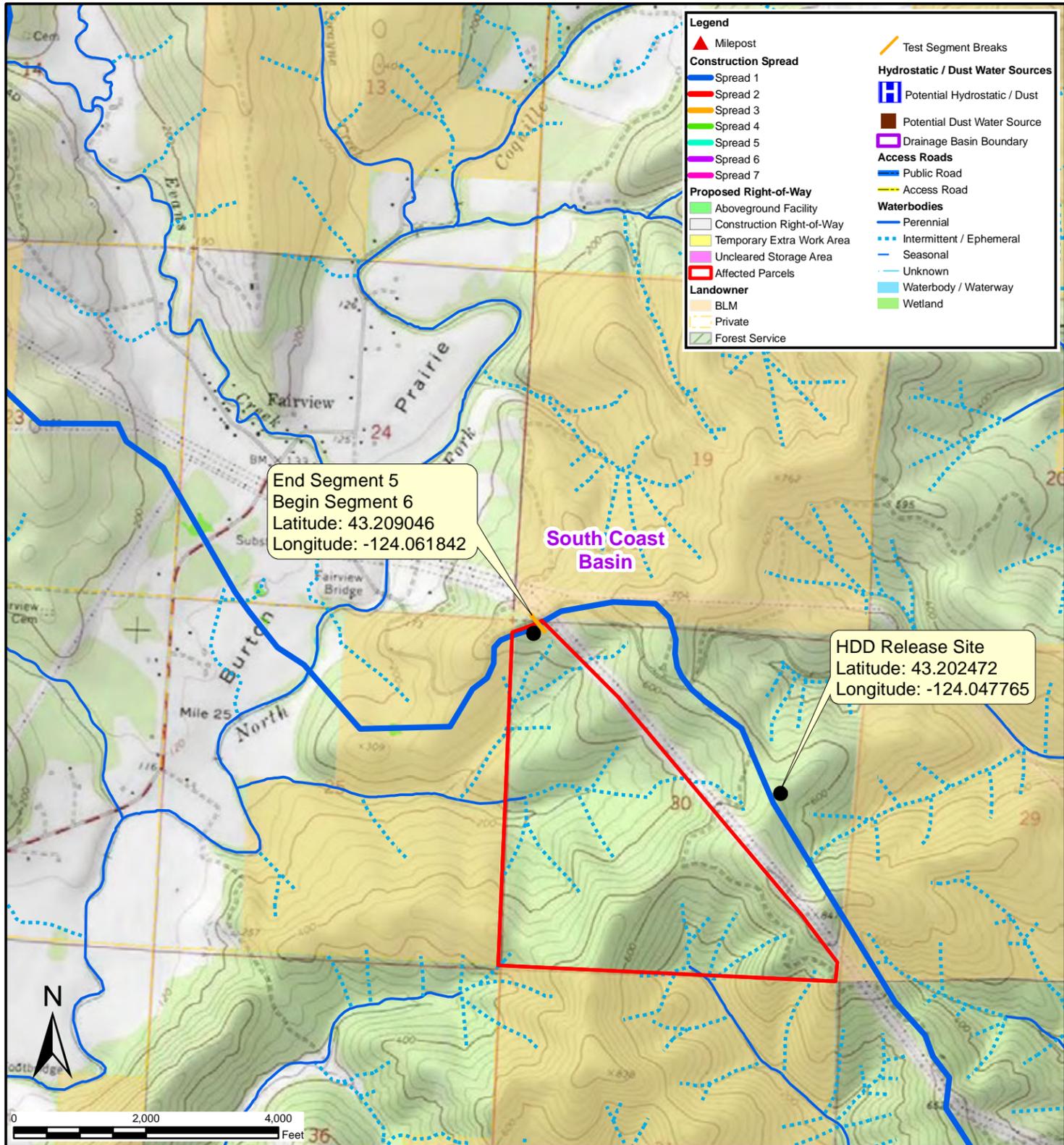
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 3 END / 4 BEGIN</b> <b>MP 11.04R</b> <b>S-29, T-25-S, R-12-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 3 / 4</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 3 and 4.mxd										



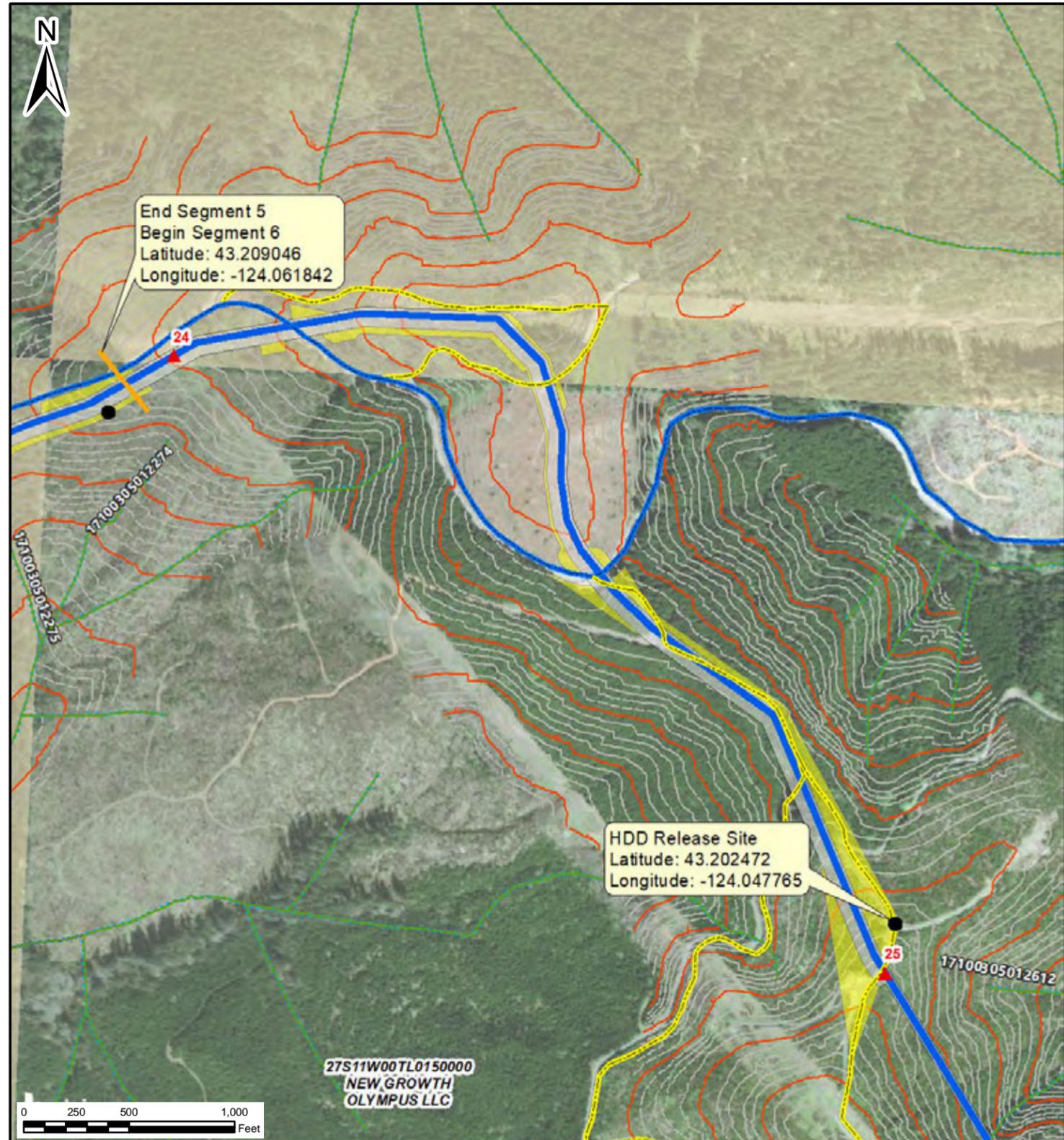
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 4 END / 5 BEGIN</b> <b>MP 19.62BR</b> <b>S-27, T-26-S, R-12-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 4 / 5</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 4 and 5.mxd										



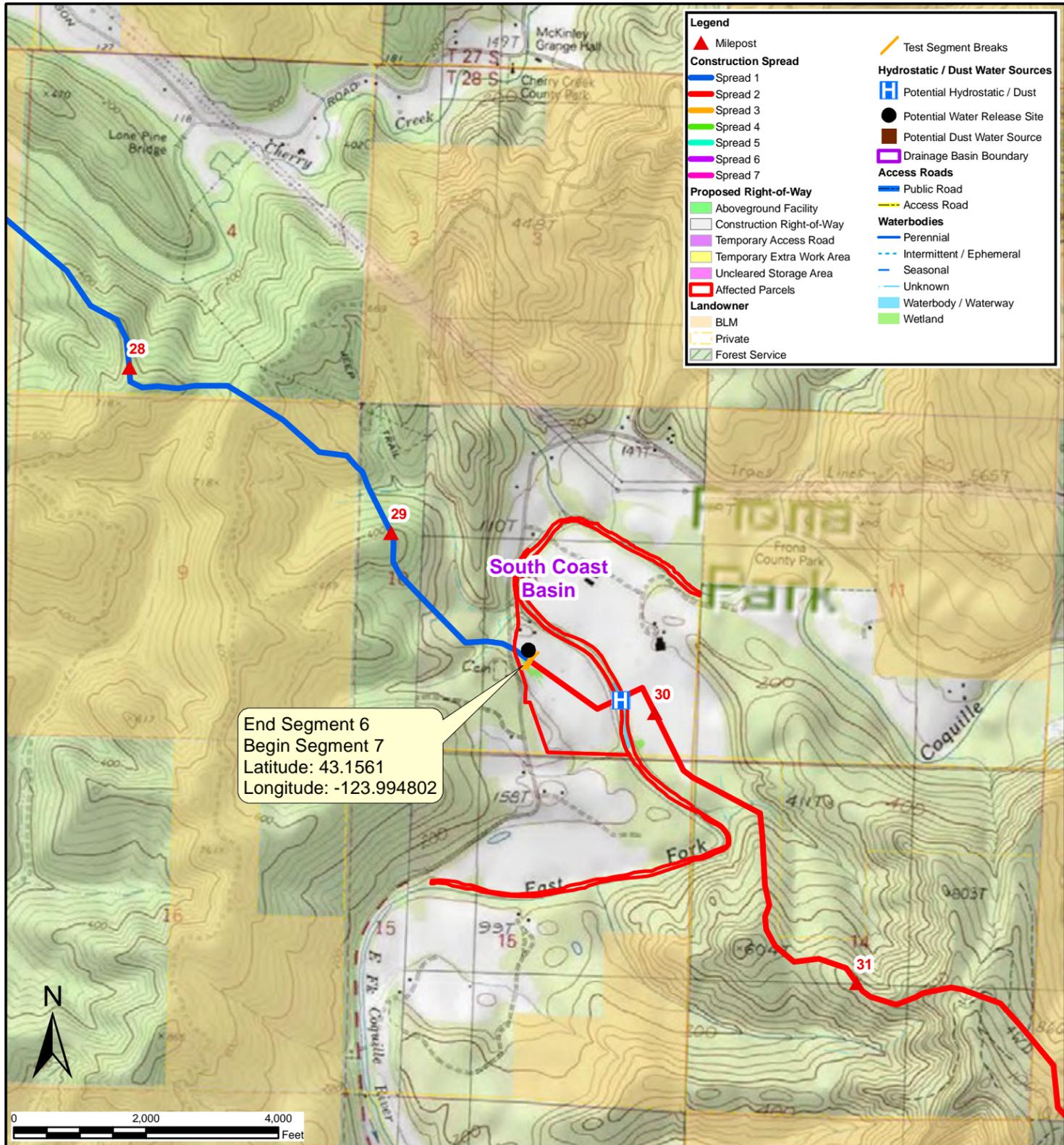
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 4 END / 5 BEGIN</b> <b>MP 19.62BR</b> <b>S-27, T-26-S, R-12-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 4 / 5</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 4 and 5.mxd										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 5 END / 6 BEGIN</b> <b>MP 23.95</b> <b>S-30, T-27-S, R-11-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 5 / 6</b>	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 5 and 6.mxd</small>										



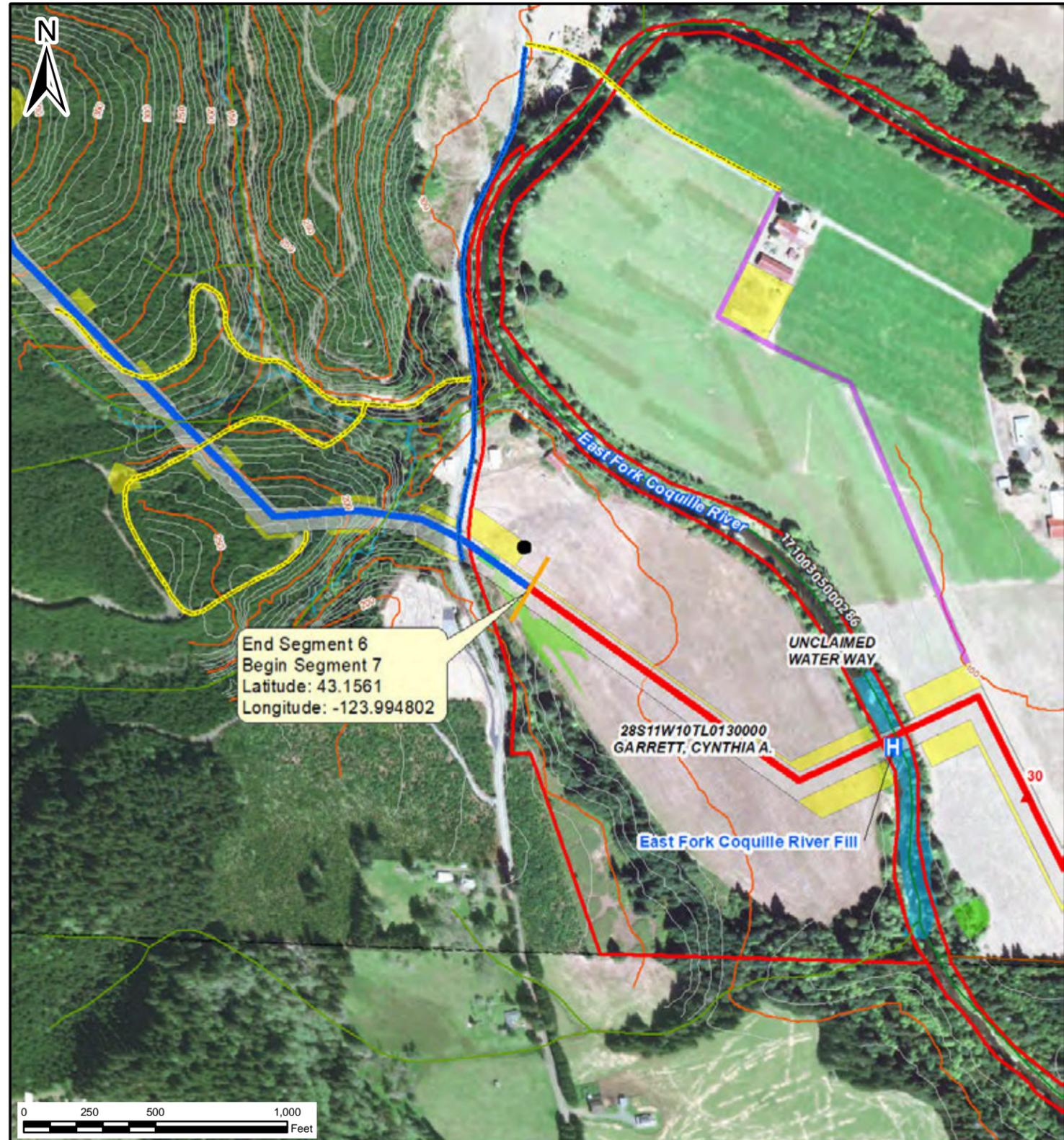
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 5 END / 6 BEGIN</b> <b>MP 23.95</b> <b>S-30, T-27-S, R-11-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 625
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 5 / 6</b>	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 5 and 6.mxd</small>										



End Segment 6  
Begin Segment 7  
Latitude: 43.1561  
Longitude: -123.994802



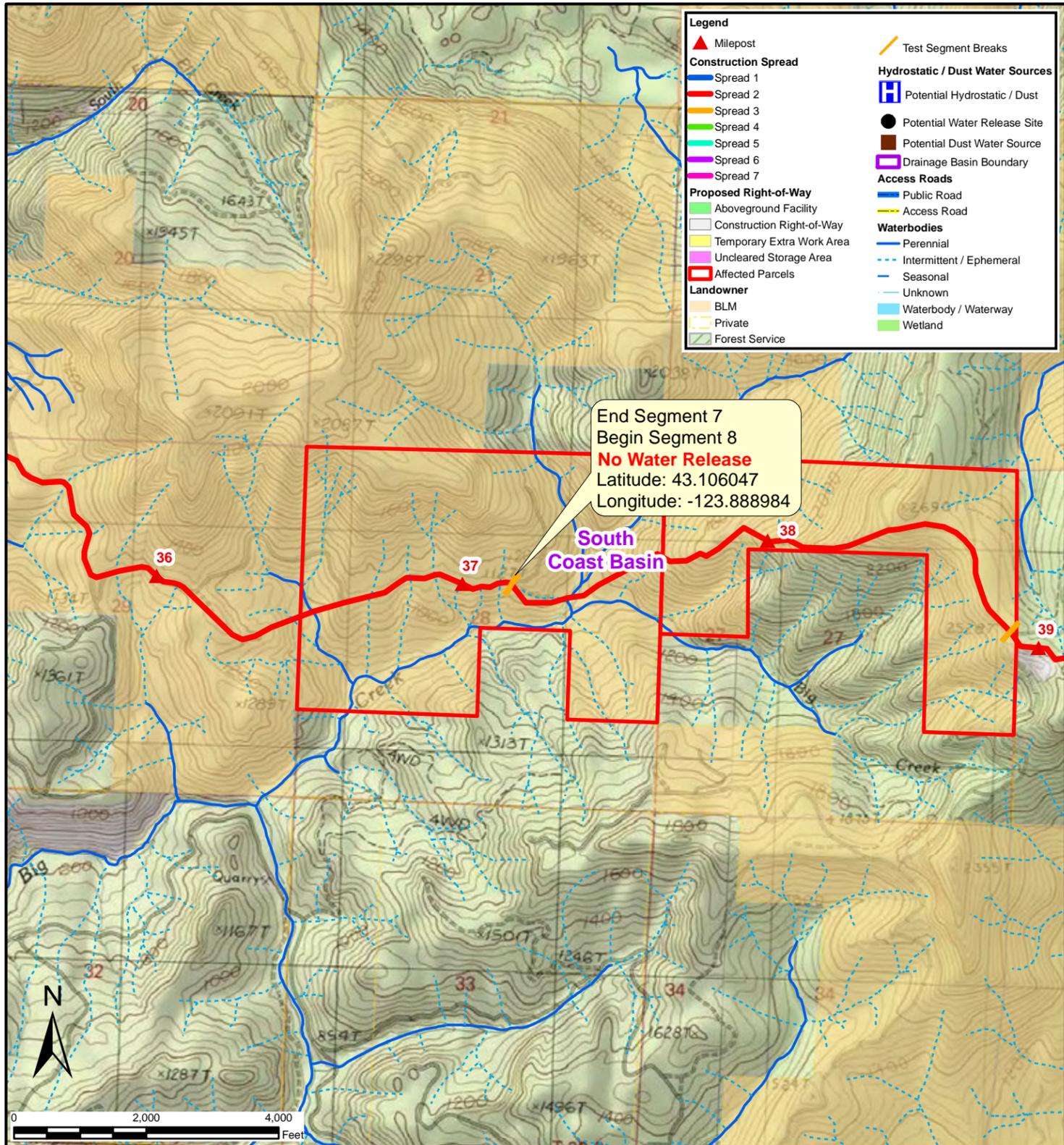
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 6 END / 7 BEGIN</b> <b>MP 29.54</b> <b>S-10, T-28-S, R-11-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 6 / 7</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 6 and 7.mxd										



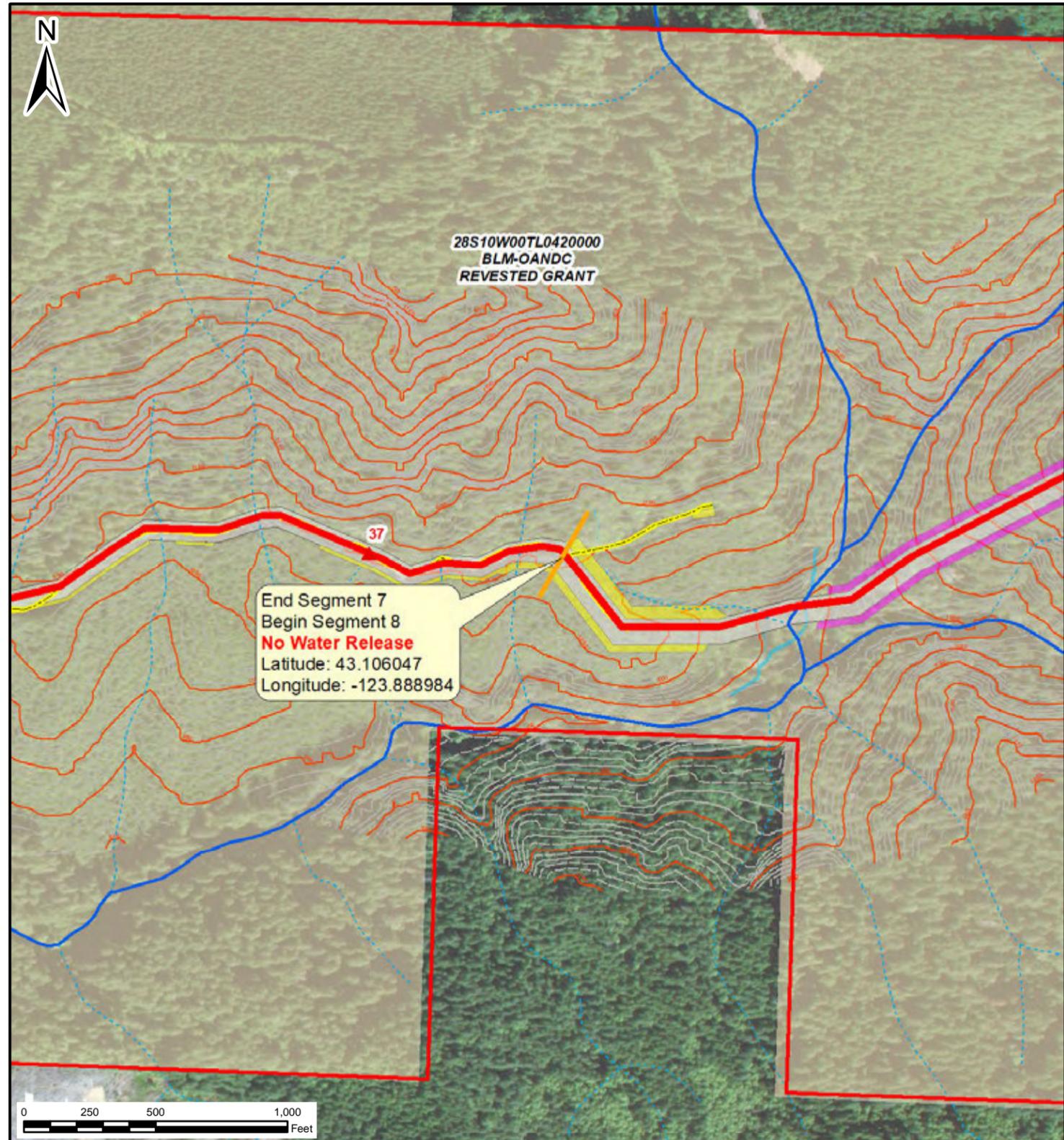
End Segment 6  
Begin Segment 7  
Latitude: 43.1561  
Longitude: -123.994802



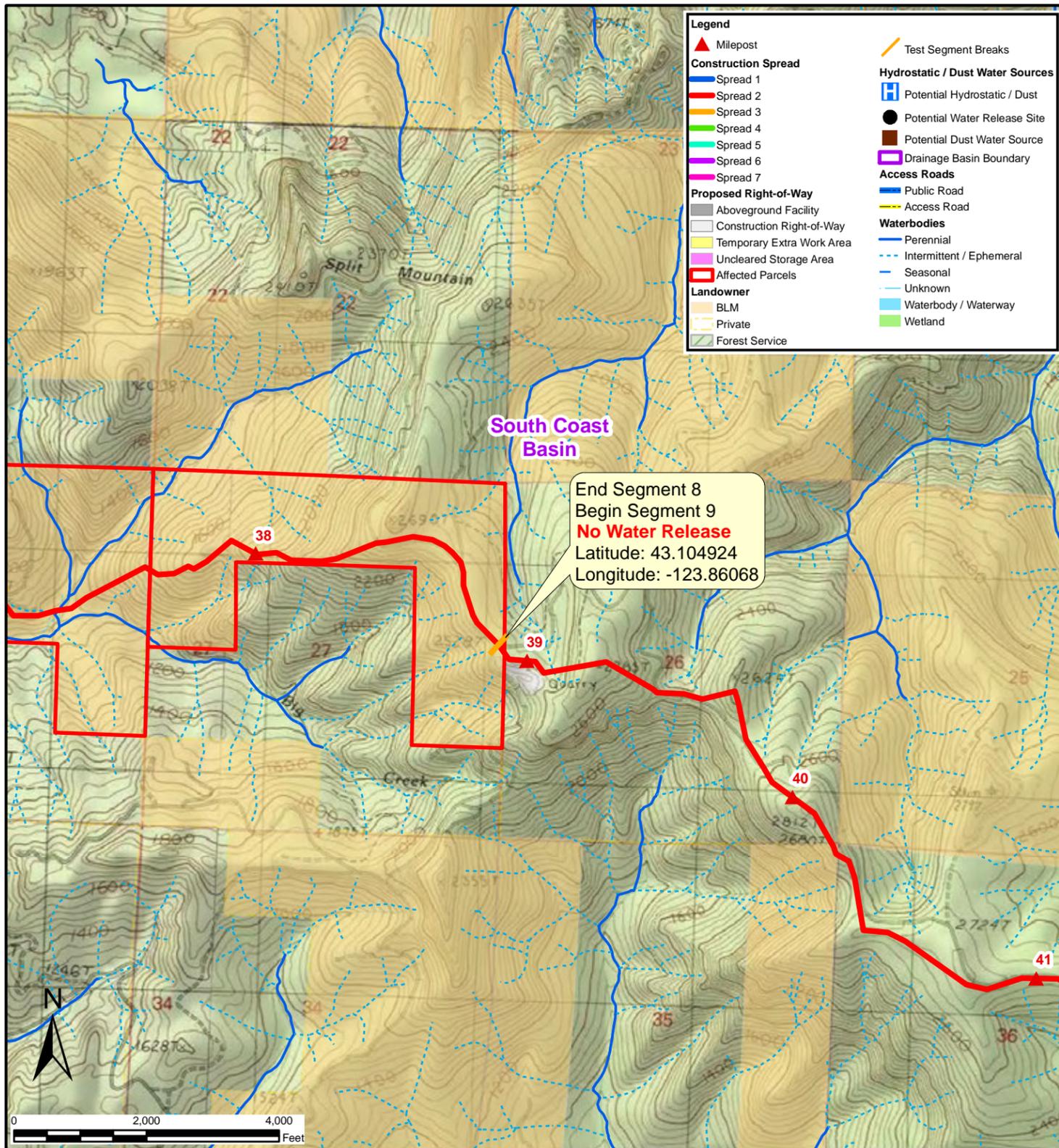
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 6 END / 7 BEGIN</b> <b>MP 29.54</b> <b>S-10, T-28-S, R-11-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 6 / 7</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 6 and 7.mxd										



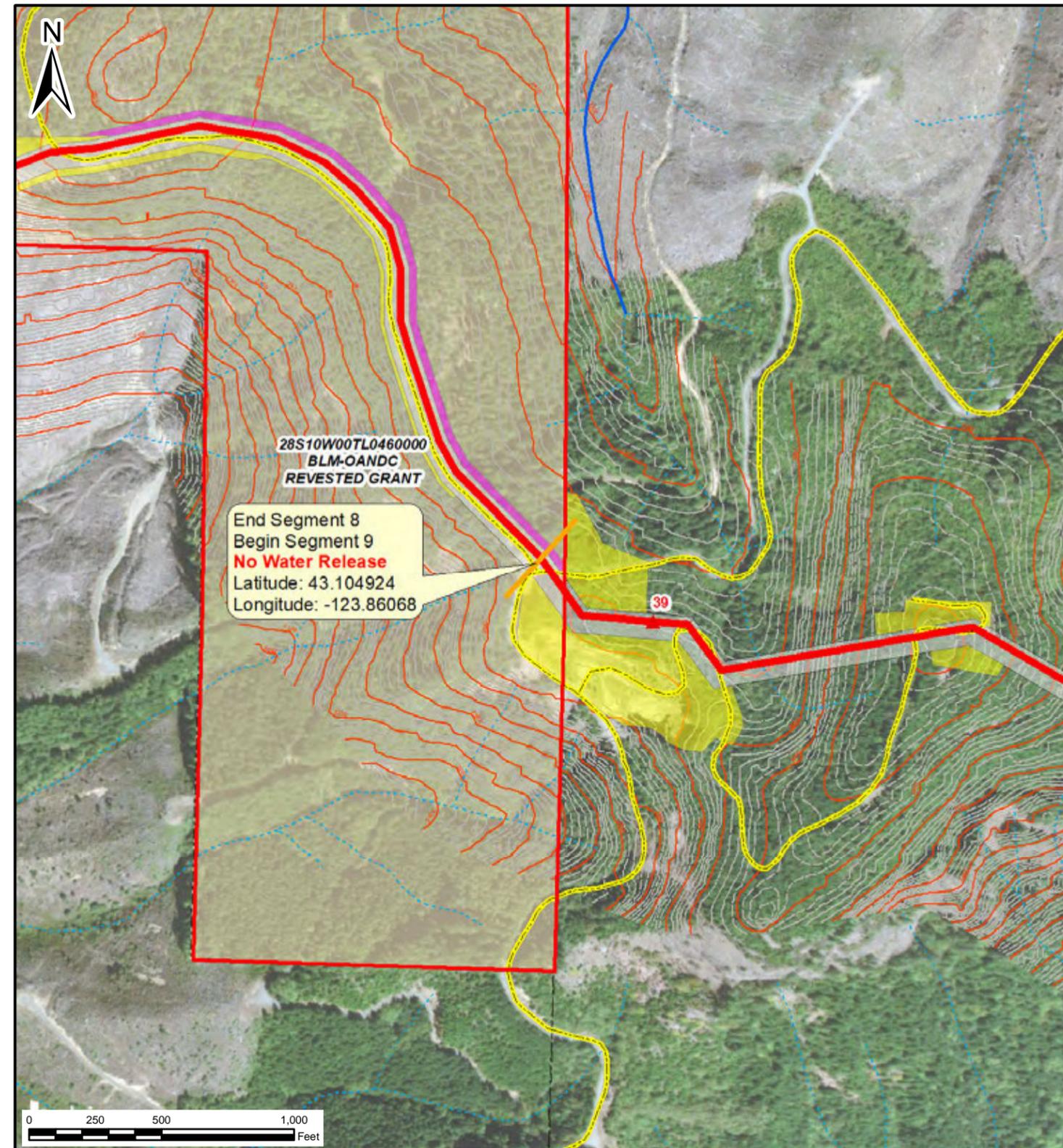
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 7 END/ 8 BEGIN</b> <b>MP 37.15</b> <b>S-28, T-28-S, R-10-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 7 / 8</b>	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 7 and 8.mxd</small>										



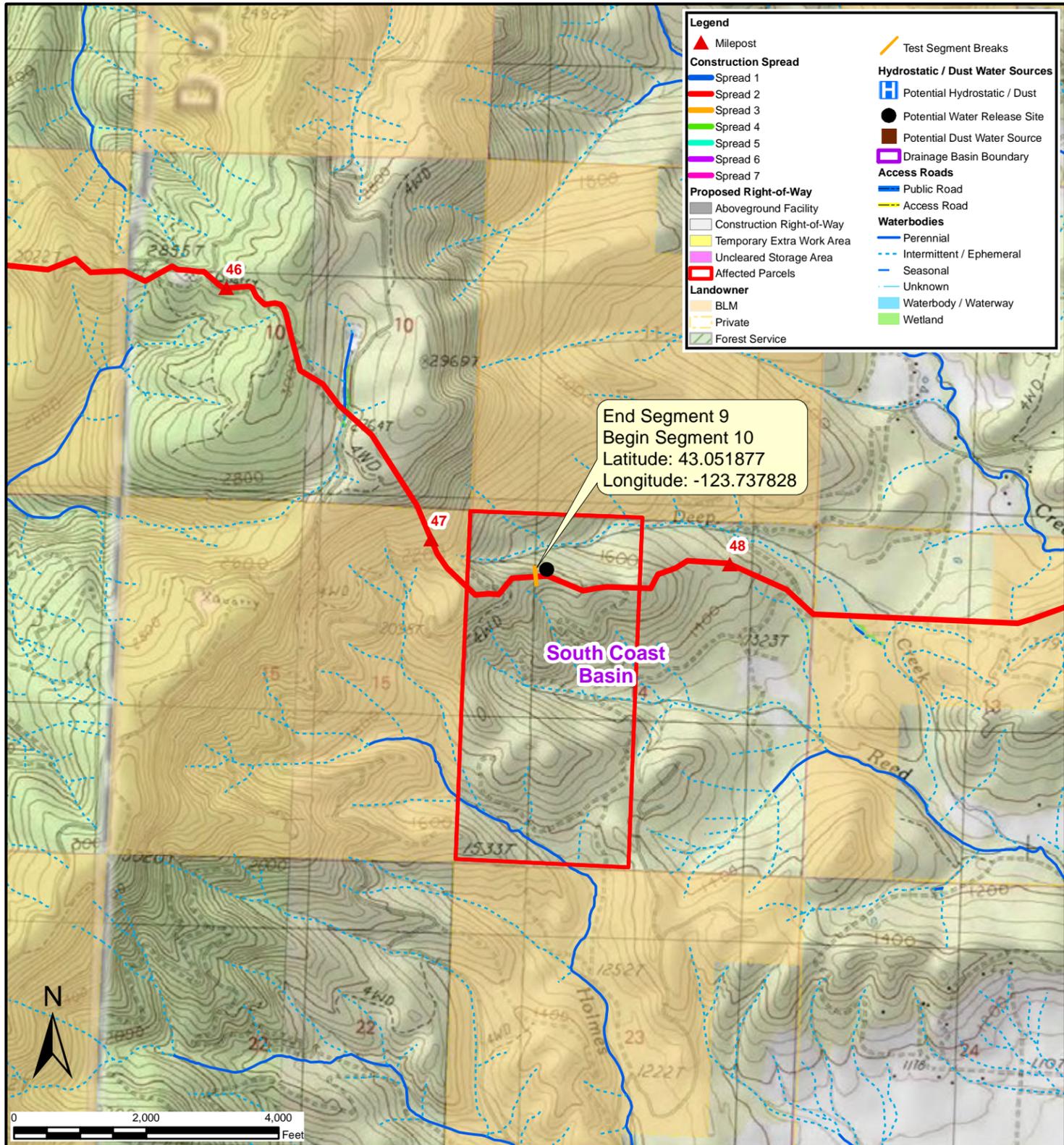
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 7 END/ 8 BEGIN</b> <b>MP 37.15</b> <b>S-28, T-28-S, R-10-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 7 / 8</b>	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 7 and 8.mxd</small>										



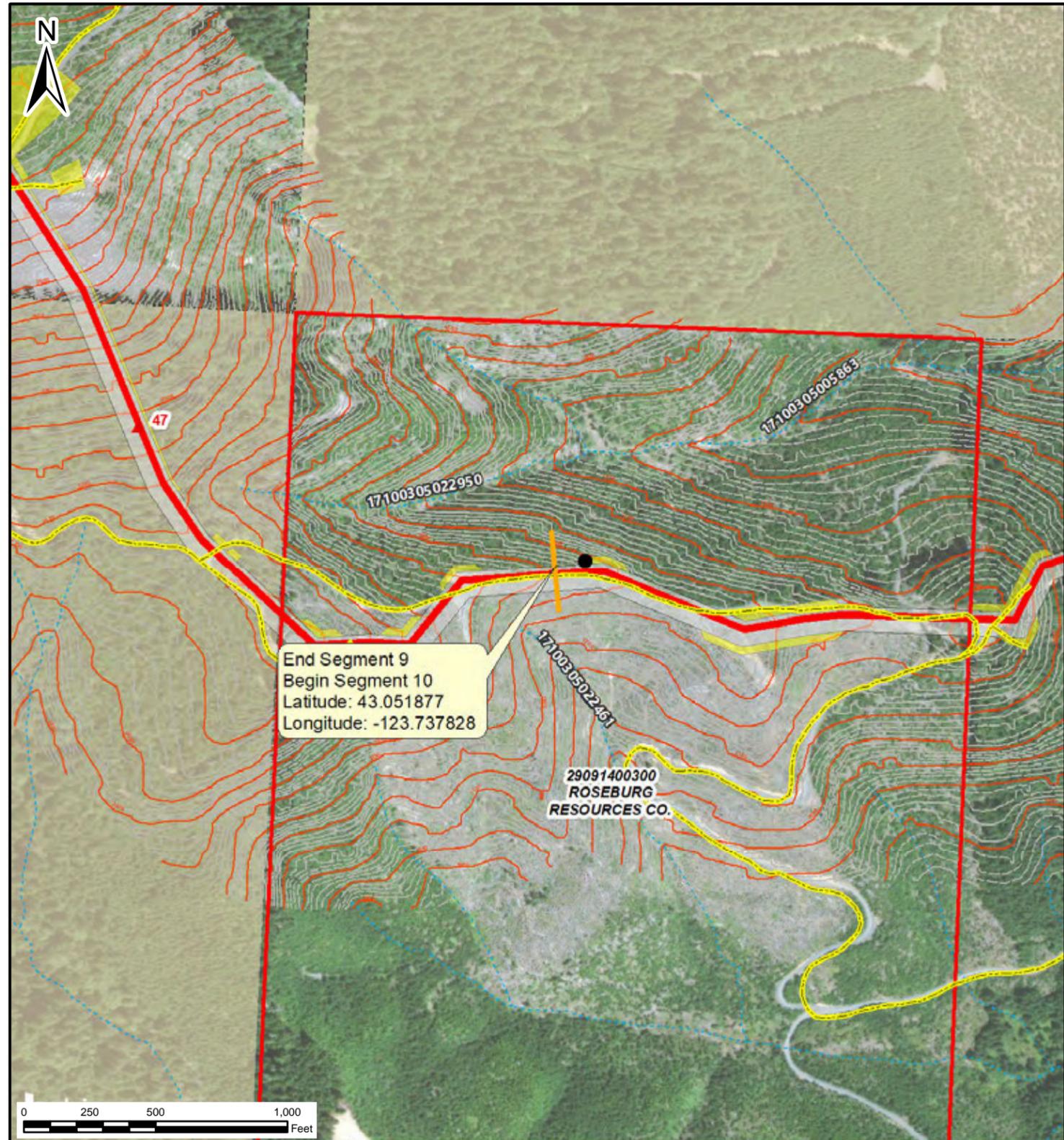
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 8 END / 9 BEGIN</b> <b>MP 38.90</b> <b>S-27, T-28-S, R-10-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 8 / 9</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 8 and 9.mxd										



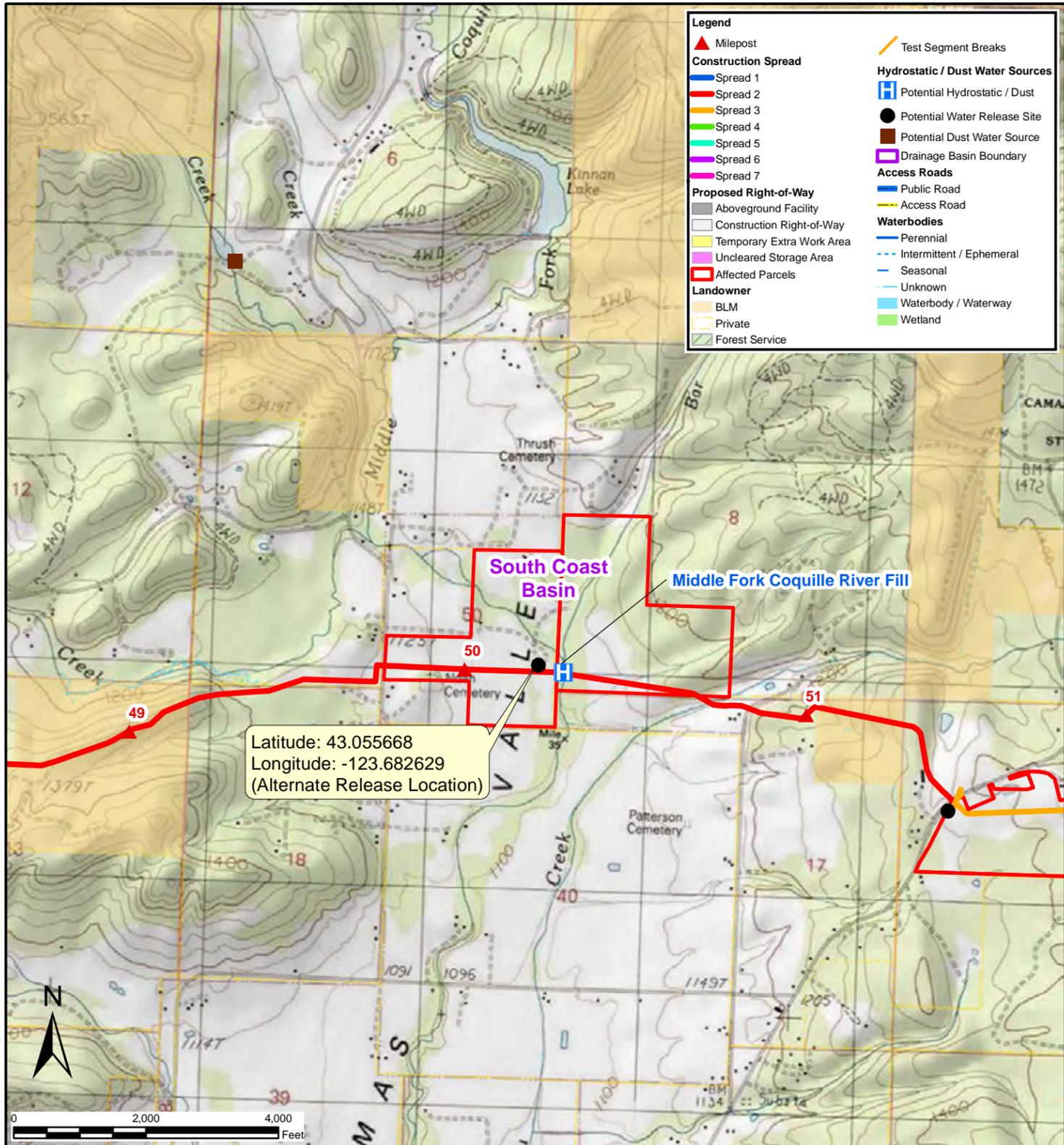
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 8 END / 9 BEGIN</b> <b>MP 38.90</b> <b>S-27, T-28-S, R-10-W</b> <b>COOS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 8 / 9</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 8 and 9.mxd										



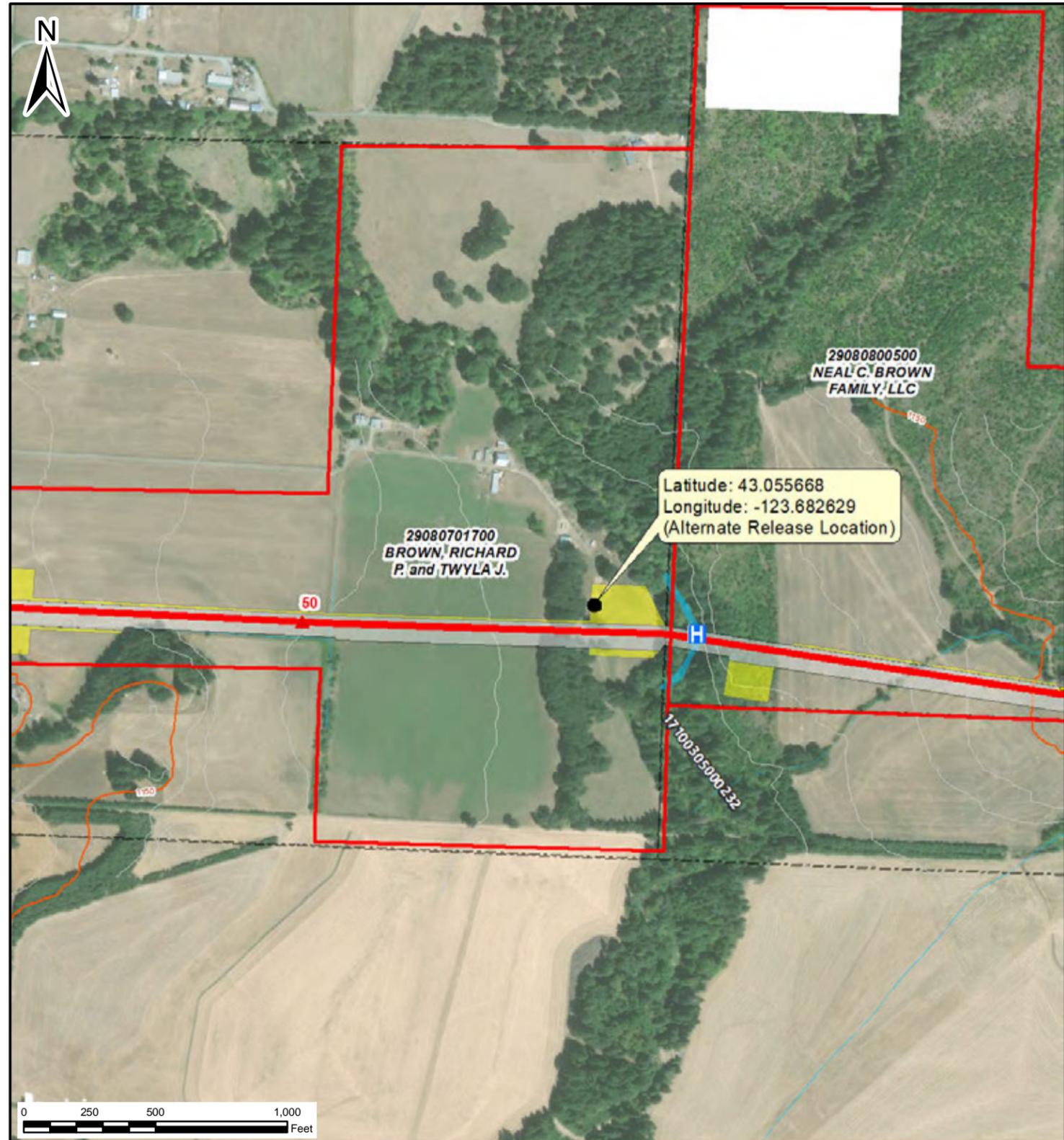
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 9 END / 10 BEGIN</b> <b>MP 47.40</b> <b>S-14, T-29-S, R-9-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 9 / 10</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 9 and 10.mxd										



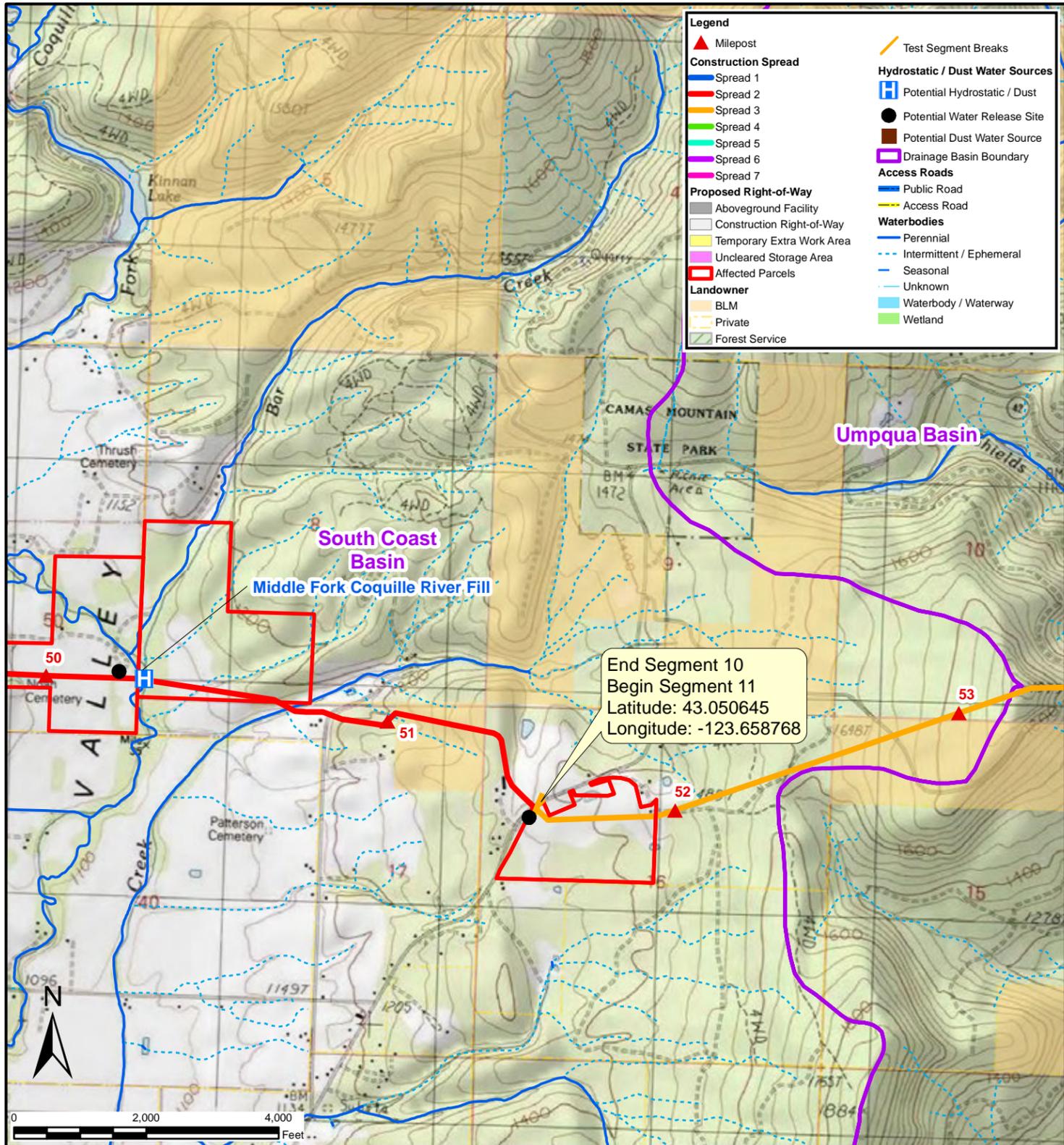
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 9 END / 10 BEGIN</b> <b>MP 47.40</b> <b>S-14, T-29-S, R-9-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 9 / 10</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 9 and 10.mxd										



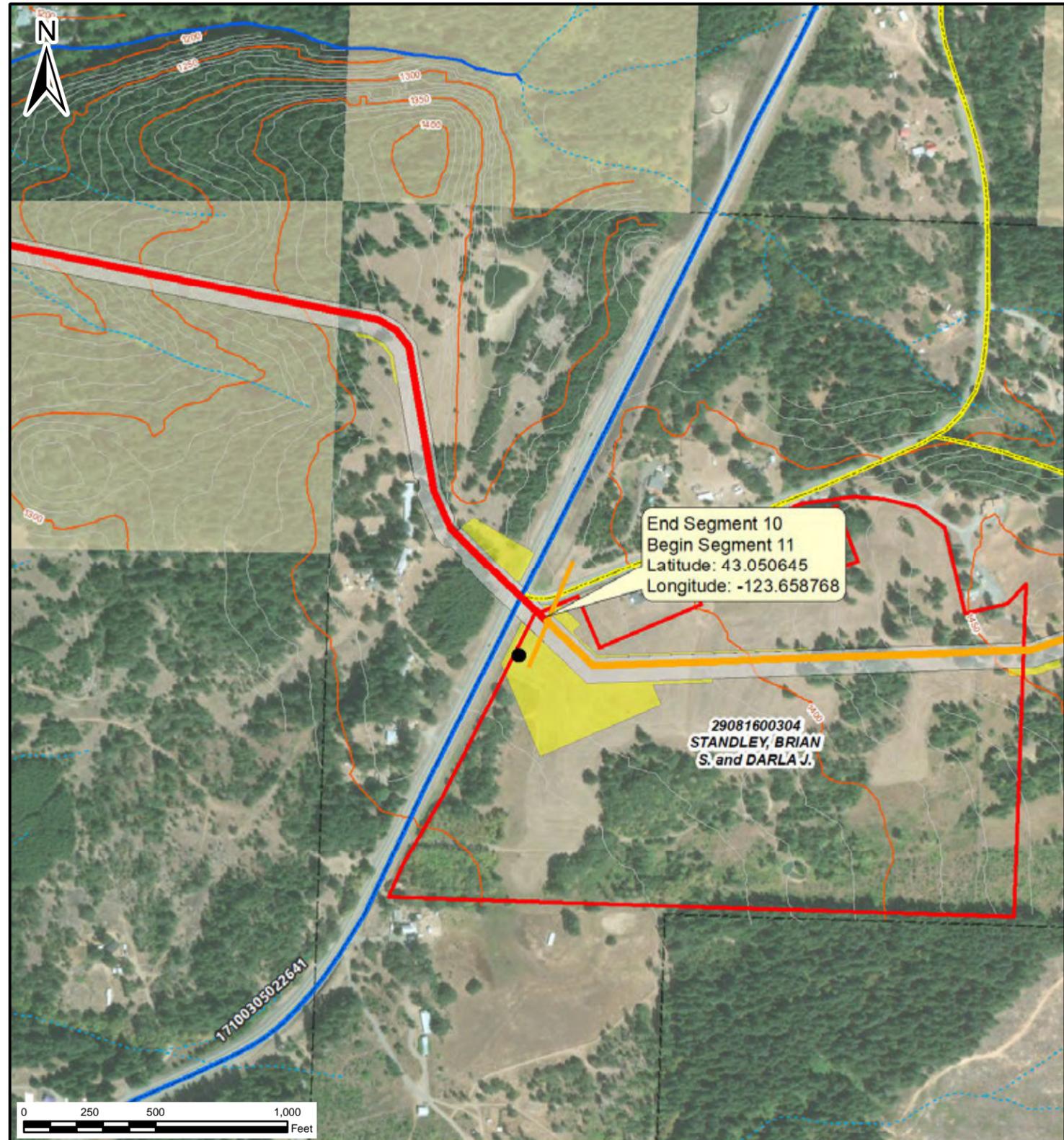
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 10 END / 11 BEGIN</b> <b>MP 50.23</b> <b>S-16, T-29-S, R-8-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 10 / 11A</b>	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 10 and 11A.mxd</small>										



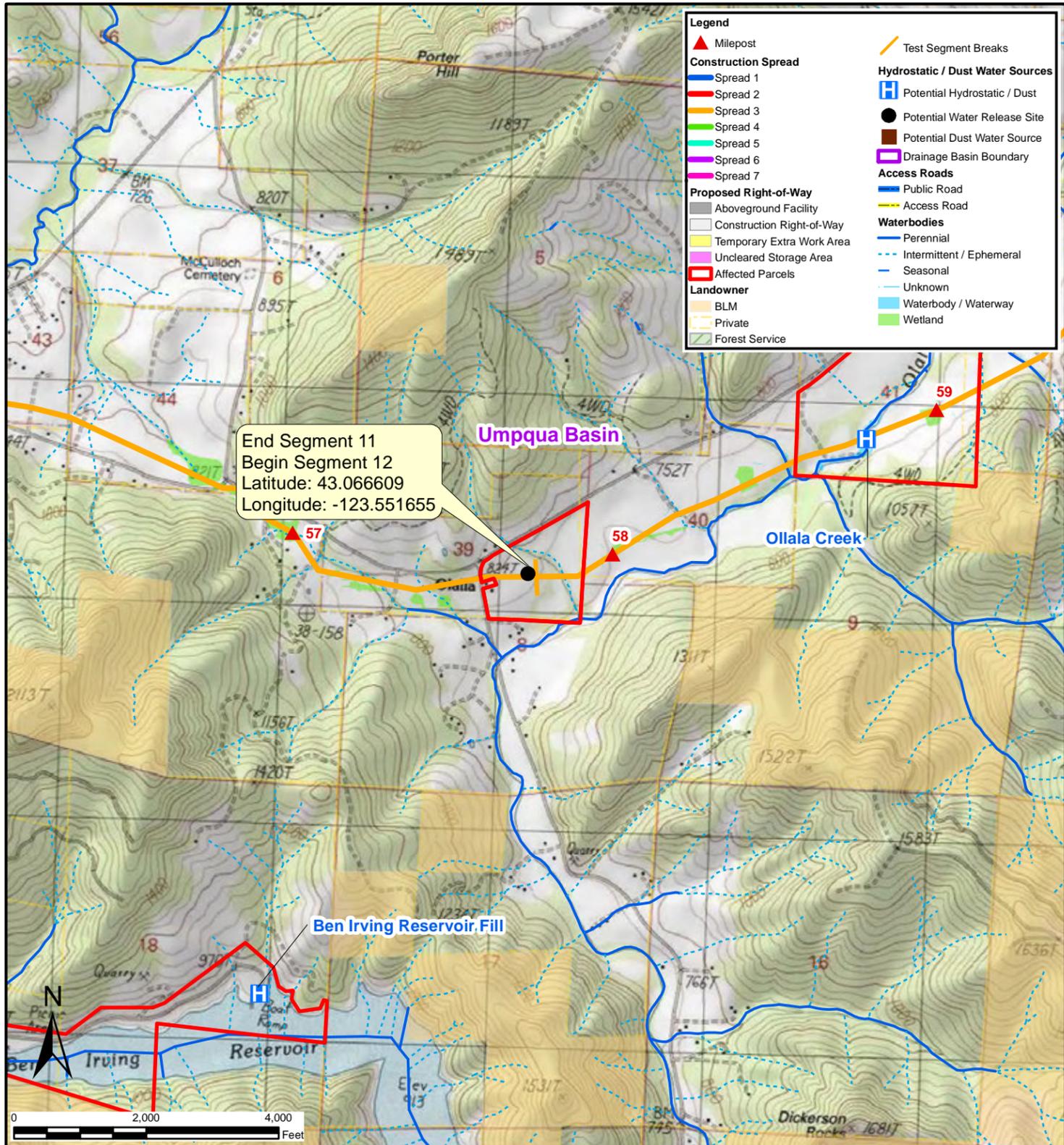
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 10 END / 11 BEGIN</b> <b>MP 50.23</b> <b>S-16, T-29-S, R-8-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 10 / 11A</b>	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 10 and 11A.mxd</small>										



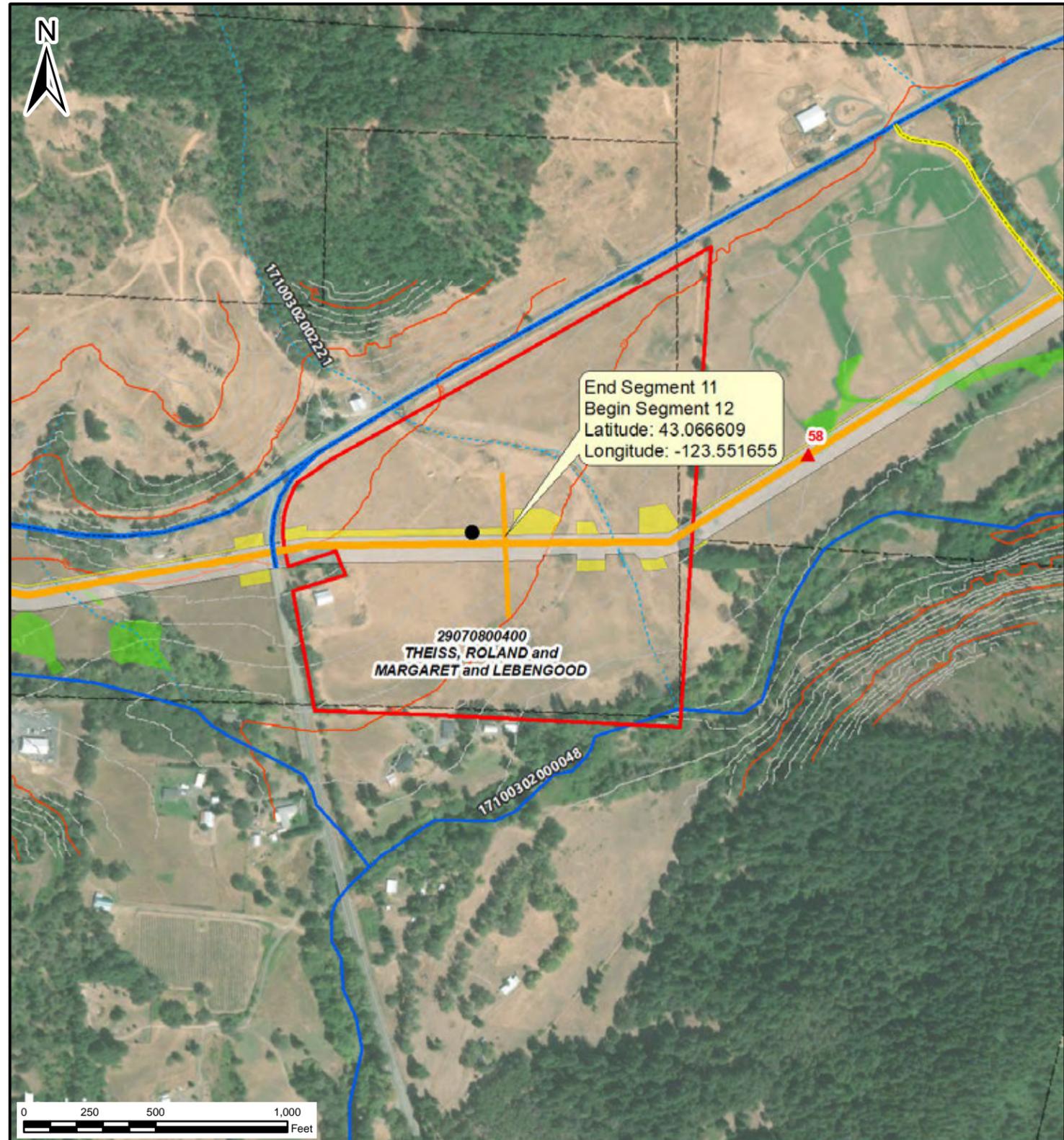
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 10 END / 11 BEGIN</b> <b>MP 51.58</b> <b>S-16, T-29-S, R-8-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 10 / 11B	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 10 and 11B.mxd										



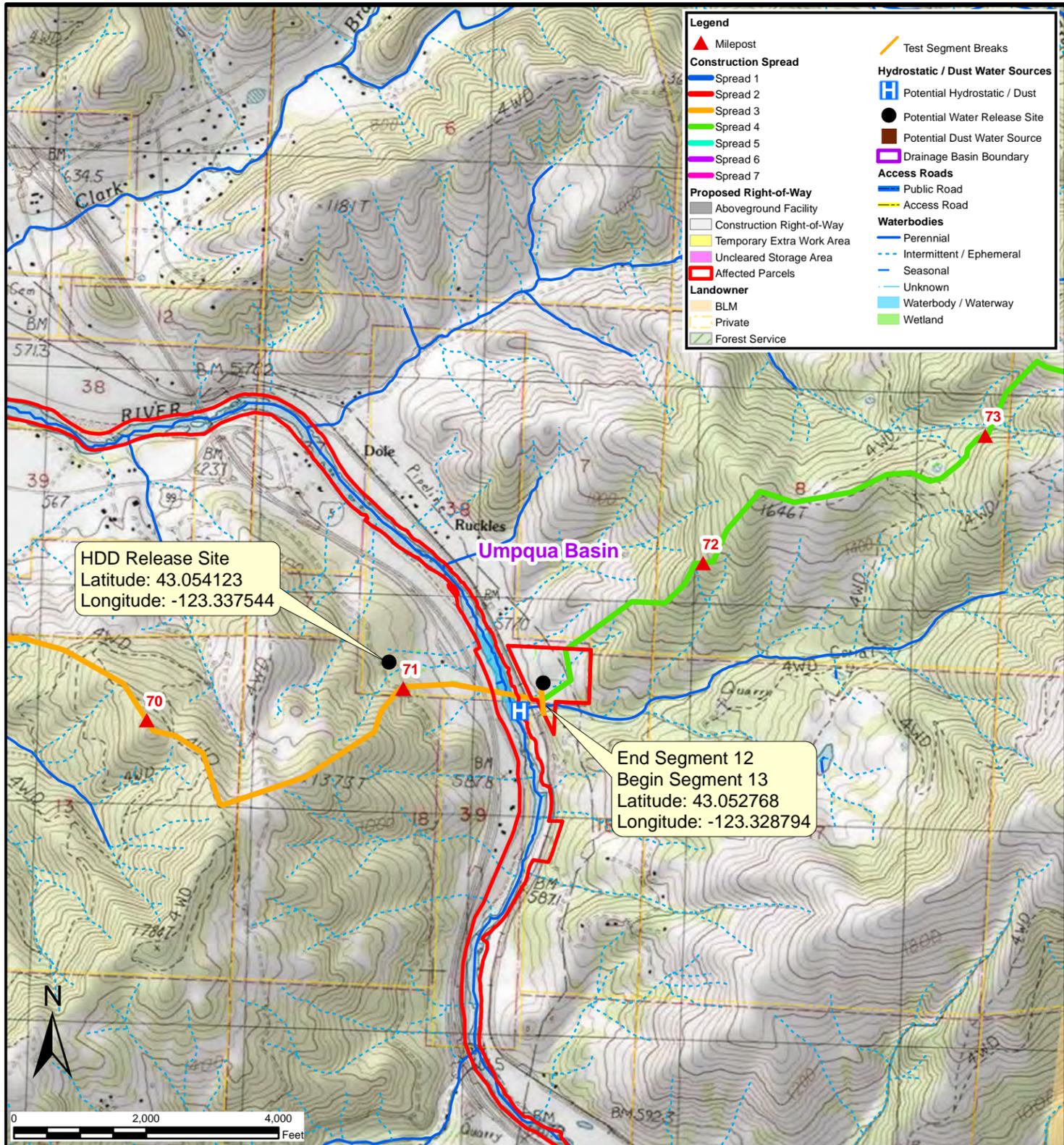
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 10 END / 11 BEGIN</b> <b>MP 51.58</b> <b>S-16, T-29-S, R-8-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 10 / 11B	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 10 and 11B.mxd										



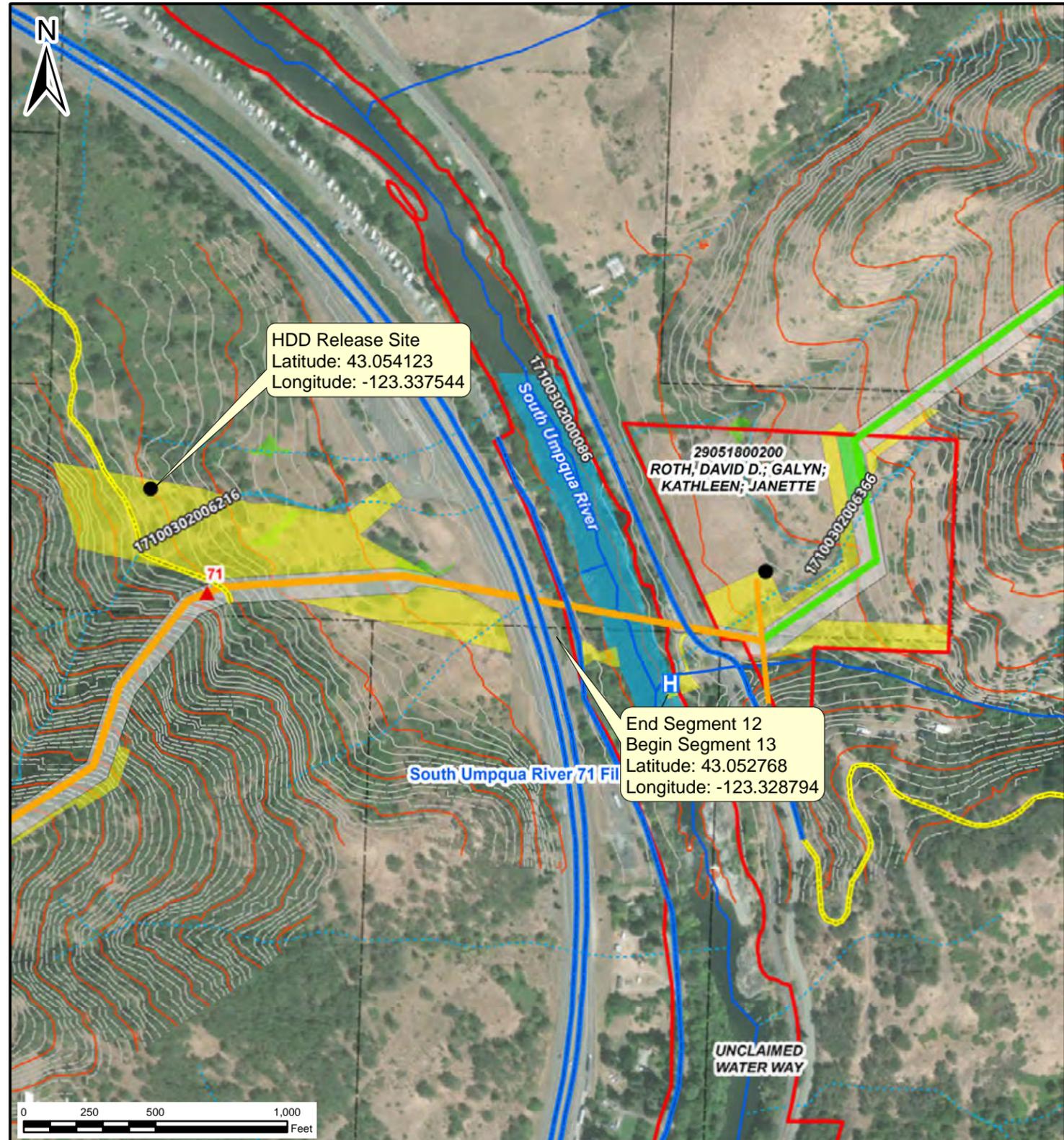
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 11 END / 12 BEGIN</b> <b>MP 57.76</b> <b>S-8, T-29-S, R-7-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 11 / 12</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 11 and 12.mxd										



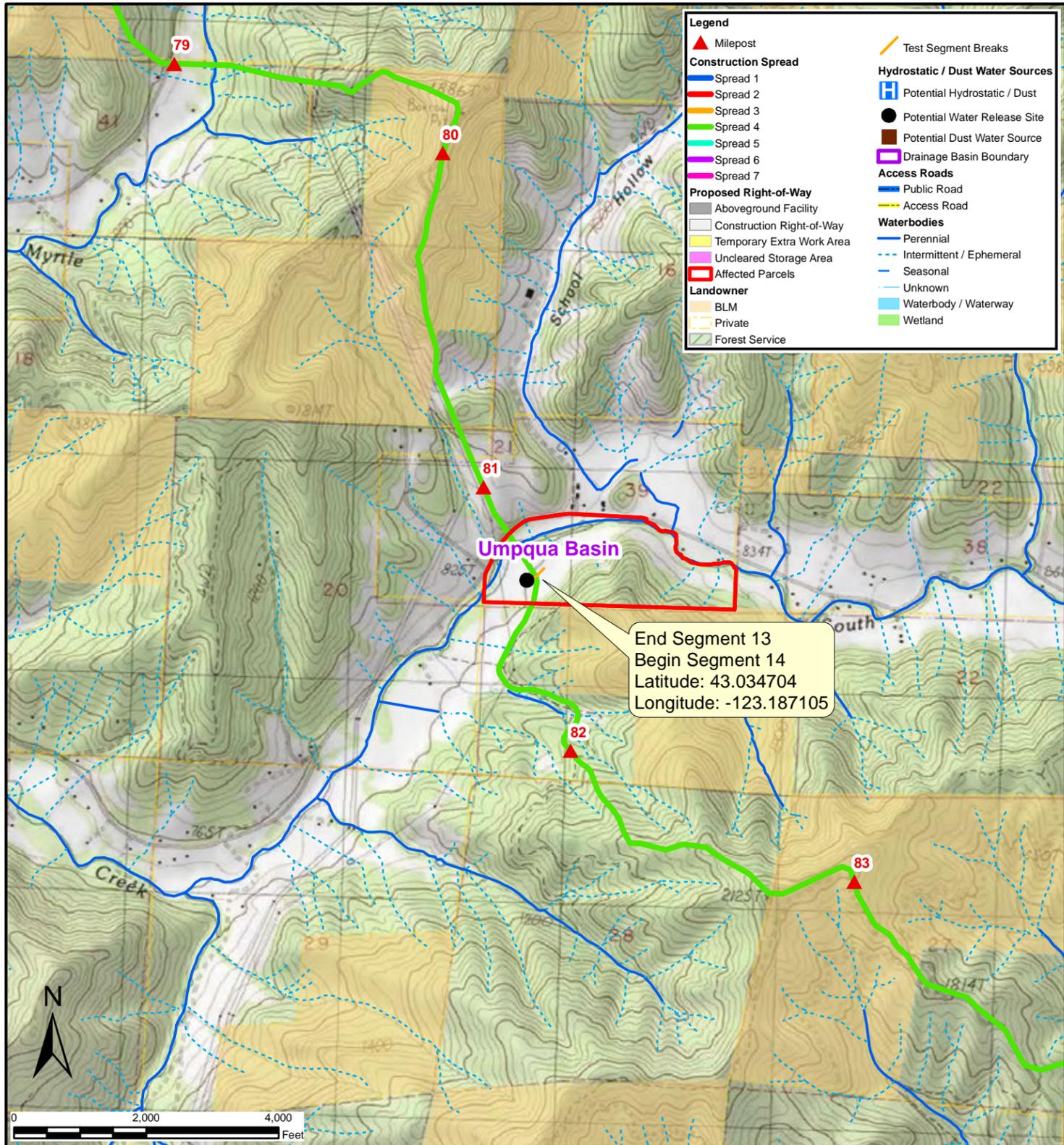
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 11 END / 12 BEGIN</b> <b>MP 57.76</b> <b>S-8, T-29-S, R-7-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 11 / 12</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 11 and 12.mxd										



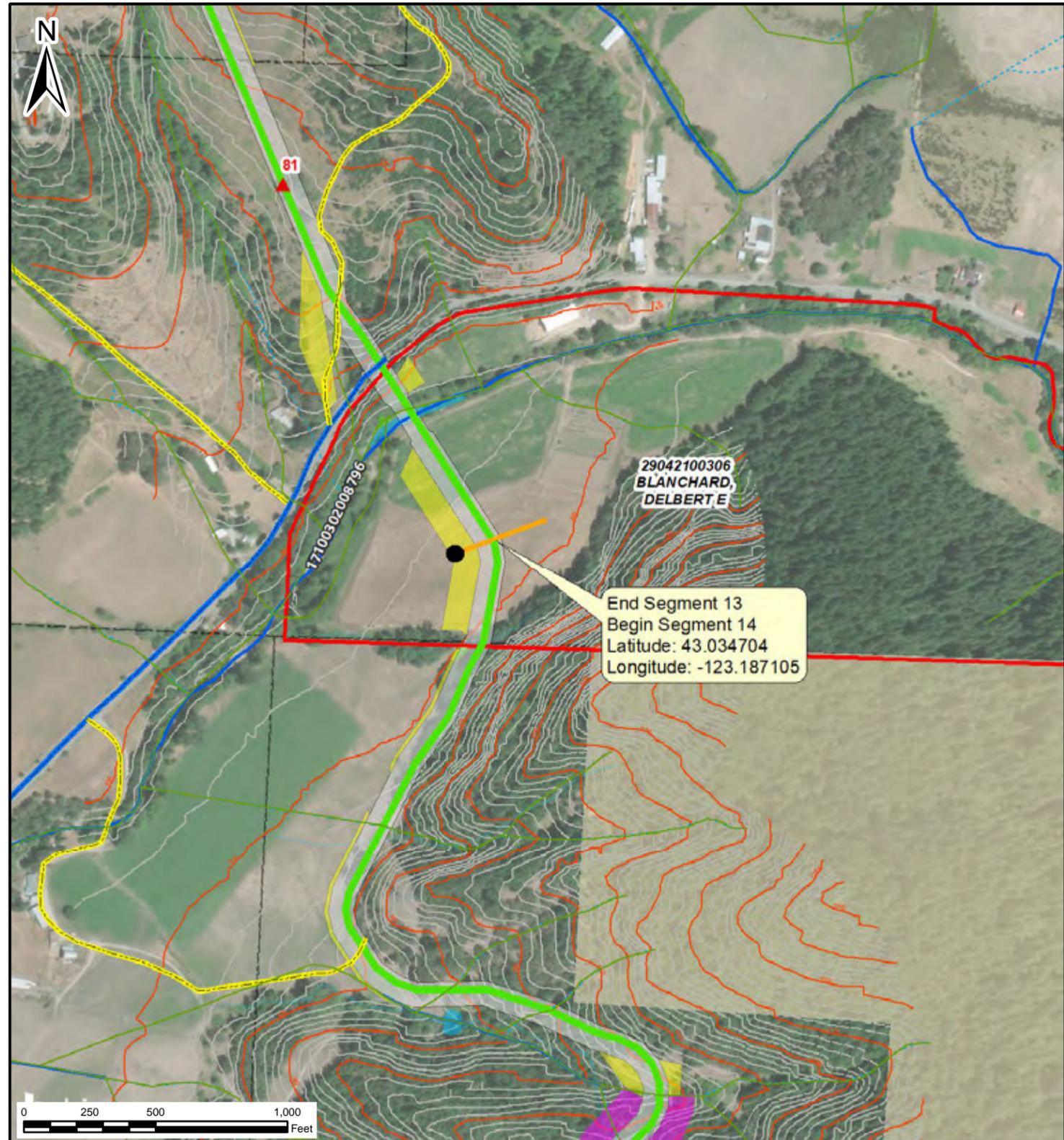
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 12 END / 13 BEGIN</b> <b>MP 71.37</b> <b>S-18, T-29-S, R-5-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 12 / 13</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 12 and 13.mxd										



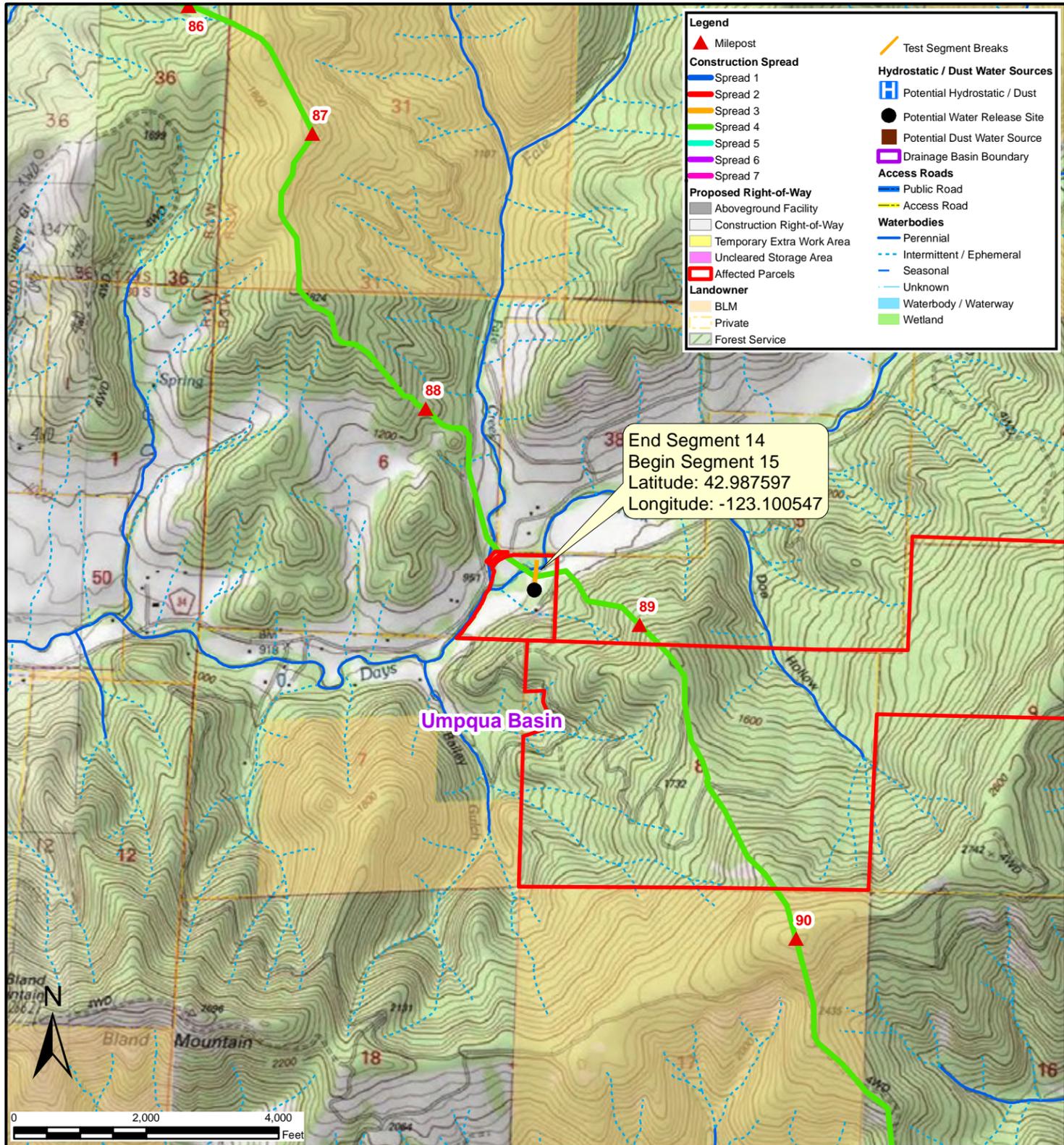
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 12 END / 13 BEGIN</b> <b>MP 71.37</b> <b>S-18, T-29-S, R-5-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 12 / 13</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 12 and 13.mxd										



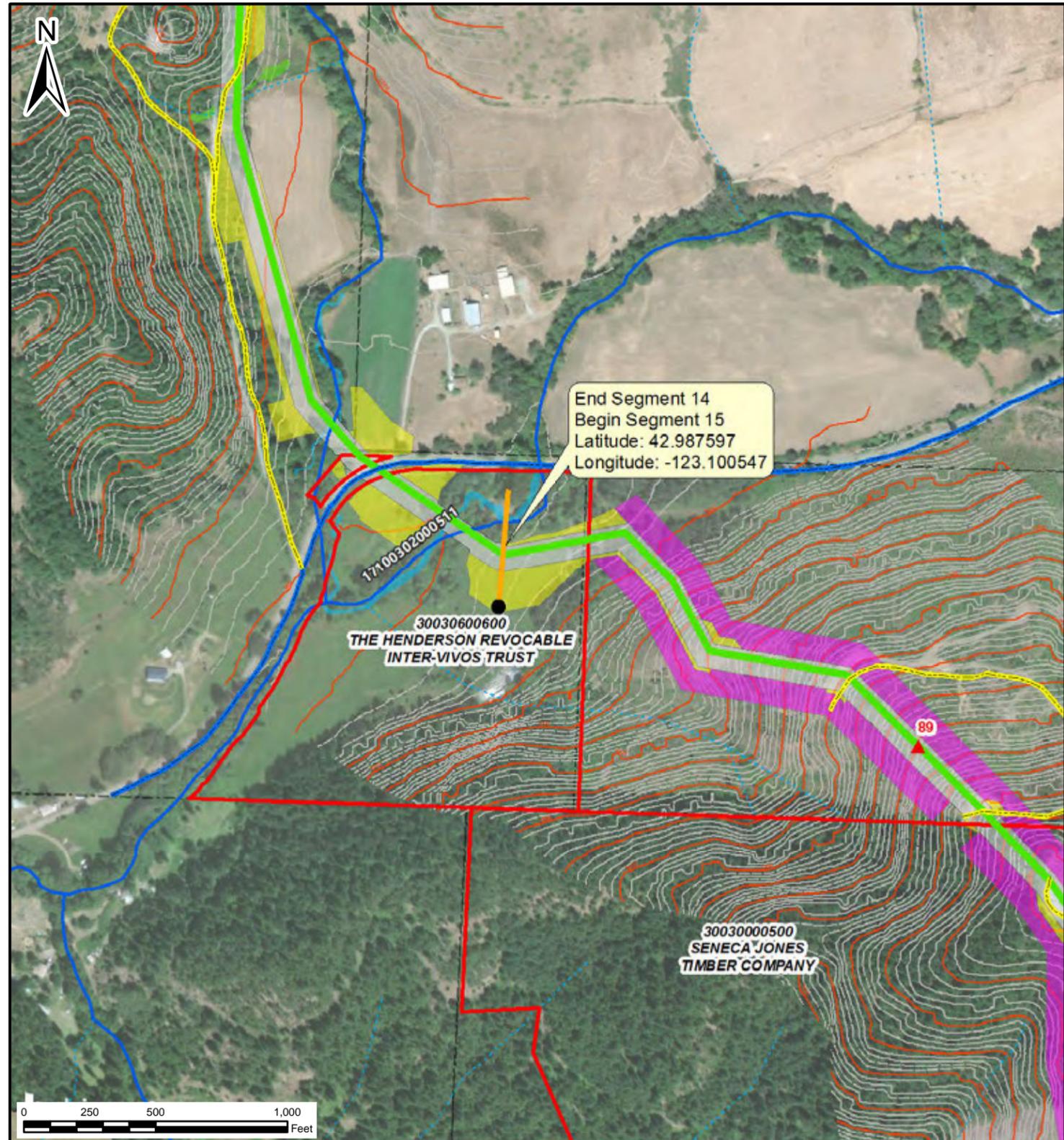
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 13 END / 14 BEGIN</b> <b>MP 81.30</b> <b>S-21, T-29-S, R-4-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 13 / 14</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 13 and 14.mxd										



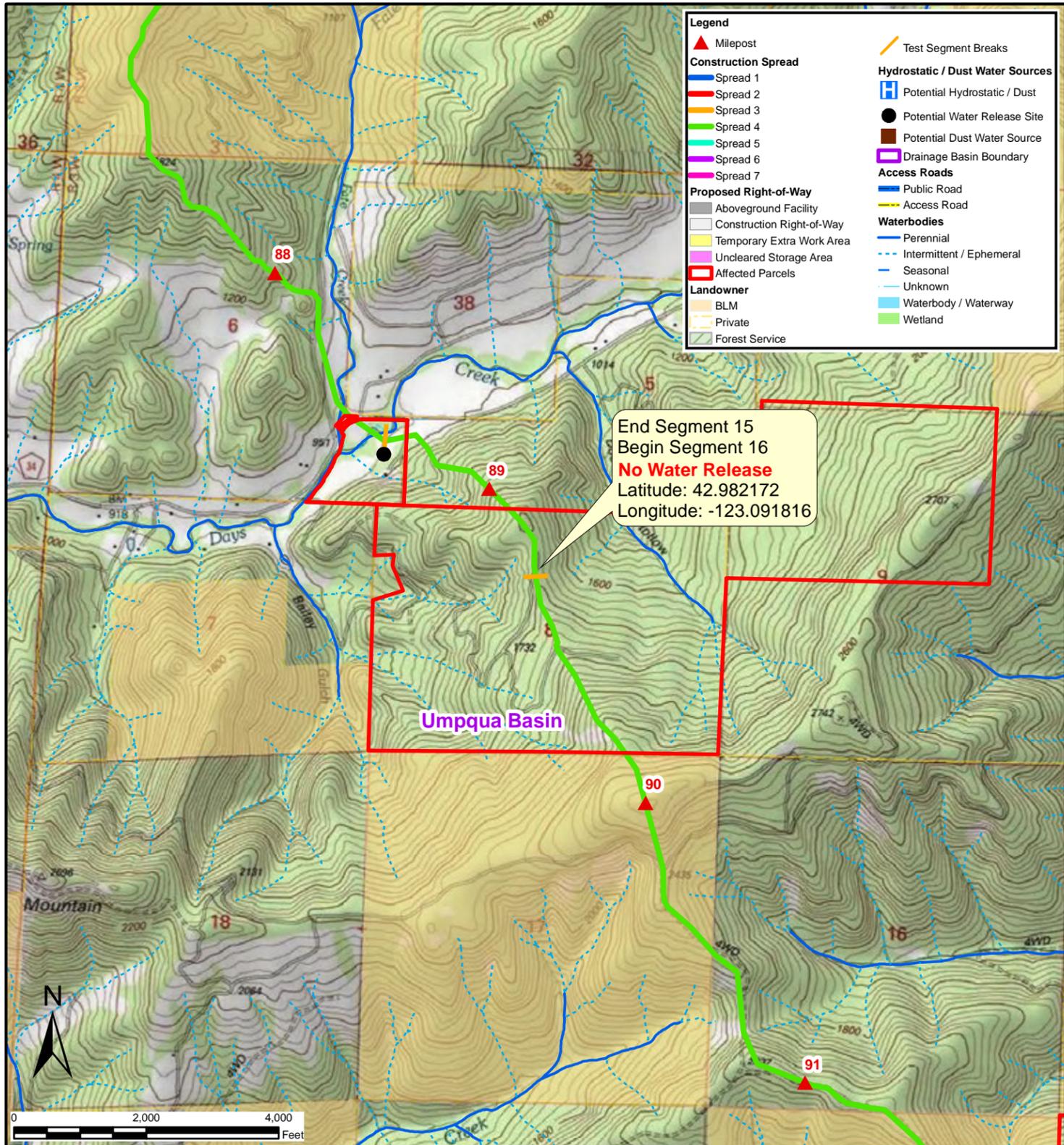
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 13 END / 14 BEGIN</b> <b>MP 81.30</b> <b>S-21, T-29-S, R-4-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 13 / 14</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 13 and 14.mxd										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 14 END / 15 BEGIN</b> <b>MP 88.63</b> <b>S-, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 14 / 15	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 14 and 15.mxd</small>										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 14 END / 15 BEGIN</b> <b>MP 88.63</b> <b>S-, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 14 / 15	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 14 and 15.mxd</small>										



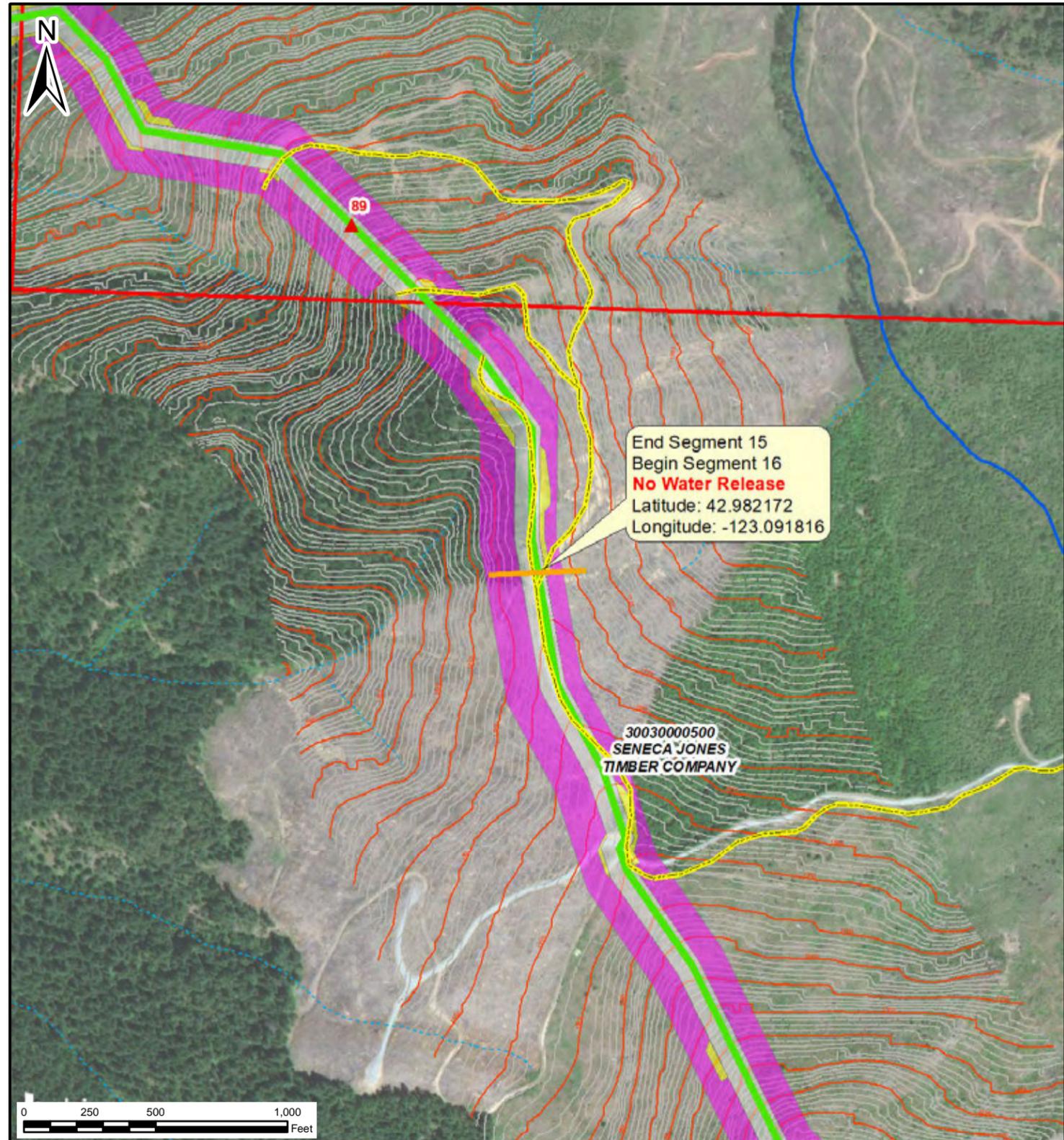
- Legend**
- Milepost
  - Construction Spread
    - Spread 1
    - Spread 2
    - Spread 3
    - Spread 4
    - Spread 5
    - Spread 6
    - Spread 7
  - Proposed Right-of-Way
    - Aboveground Facility
    - Construction Right-of-Way
    - Temporary Extra Work Area
    - Uncleared Storage Area
    - Affected Parcels
  - Landowner
    - BLM
    - Private
    - Forest Service
  - Test Segment Breaks
  - Hydrostatic / Dust Water Sources
    - Potential Hydrostatic / Dust
    - Potential Water Release Site
    - Potential Dust Water Source
    - Drainage Basin Boundary
  - Access Roads
    - Public Road
    - Access Road
  - Waterbodies
    - Perennial
    - Intermittent / Ephemeral
    - Seasonal
    - Unknown
    - Waterbody / Waterway
    - Wetland

End Segment 15  
Begin Segment 16  
**No Water Release**  
Latitude: 42.982172  
Longitude: -123.091816

Umpqua Basin



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 15 END / 16 BEGIN</b> <b>MP 89.30</b> <b>S-8, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 15 / 16	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 15 and 16.mxd										

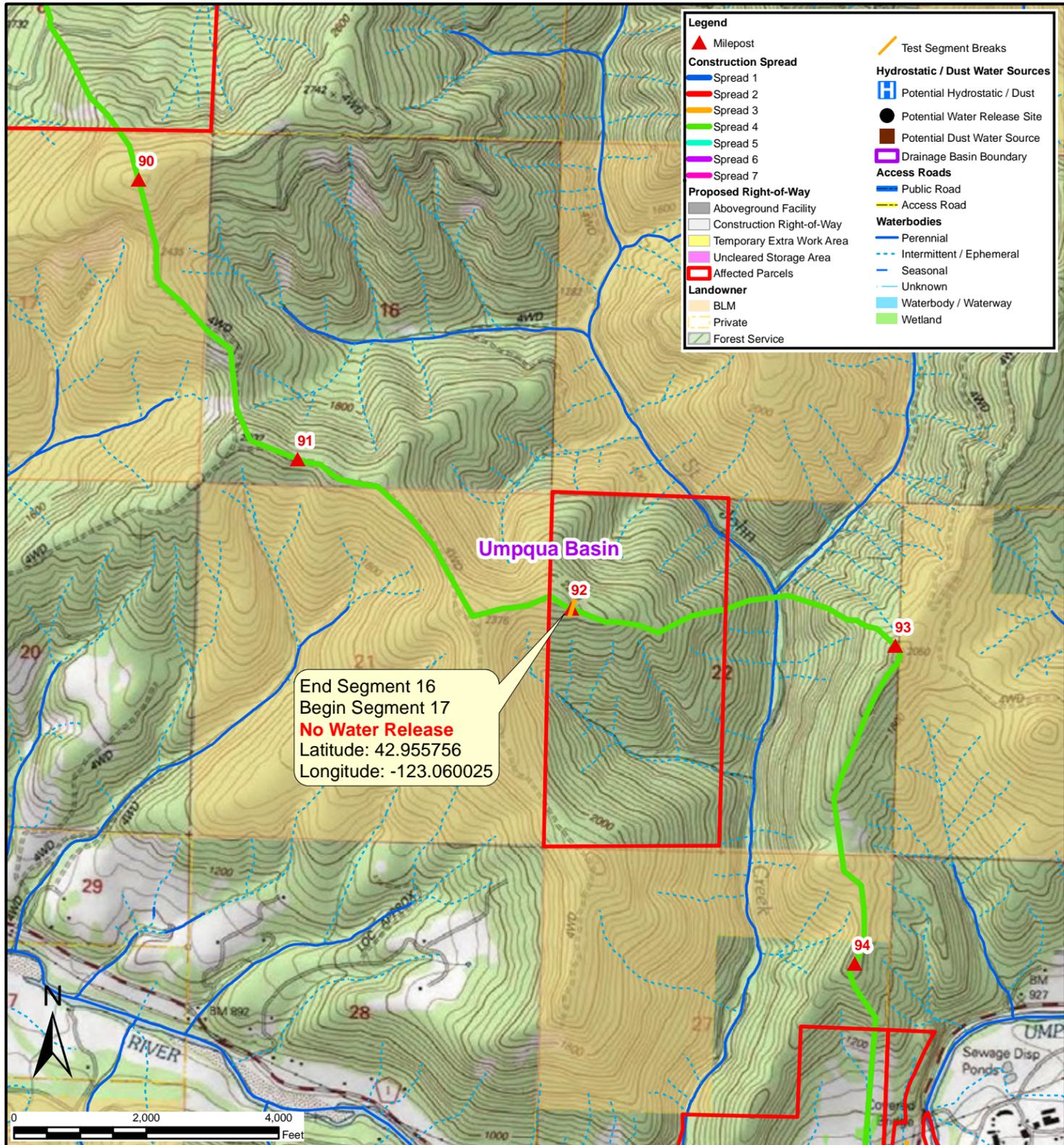


End Segment 15  
Begin Segment 16  
**No Water Release**  
Latitude: 42.982172  
Longitude: -123.091816

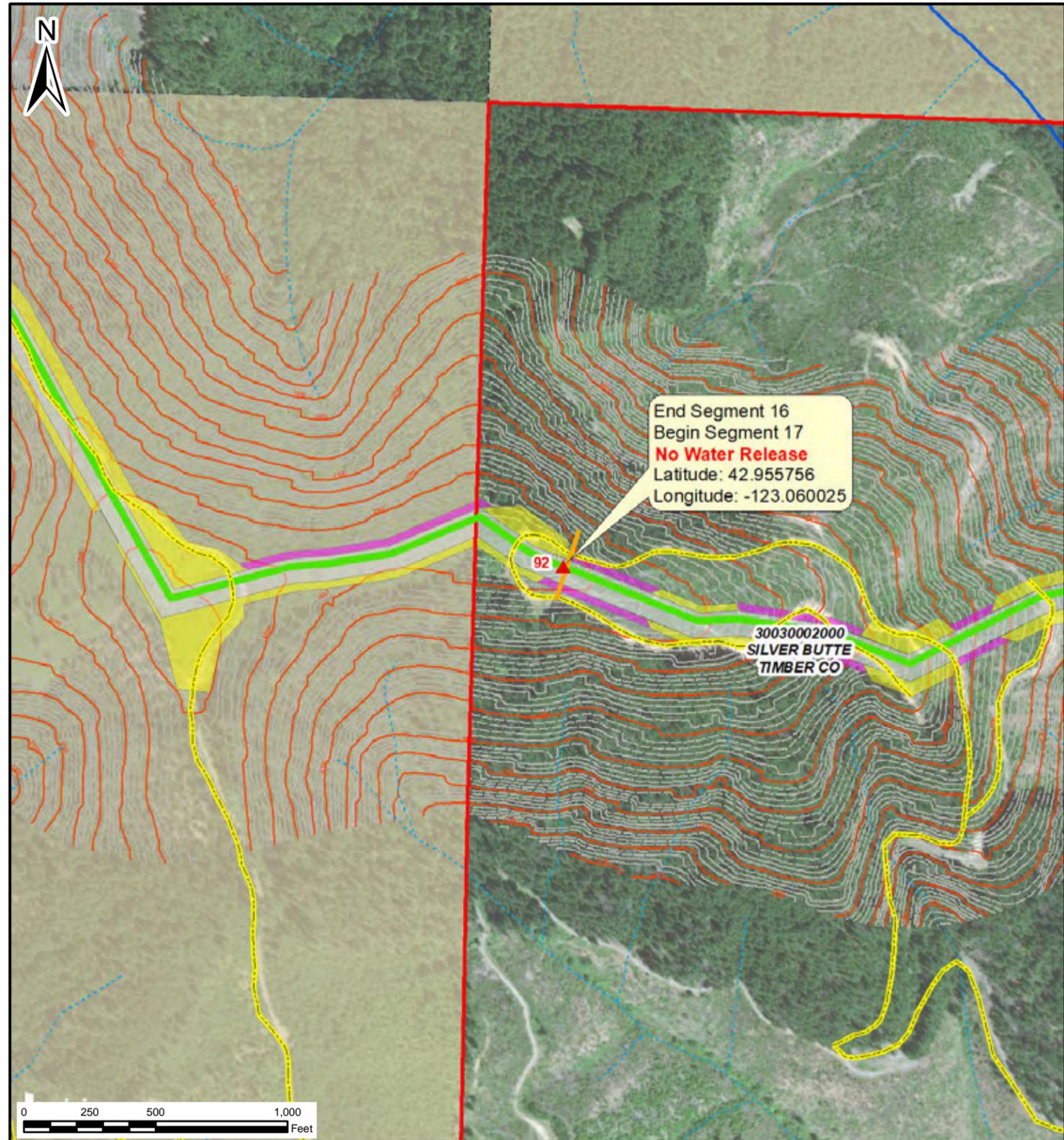
30030000500  
SENECA JONES  
TIMBER COMPANY



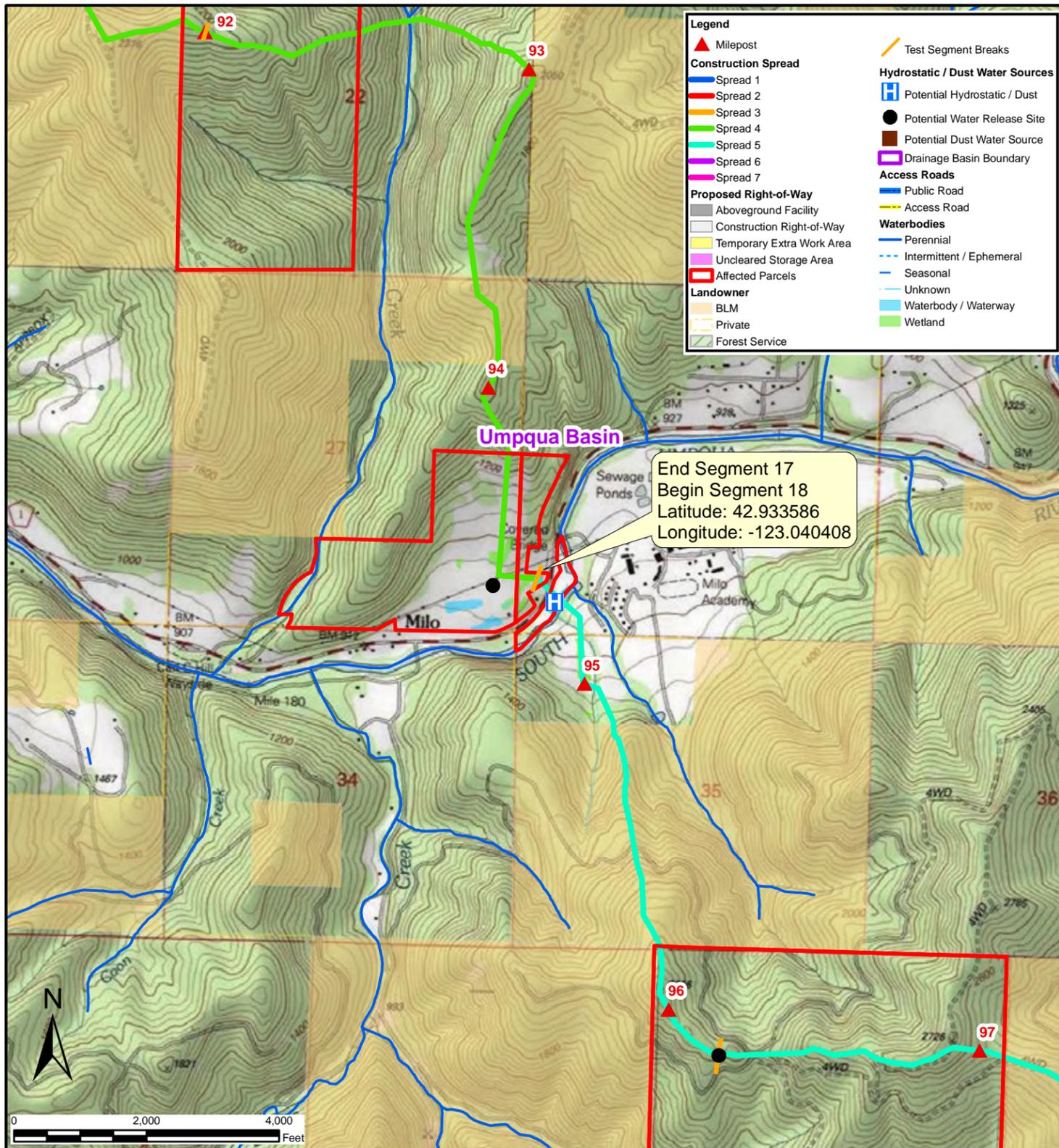
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 15 END / 16 BEGIN</b> <b>MP 89.30</b> <b>S-8, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 15 / 16	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 15 and 16.mxd										



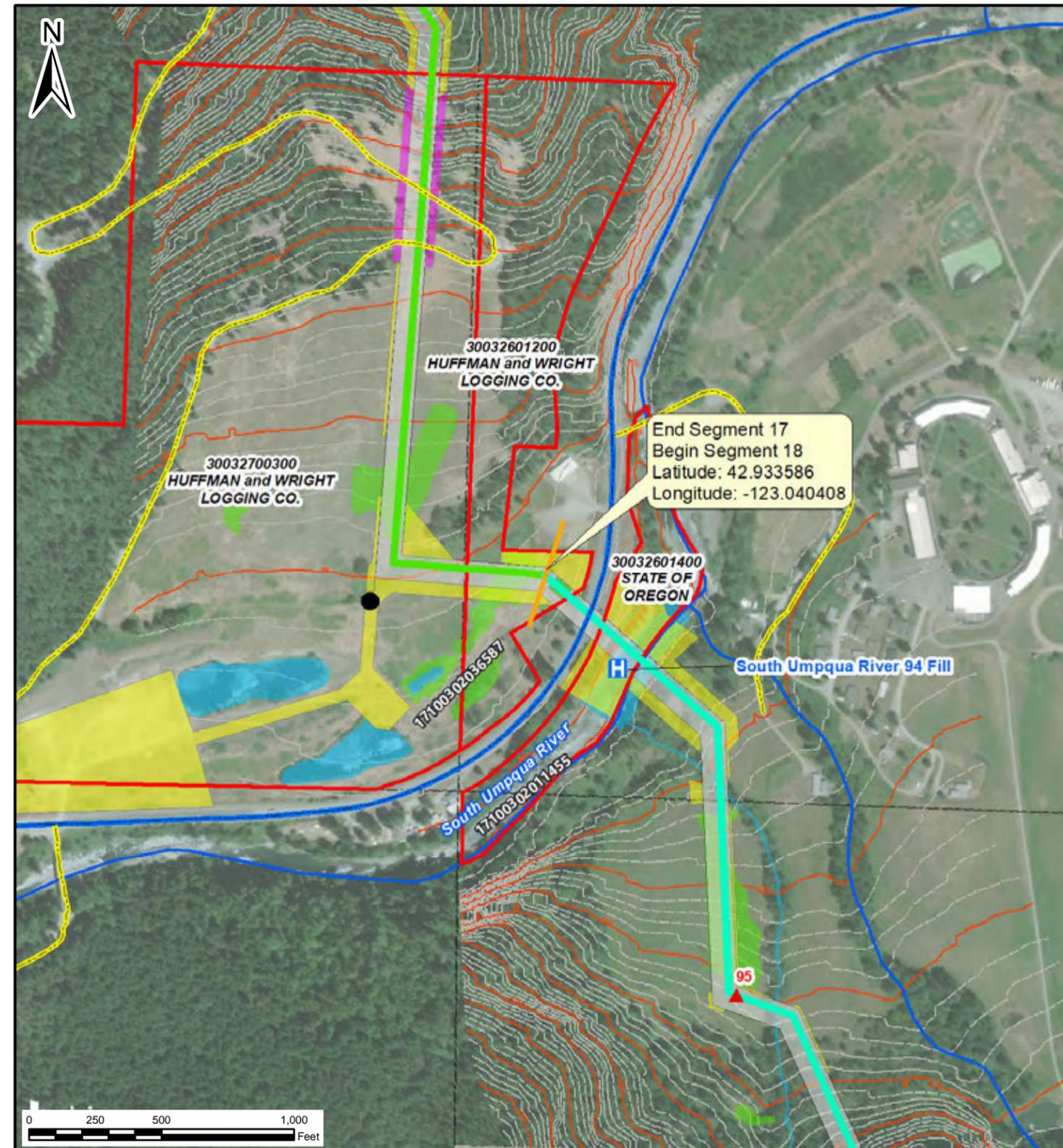
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 16 END / 17 BEGIN</b> <b>MP 92.00</b> <b>S-22, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 16 / 17	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 16 and 17.mxd</small>										



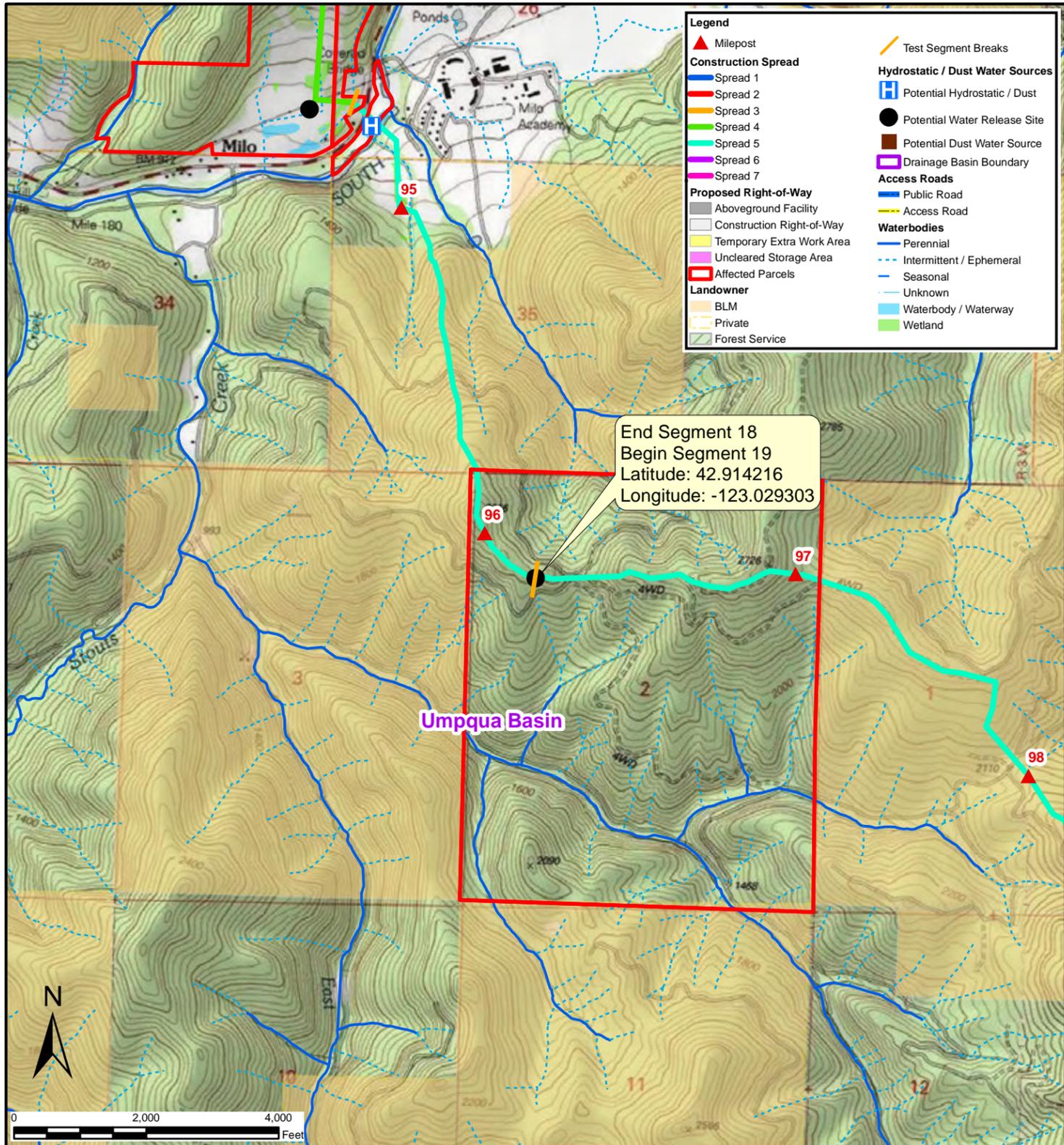
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 16 END / 17 BEGIN</b> <b>MP 92.00</b> <b>S-22, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 16 / 17	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 16 and 17.mxd</small>										



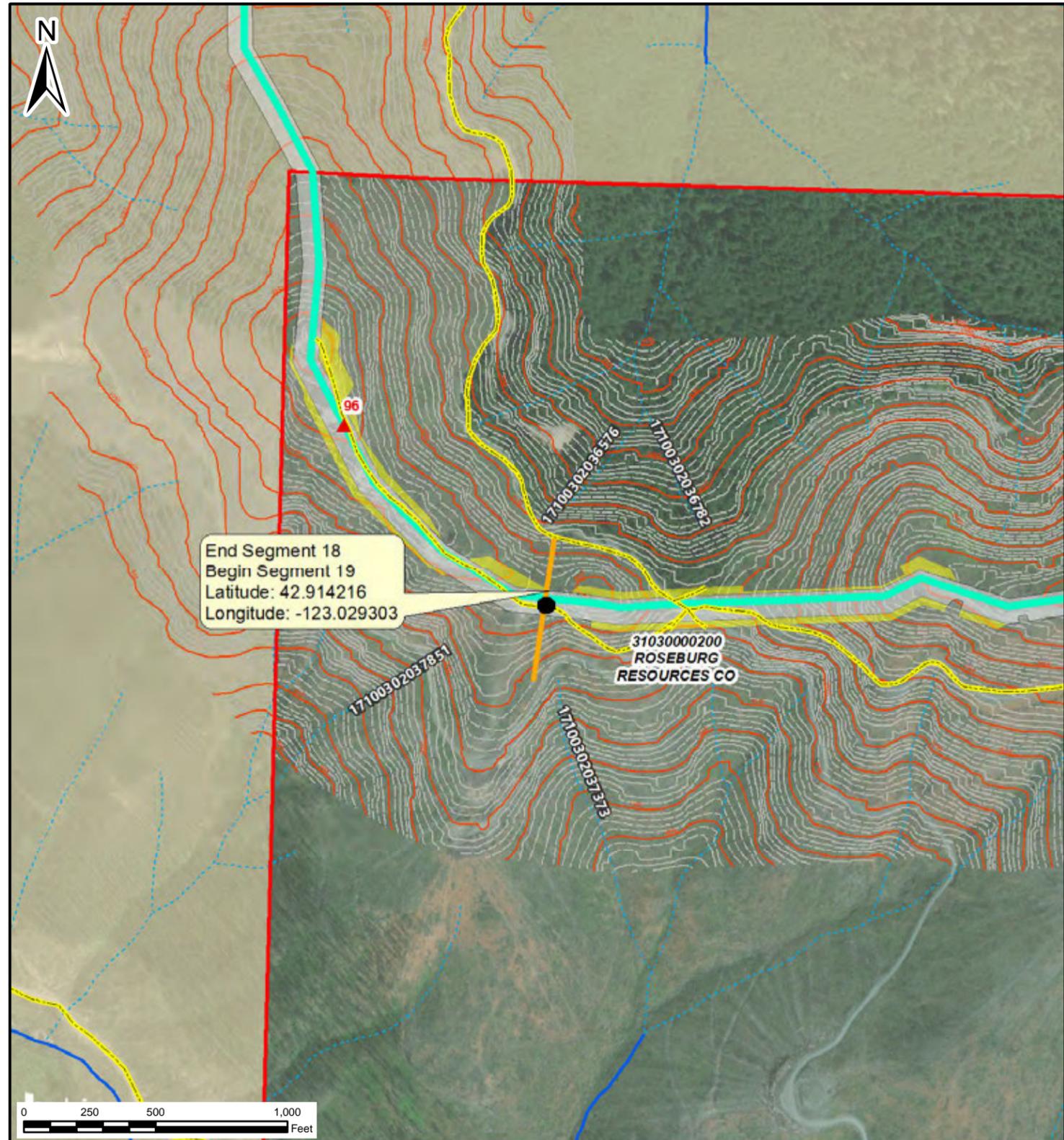
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 17 END / 18 BEGIN</b> <b>MP 94.65</b> <b>S-26, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 17 / 18	SHEET 1 OF 2
<small>Path: P:\PCGPG_JCLNG\ArcMap\DEQ\Test Segments 17 and 18.mxd</small>										



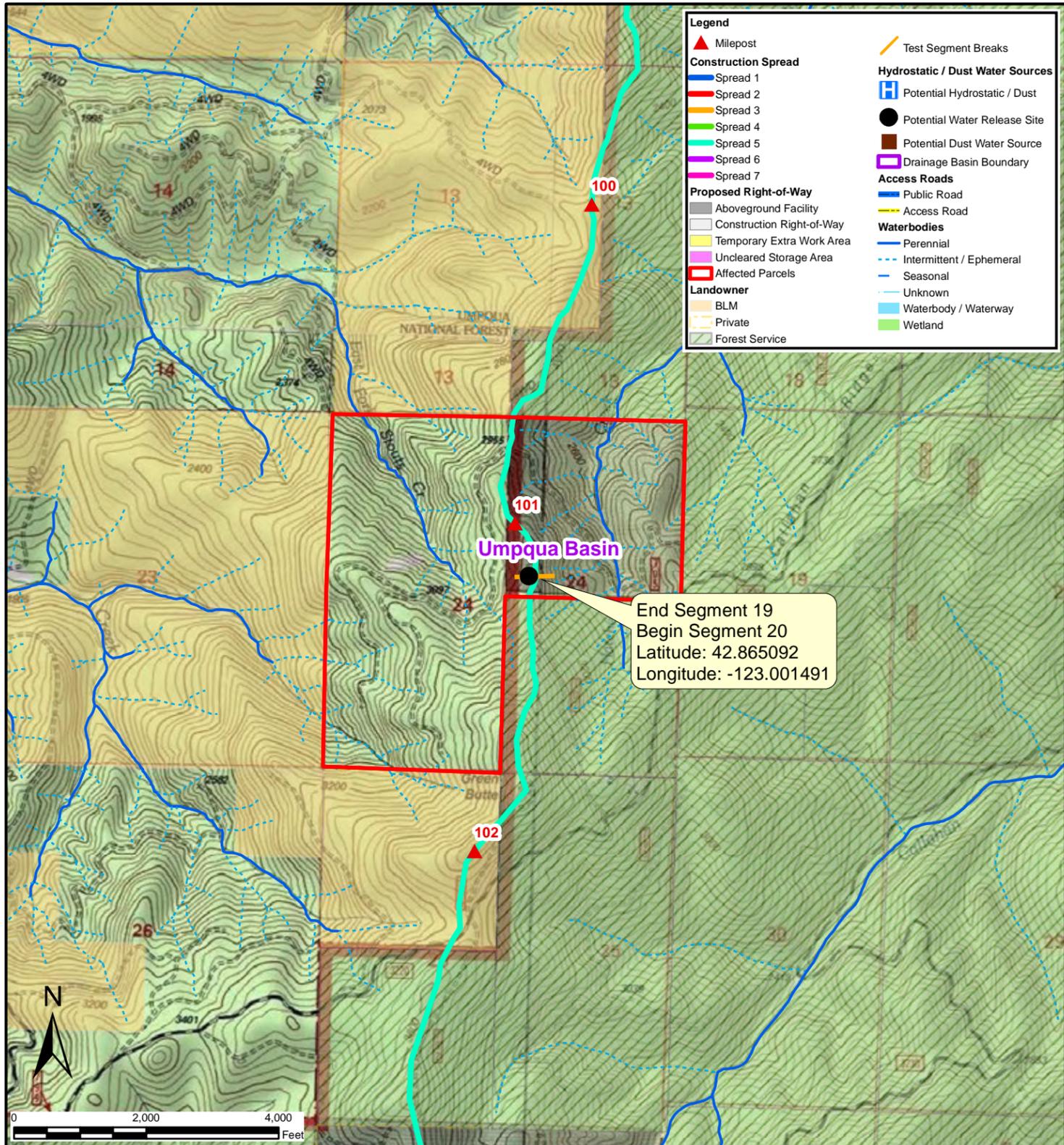
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 17 END / 18 BEGIN</b> <b>MP 94.65</b> <b>S-26, T-30-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 17 / 18	SHEET 2 OF 2
<small>Path: P:\PCGPG_JCLNG\ArcMap\DEQ\Test Segments 17 and 18.mxd</small>										



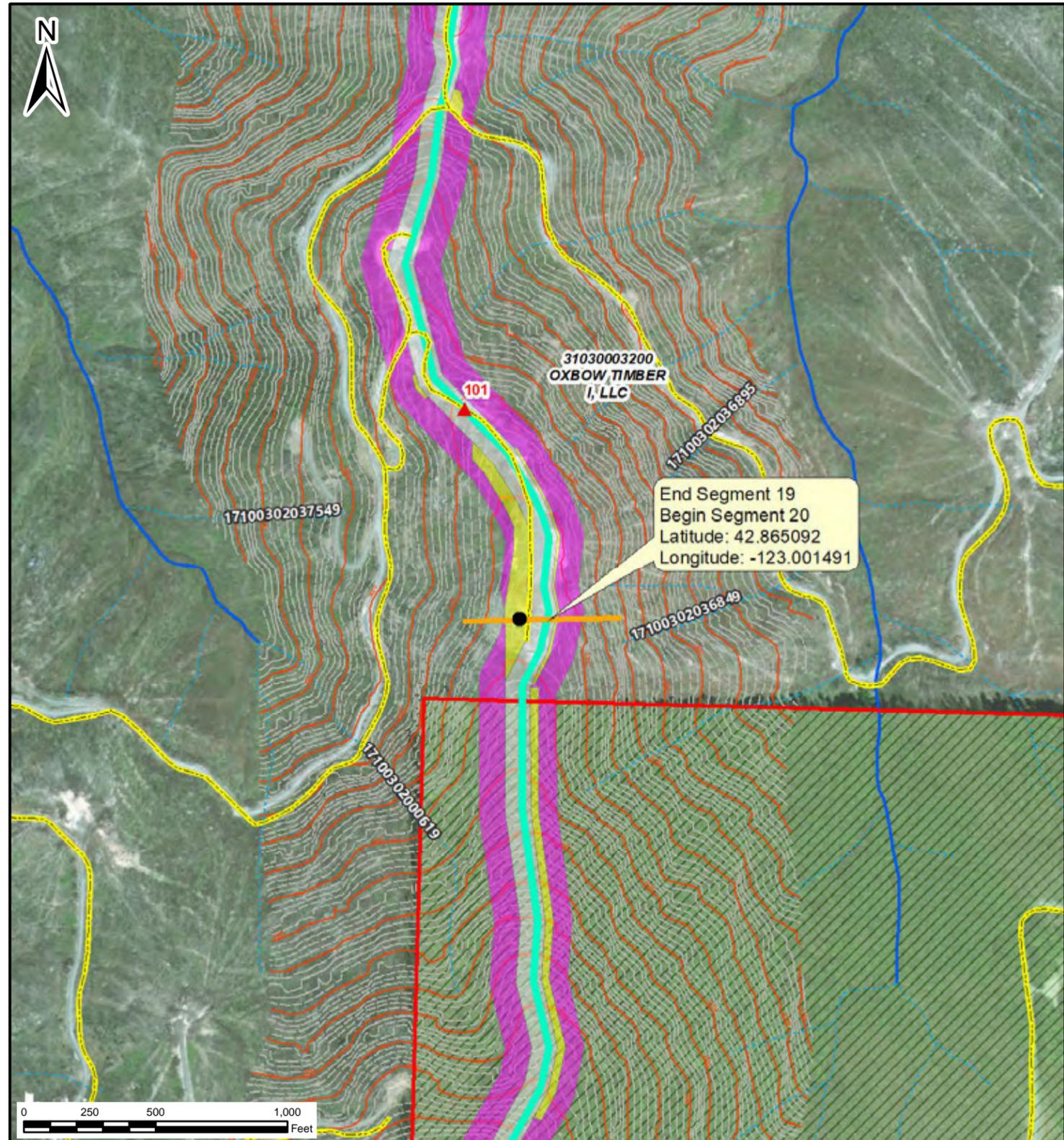
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 18 END / 19 BEGIN</b> <b>MP 96.20</b> <b>S-2, T-31-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 18 / 19</b>	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 18 and 19.mxd</small>										



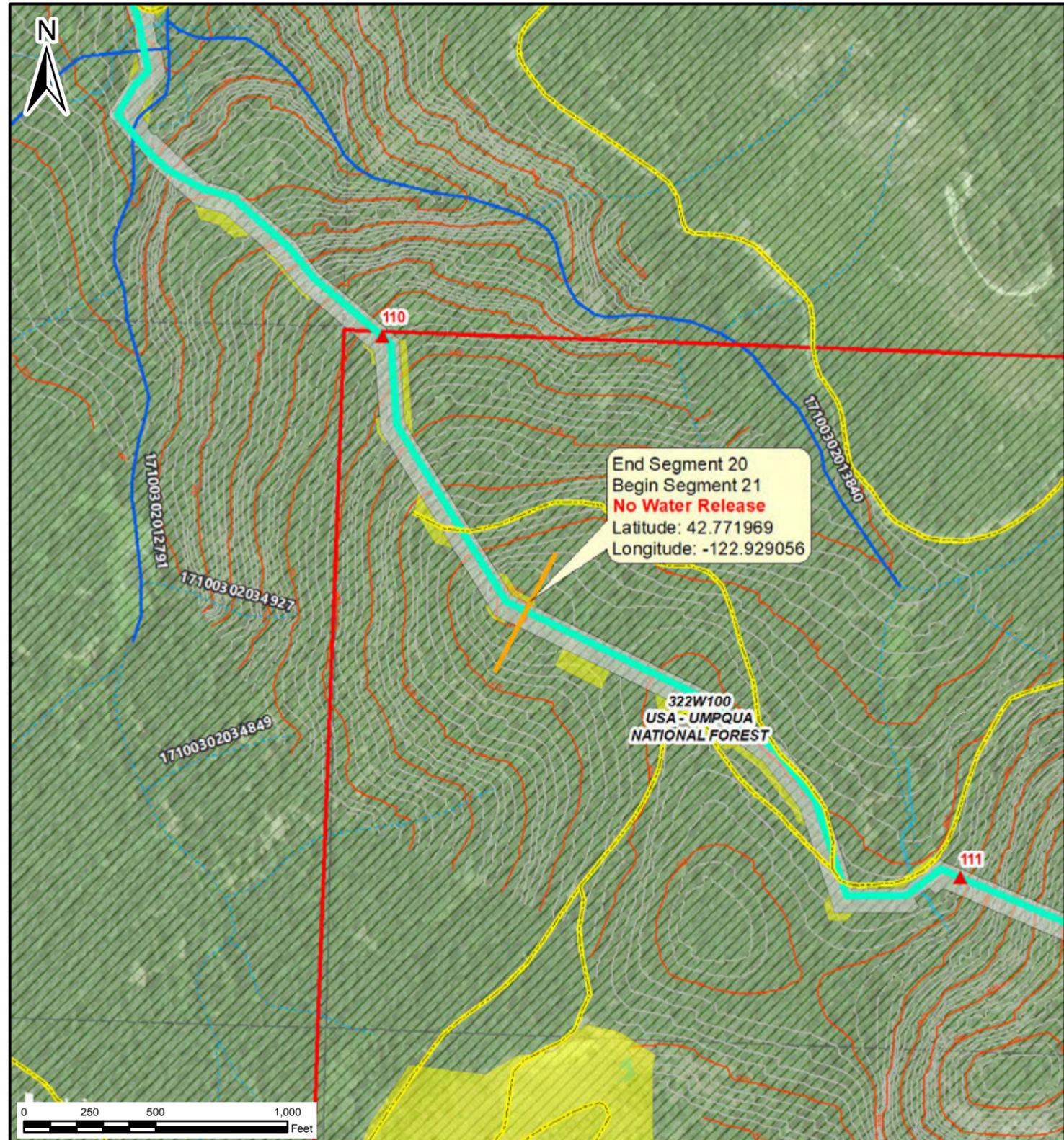
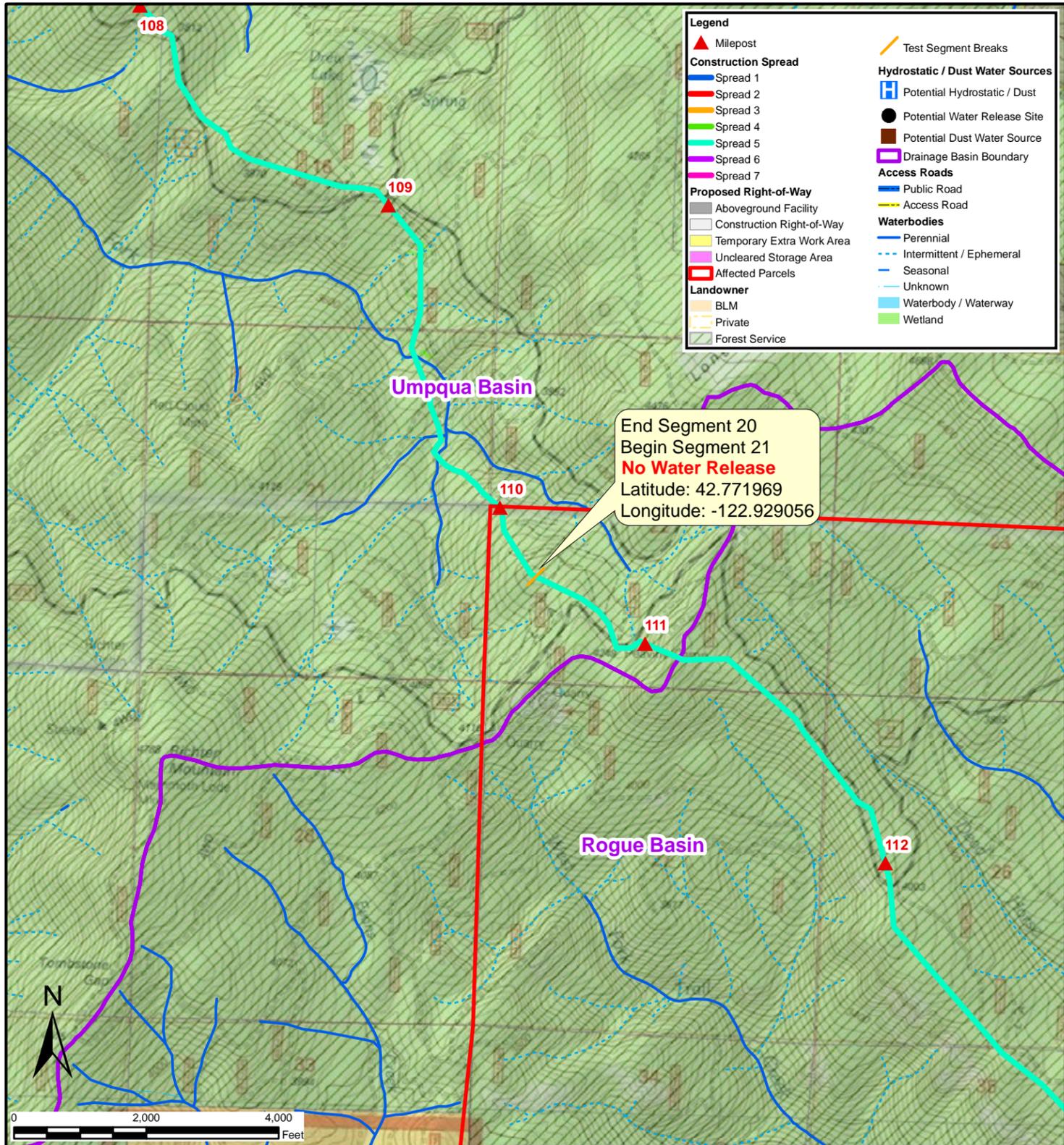
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 18 END / 19 BEGIN</b> <b>MP 96.20</b> <b>S-2, T-31-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 18 / 19</b>	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 18 and 19.mxd</small>										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 19 END / 20 BEGIN</b> <b>MP 101.15</b> <b>S-24, T-31-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 19 / 20</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 19 and 20.mxd										

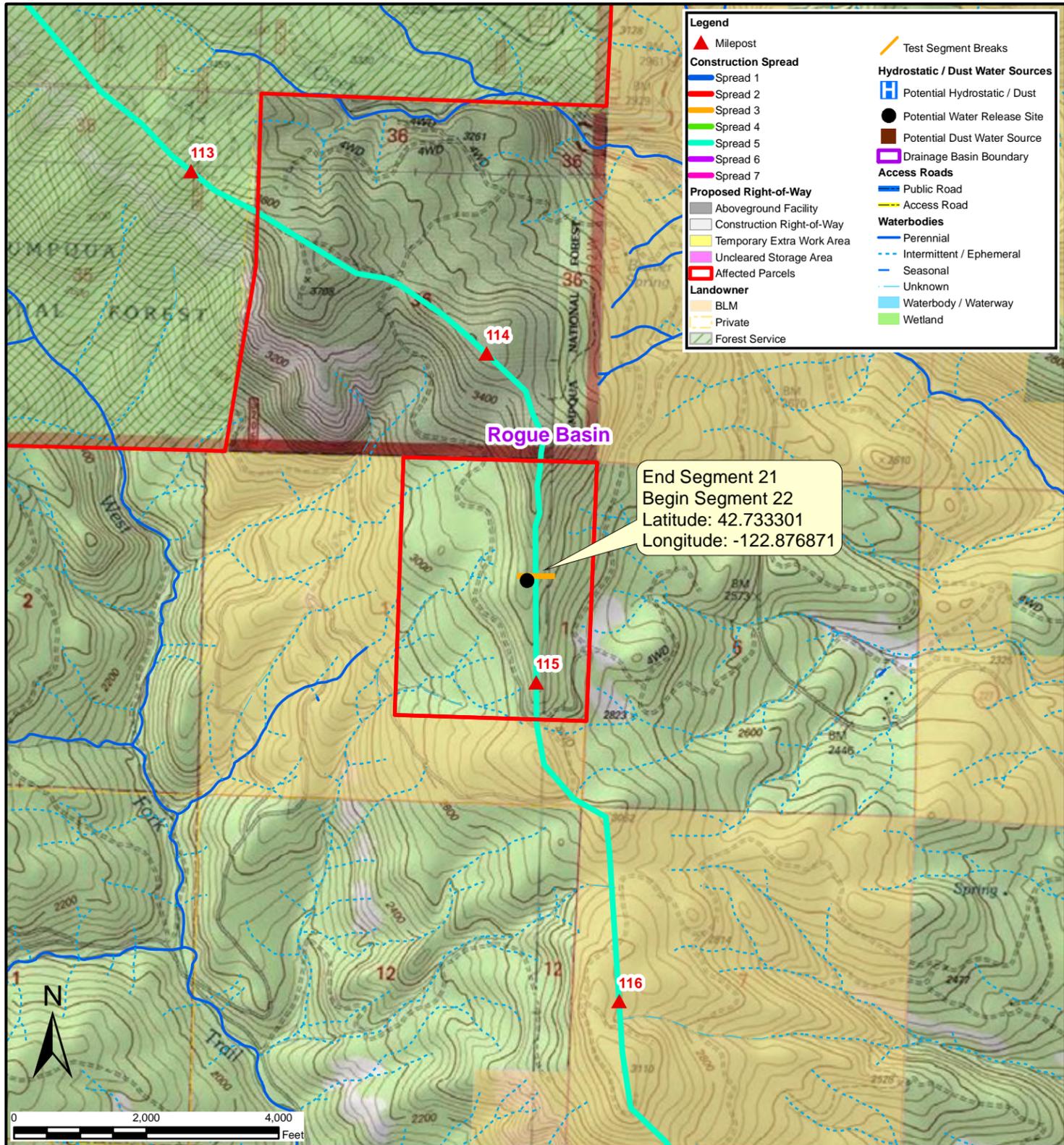


DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 19 END / 20 BEGIN</b> <b>MP 101.15</b> <b>S-24, T-31-S, R-3-W</b> <b>DOUGLAS COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 19 / 20</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 19 and 20.mxd										

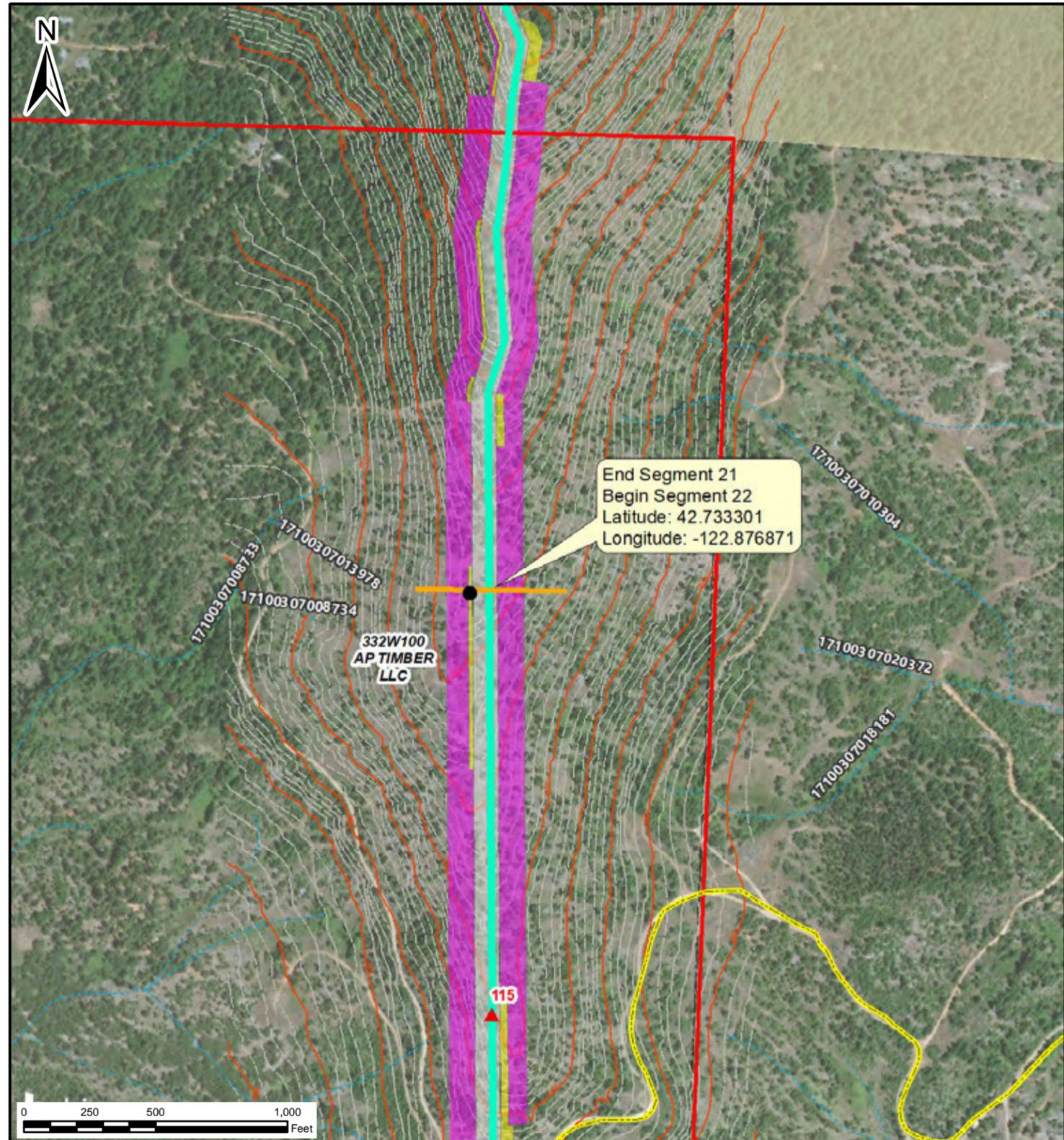


DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 20 END / 21 BEGIN</b> <b>MP 110.23</b> <b>S-22, T-32-S, R-2-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 20 / 21</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 20 and 21.mxd										

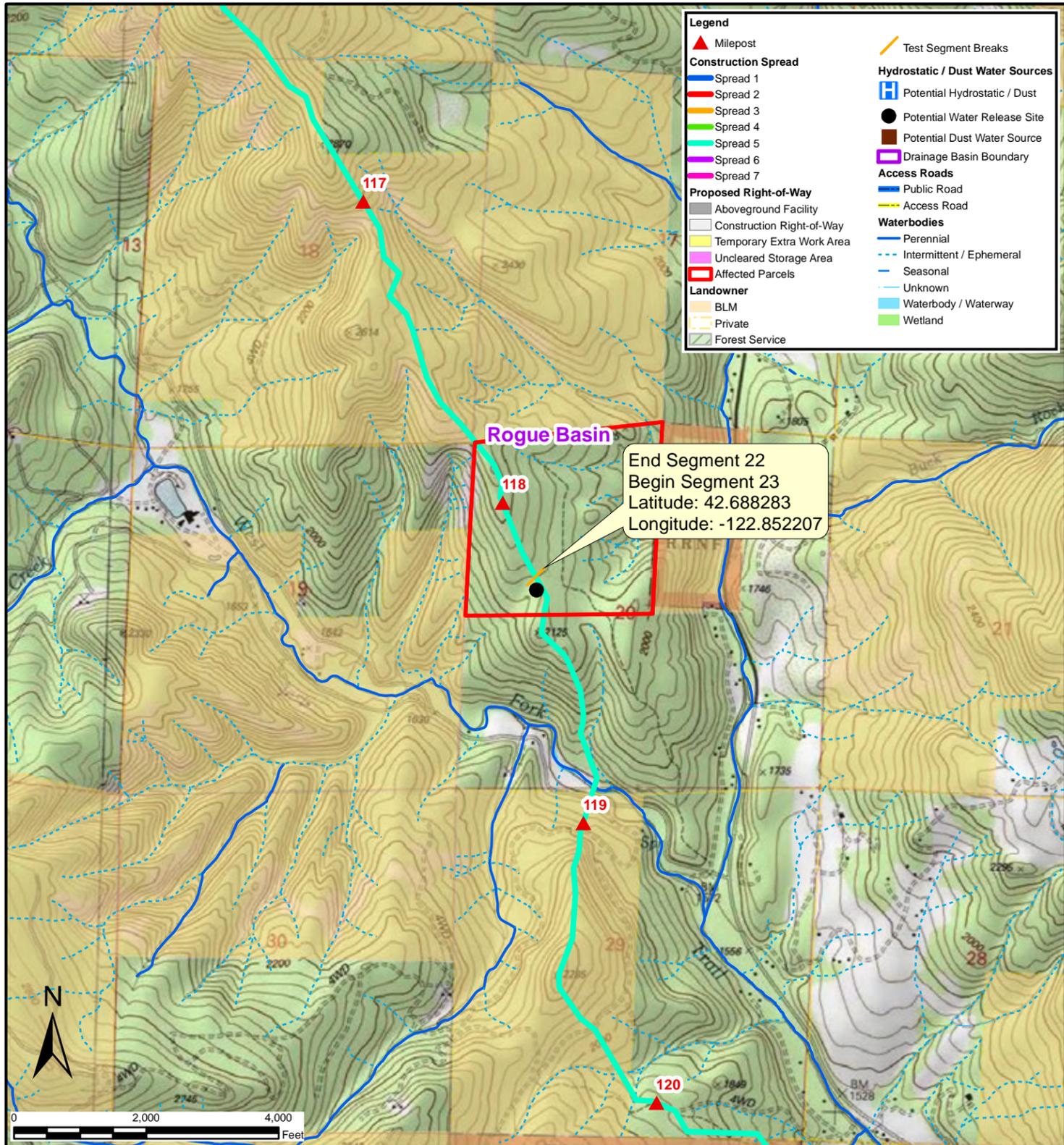
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 20 END / 21 BEGIN</b> <b>MP 110.23</b> <b>S-22, T-32-S, R-2-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 20 / 21</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 20 and 21.mxd										



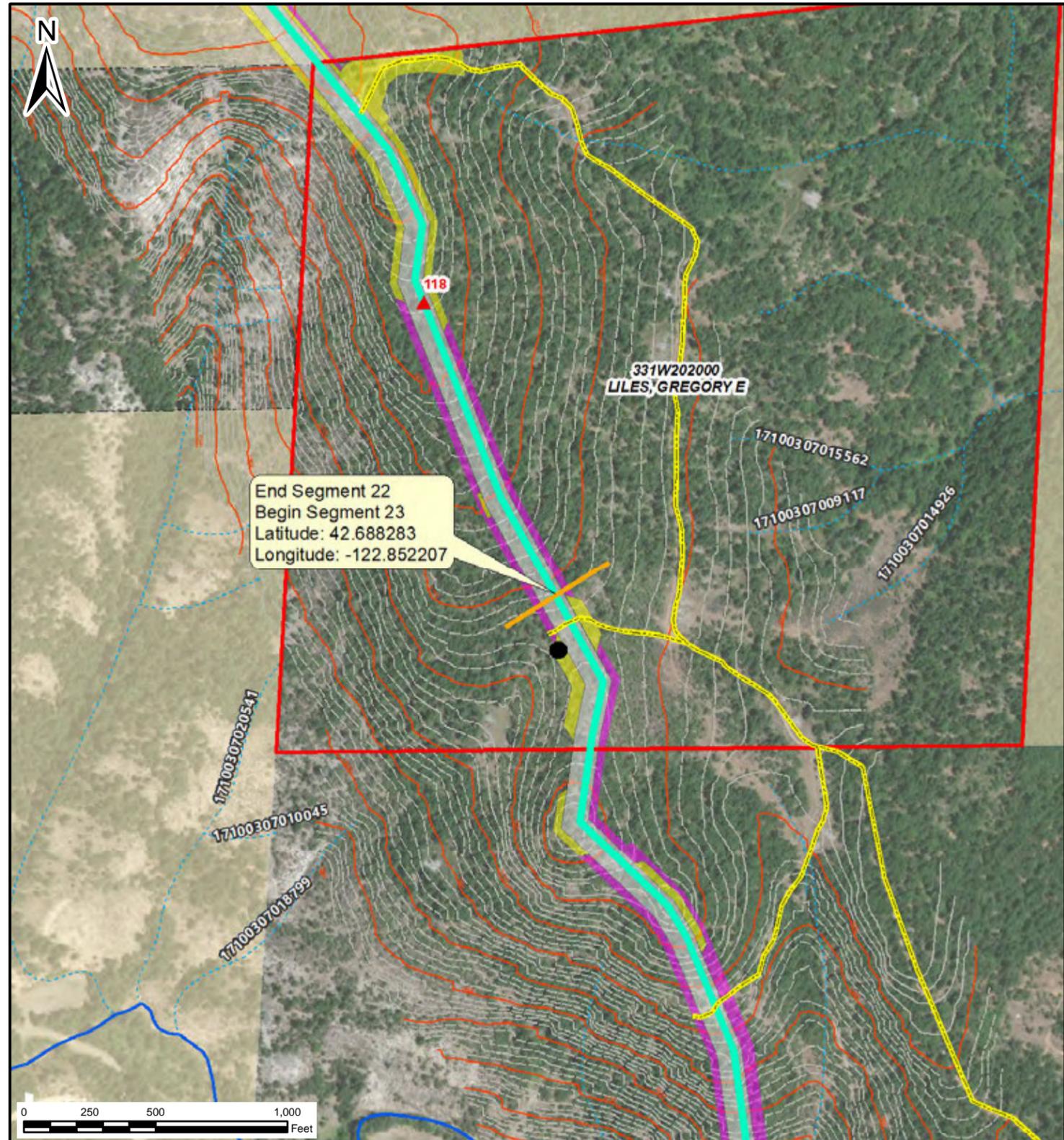
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 21 END / 22 BEGIN</b> <b>MP 114.70</b> <b>S-1, T-33-S, R-2-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 21 / 22	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 21 and 22.mxd</small>										



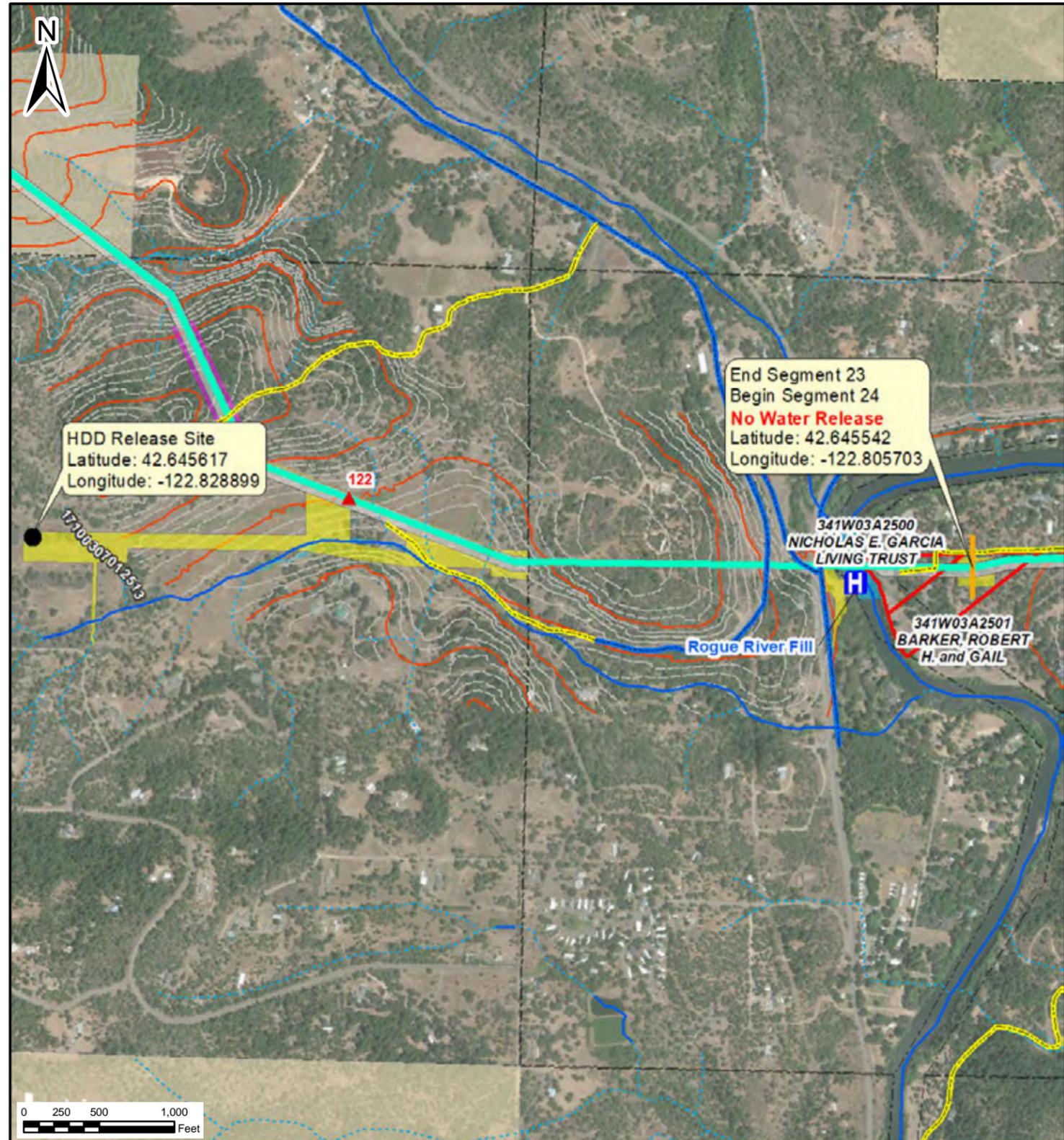
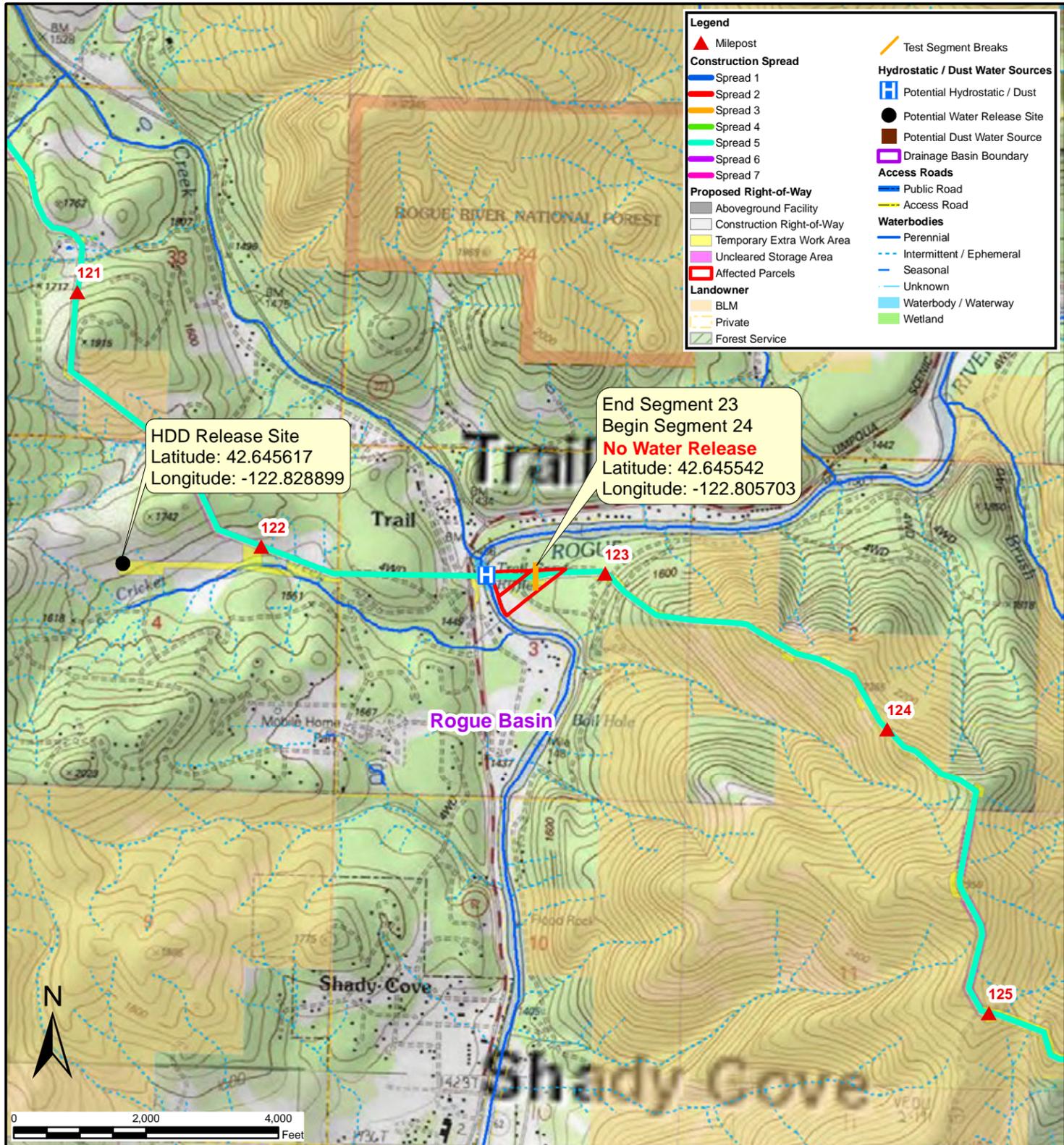
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 21 END / 22 BEGIN</b> <b>MP 114.70</b> <b>S-1, T-33-S, R-2-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 21 / 22	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 21 and 22.mxd</small>										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 22 END / 23 BEGIN</b> <b>MP 118.23</b> <b>S-20, T-33-S, R-1-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 22 / 23</b>	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 22 and 23.mxd</small>										

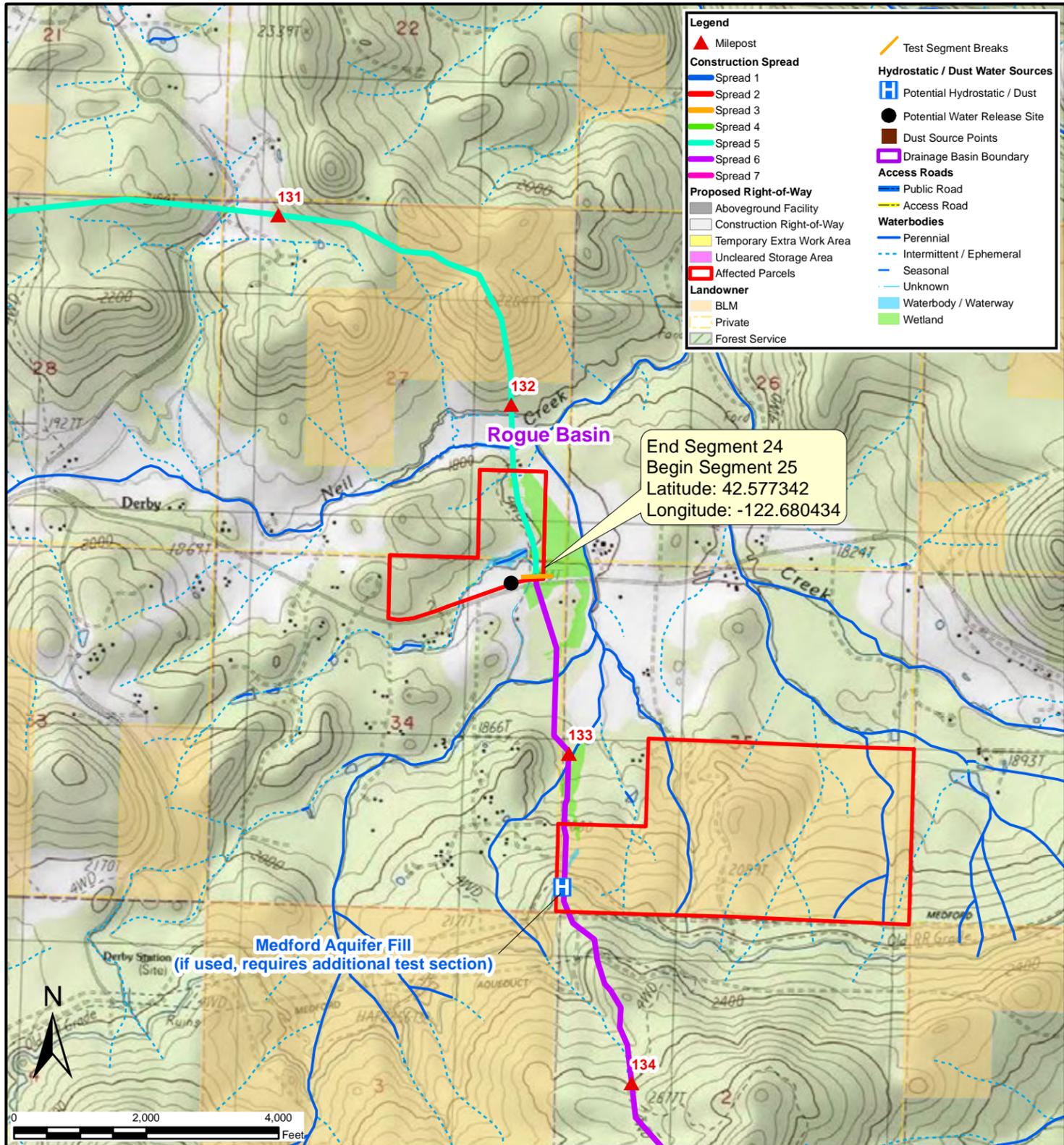


DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 22 END / 23 BEGIN</b> <b>MP 118.23</b> <b>S-20, T-33-S, R-1-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 22 / 23</b>	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 22 and 23.mxd</small>										

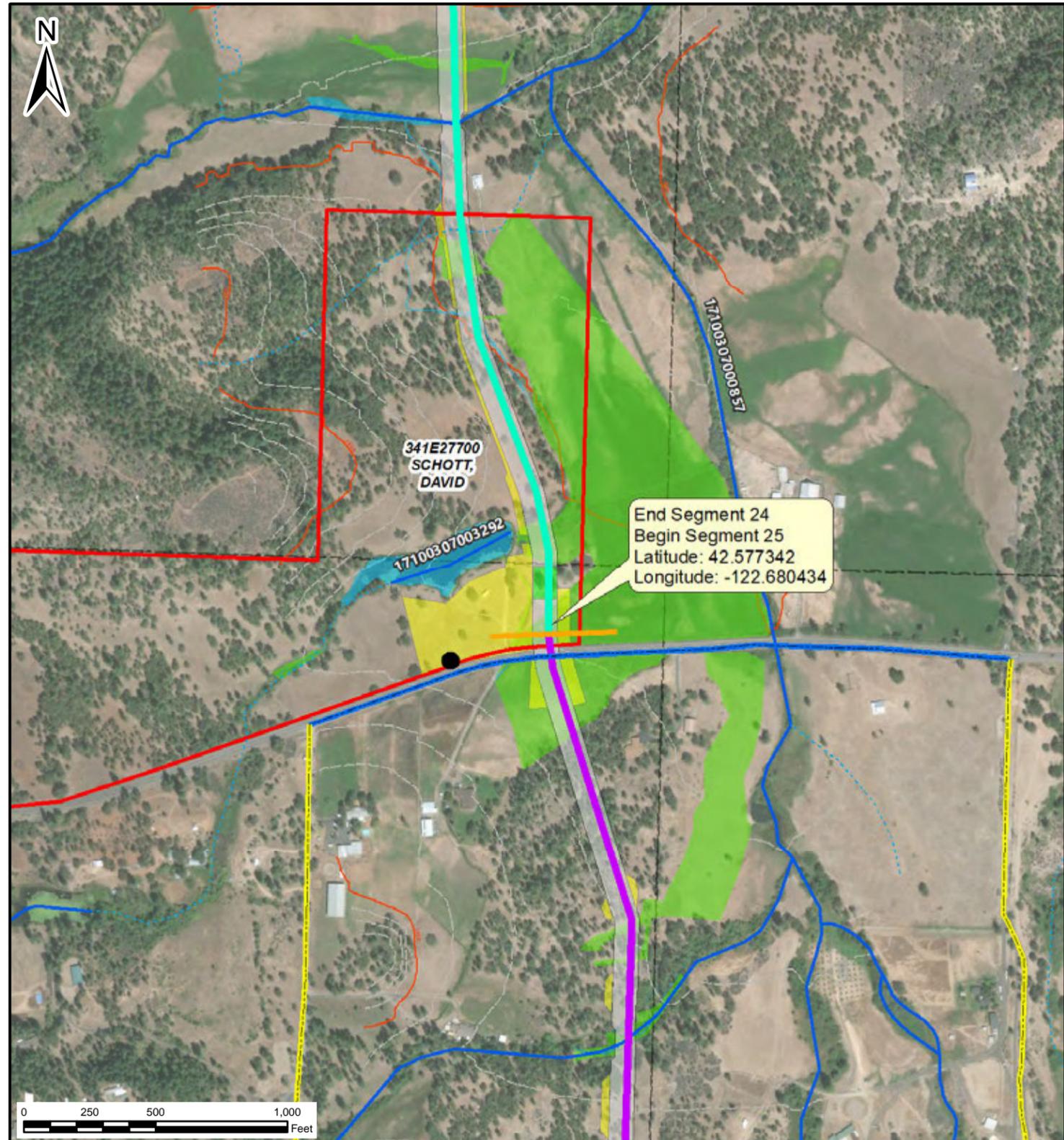


DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 23 END / 24 BEGIN</b> <b>MP 122.80</b> <b>S-3, T-34-S, R-1-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 23 / 24	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 23 and 24.mxd</small>										

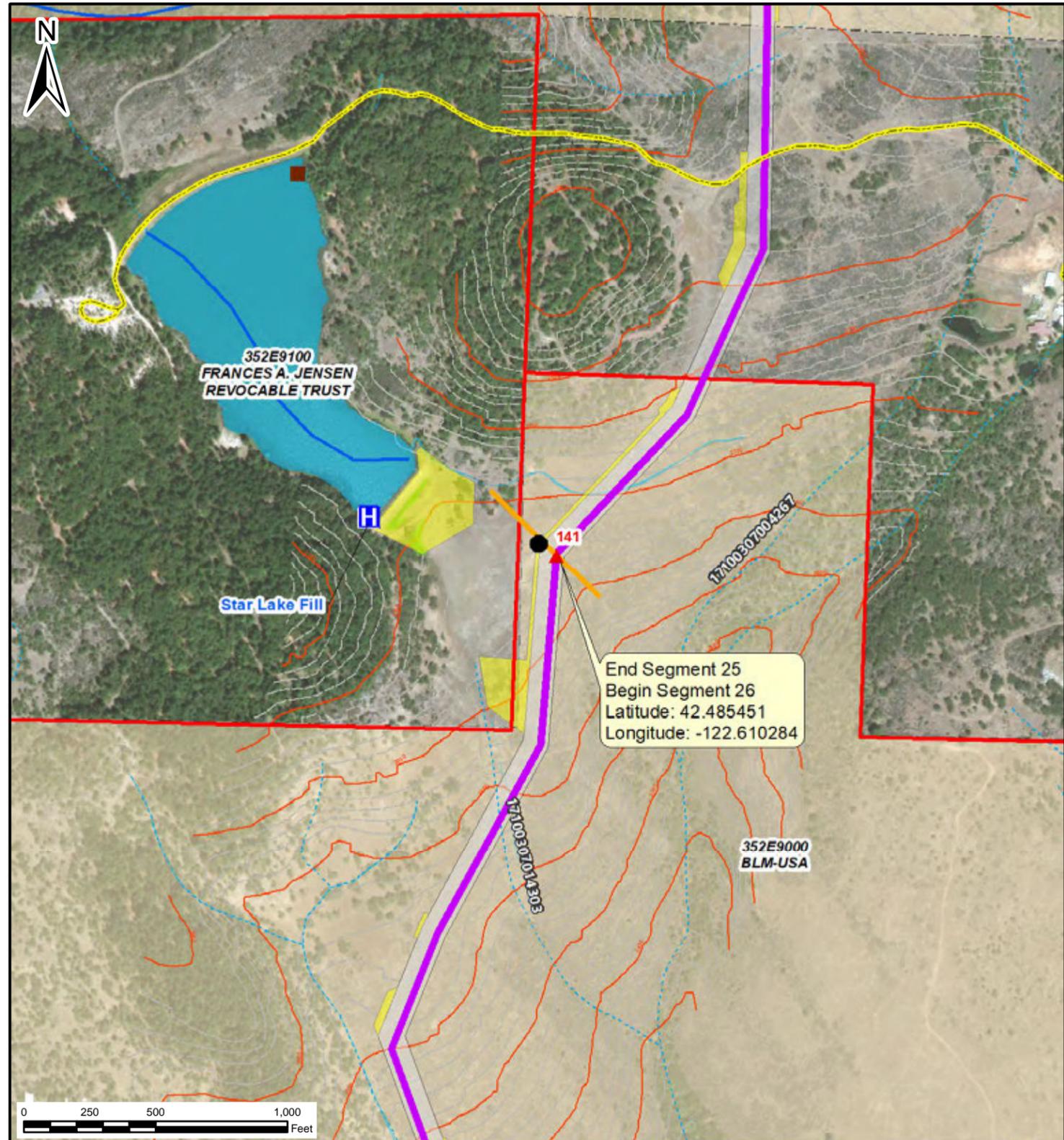
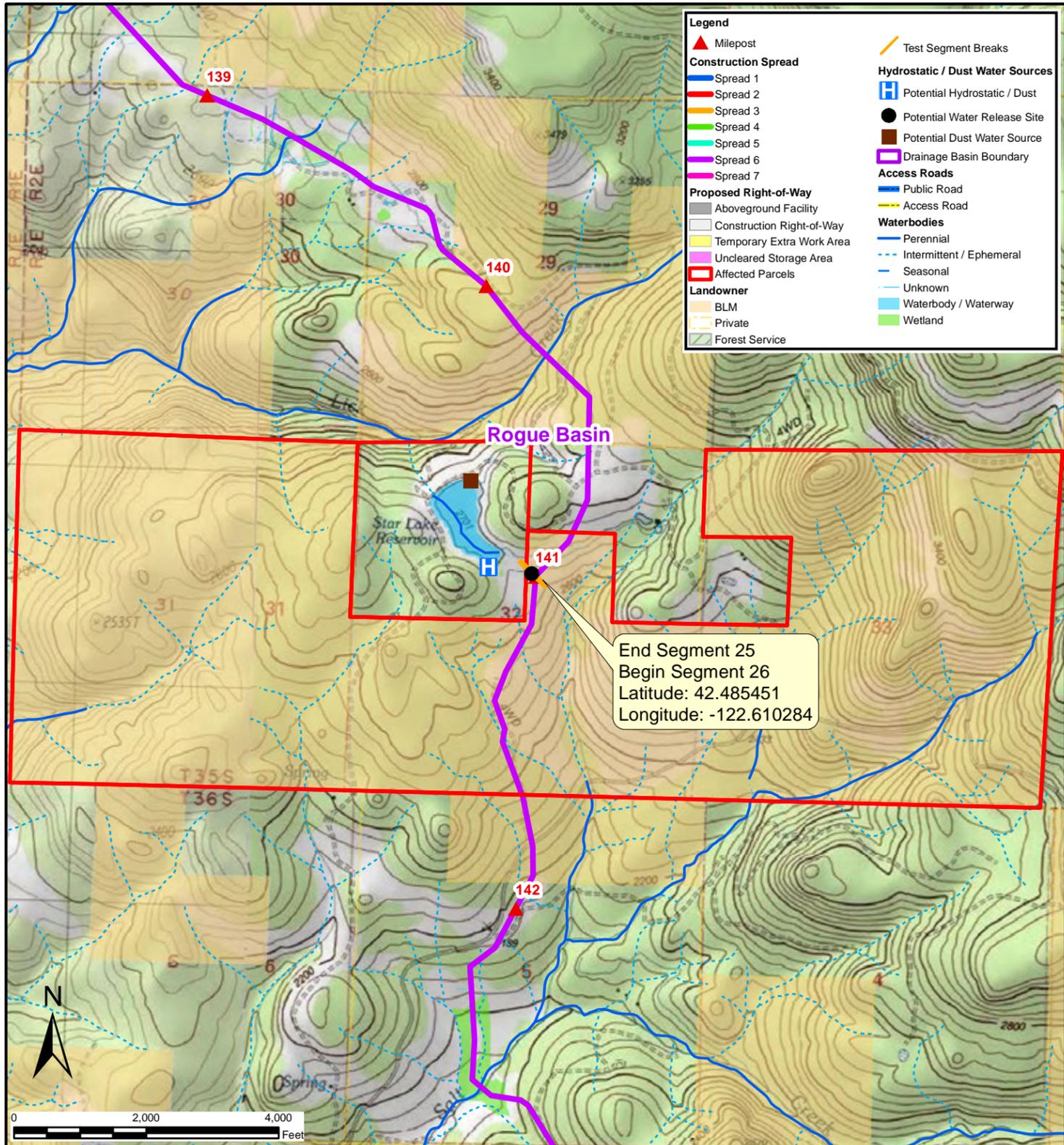
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 23 END / 24 BEGIN</b> <b>MP 122.80</b> <b>S-3, T-34-S, R-1-W</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 875
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 23 / 24	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 23 and 24.mxd</small>										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 24 END / 25 BEGIN</b> <b>MP 132.50</b> <b>S-34, T-34-S, R-1-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 24 / 25	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 24 and 25.mxd</small>										

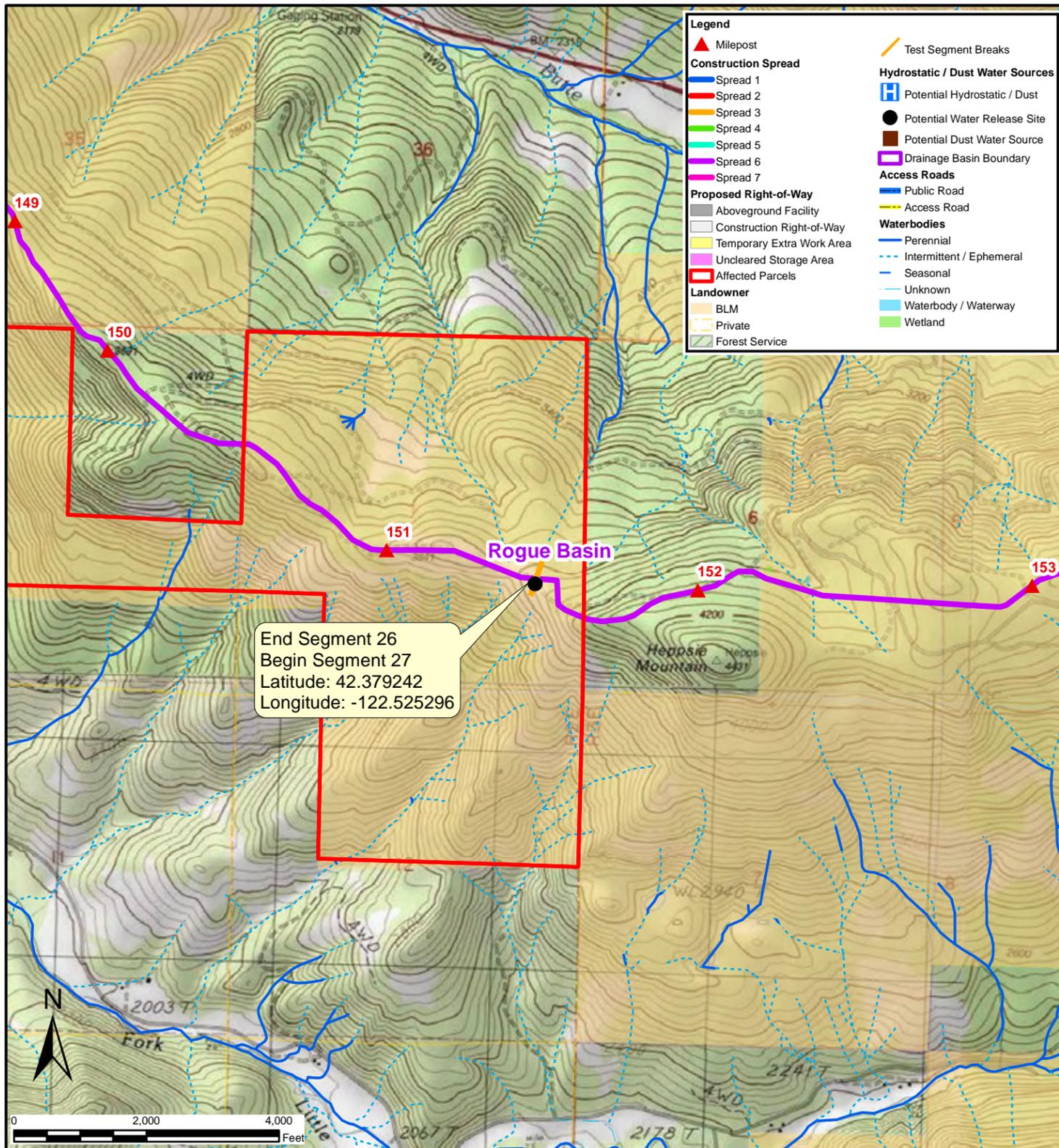


DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 24 END / 25 BEGIN</b> <b>MP 132.50</b> <b>S-34, T-34-S, R-1-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 24 / 25	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 24 and 25.mxd</small>										

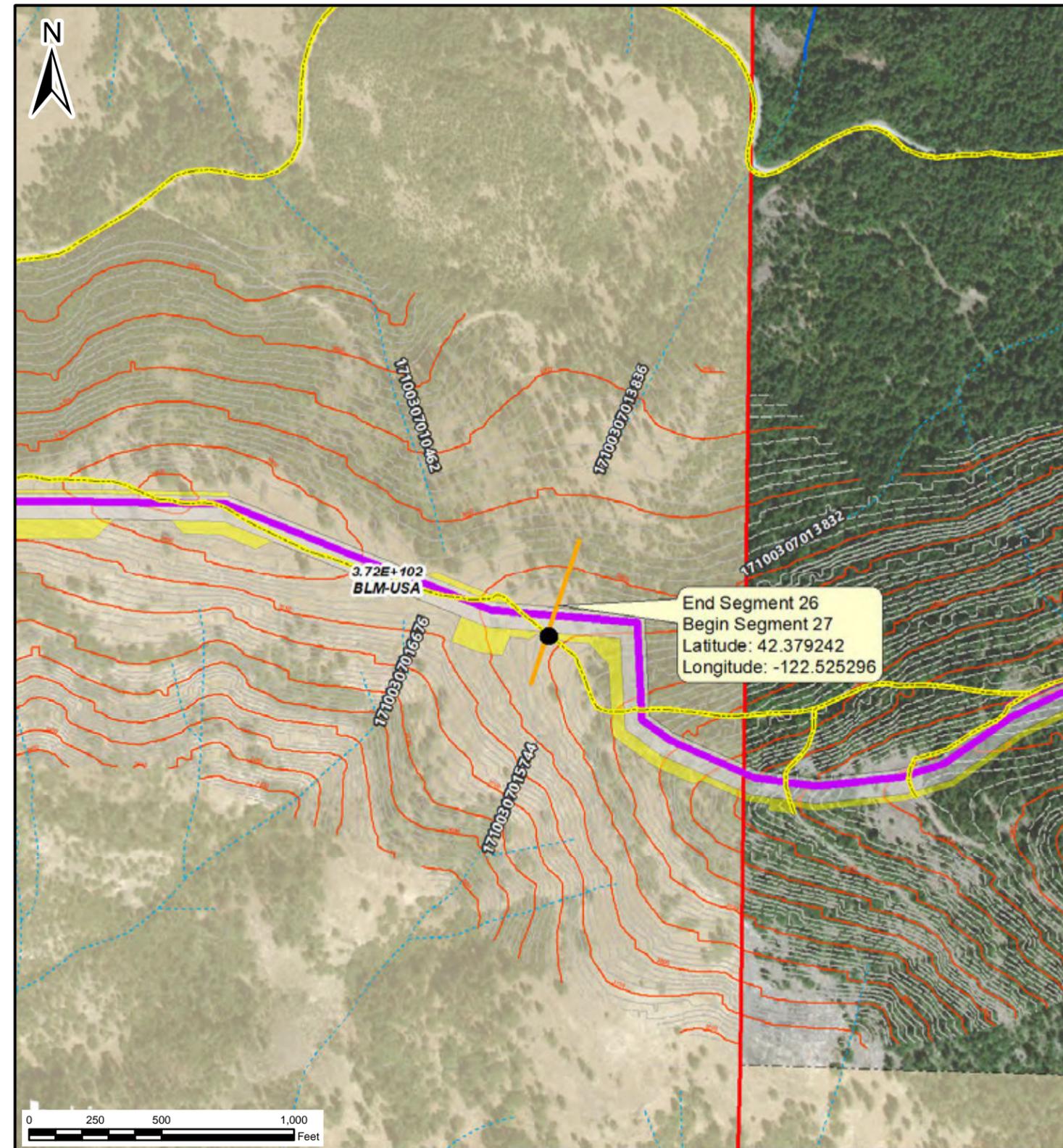


DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 25 END / 26 BEGIN</b> <b>MP 141.00</b> <b>S-32, T-35-S, R-2-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 25 / 26</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 25 and 26.mxd										

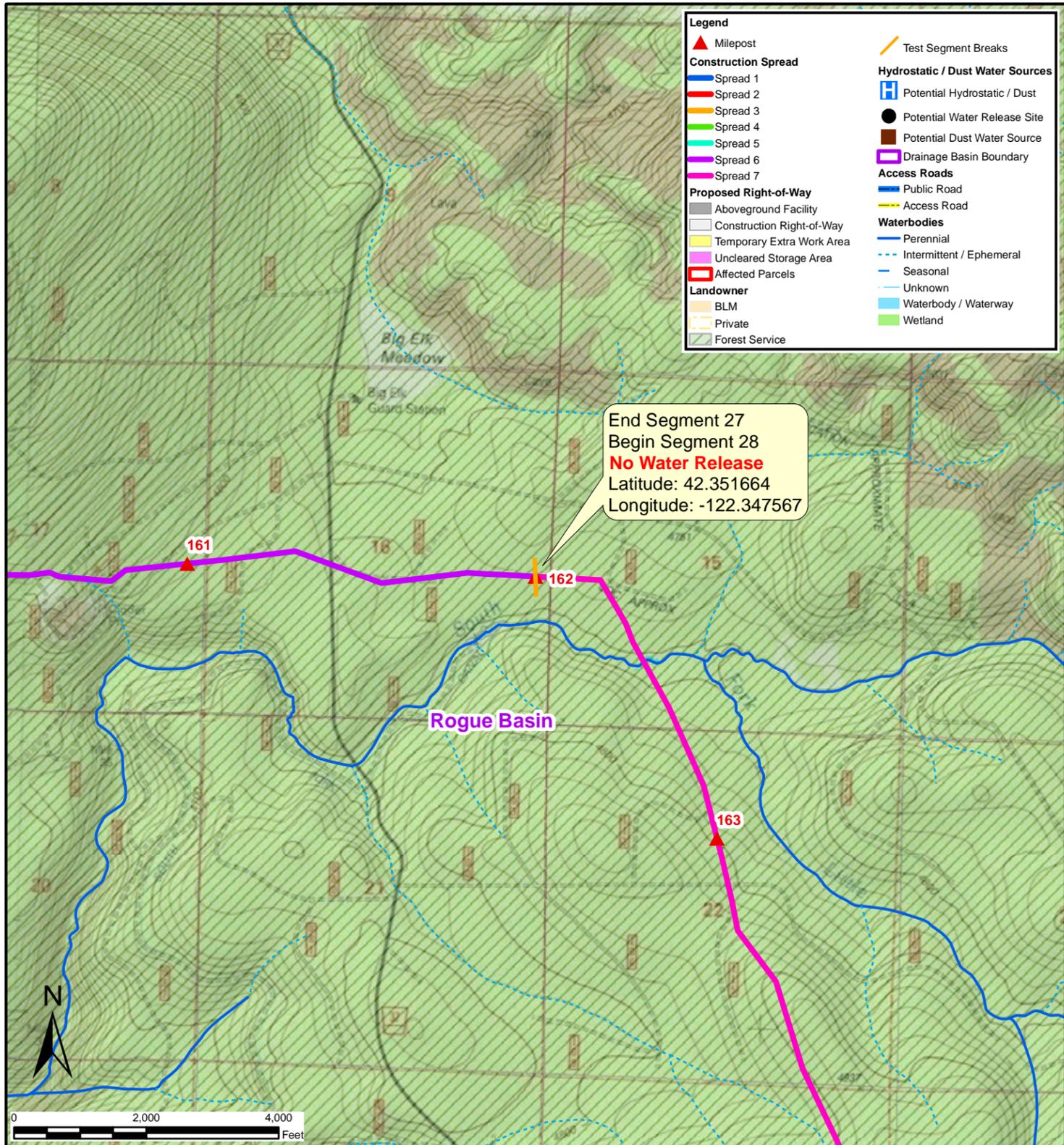
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 25 END / 26 BEGIN</b> <b>MP 141.00</b> <b>S-32, T-35-S, R-2-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 25 / 26</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 25 and 26.mxd										



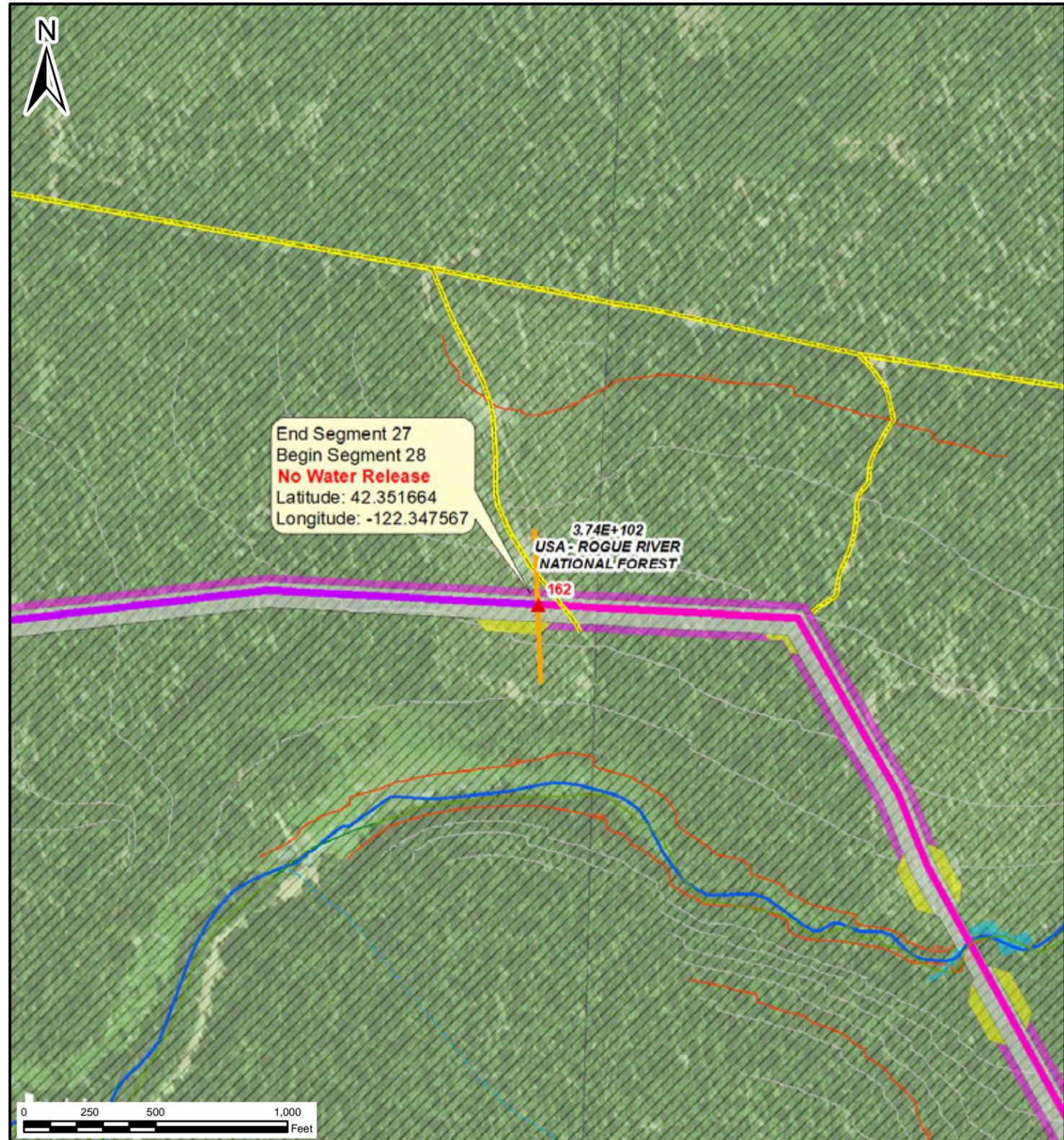
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 26 END / 27 BEGIN</b> <b>MP 151.44</b> <b>S-1, T-37-S, R-2-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 26 / 27</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 26 and 27.mxd										



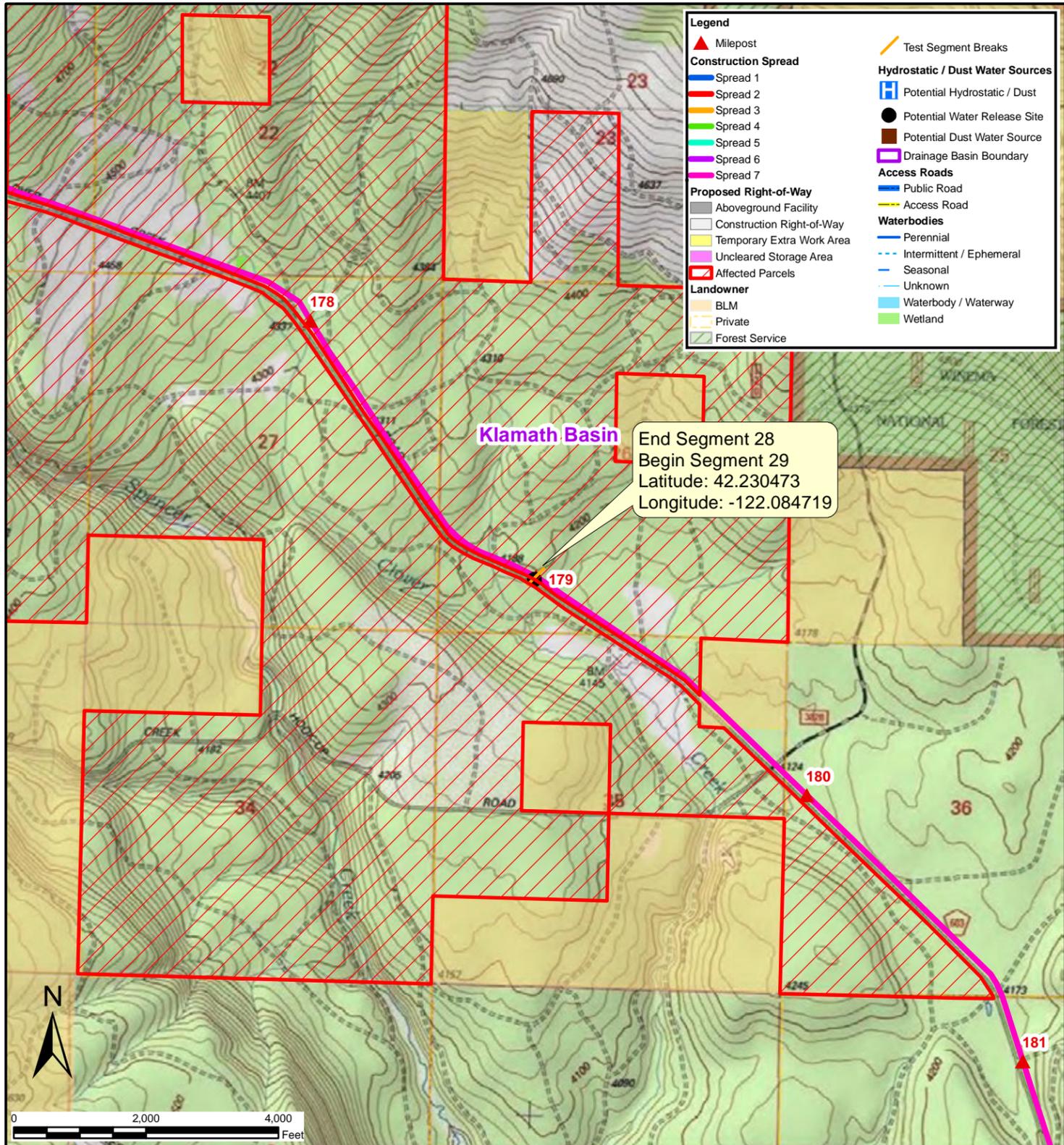
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 26 END / 27 BEGIN</b> <b>MP 151.44</b> <b>S-1, T-37-S, R-2-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 26 / 27</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 26 and 27.mxd										



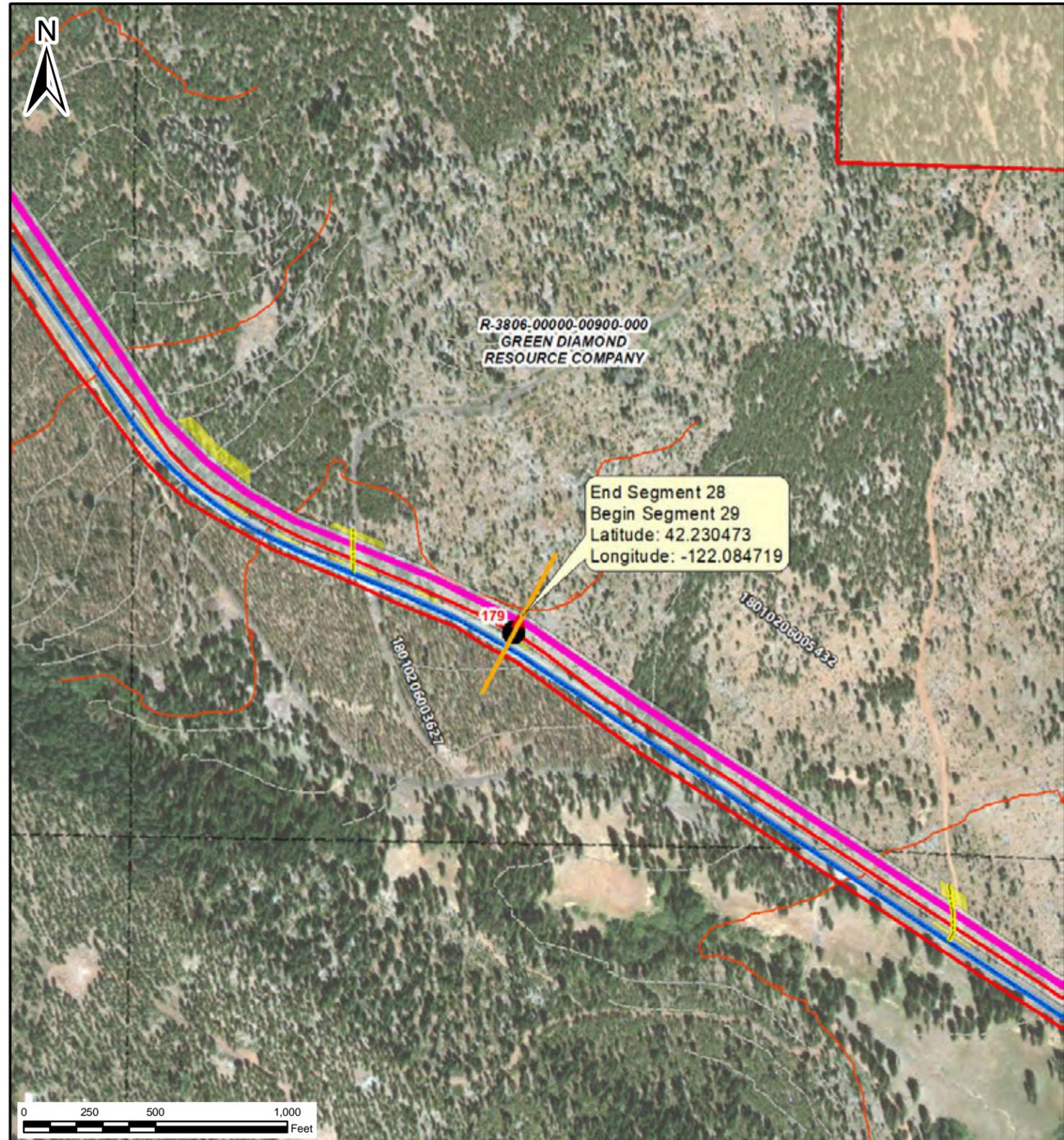
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 27 END / 28 BEGIN</b> <b>MP 162.00</b> <b>S-16, T-37-S, R-4-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 27 / 28</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 27 and 28.mxd										



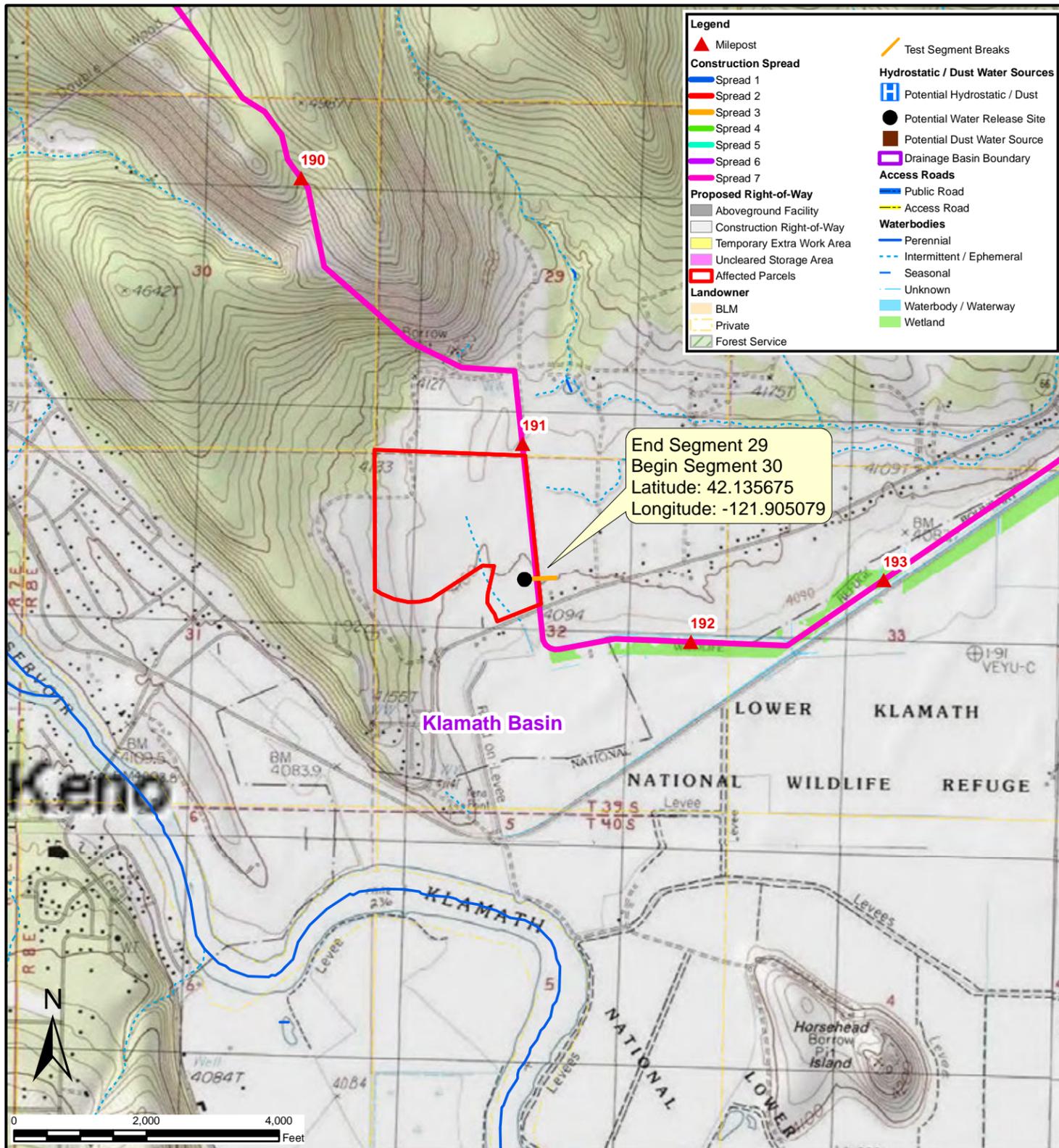
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 27 END / 28 BEGIN</b> <b>MP 162.00</b> <b>S-16, T-37-S, R-4-E</b> <b>JACKSON COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 27 / 28</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 27 and 28.mxd										



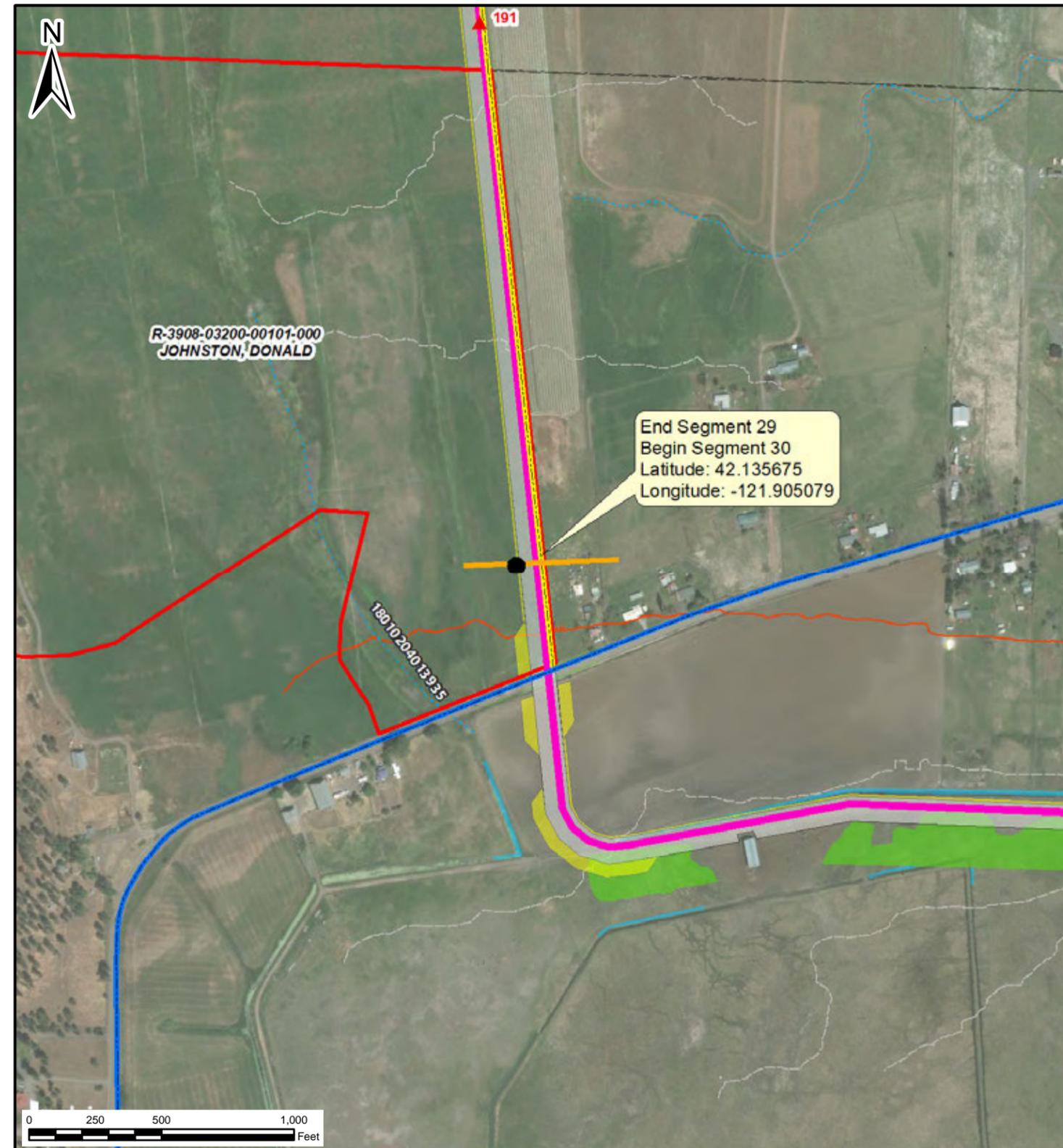
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 28 END / 29 BEGIN</b> <b>MP 179.00</b> <b>S-26, T-38-S, R-6-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 28 / 29</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 28 and 29.mxd										



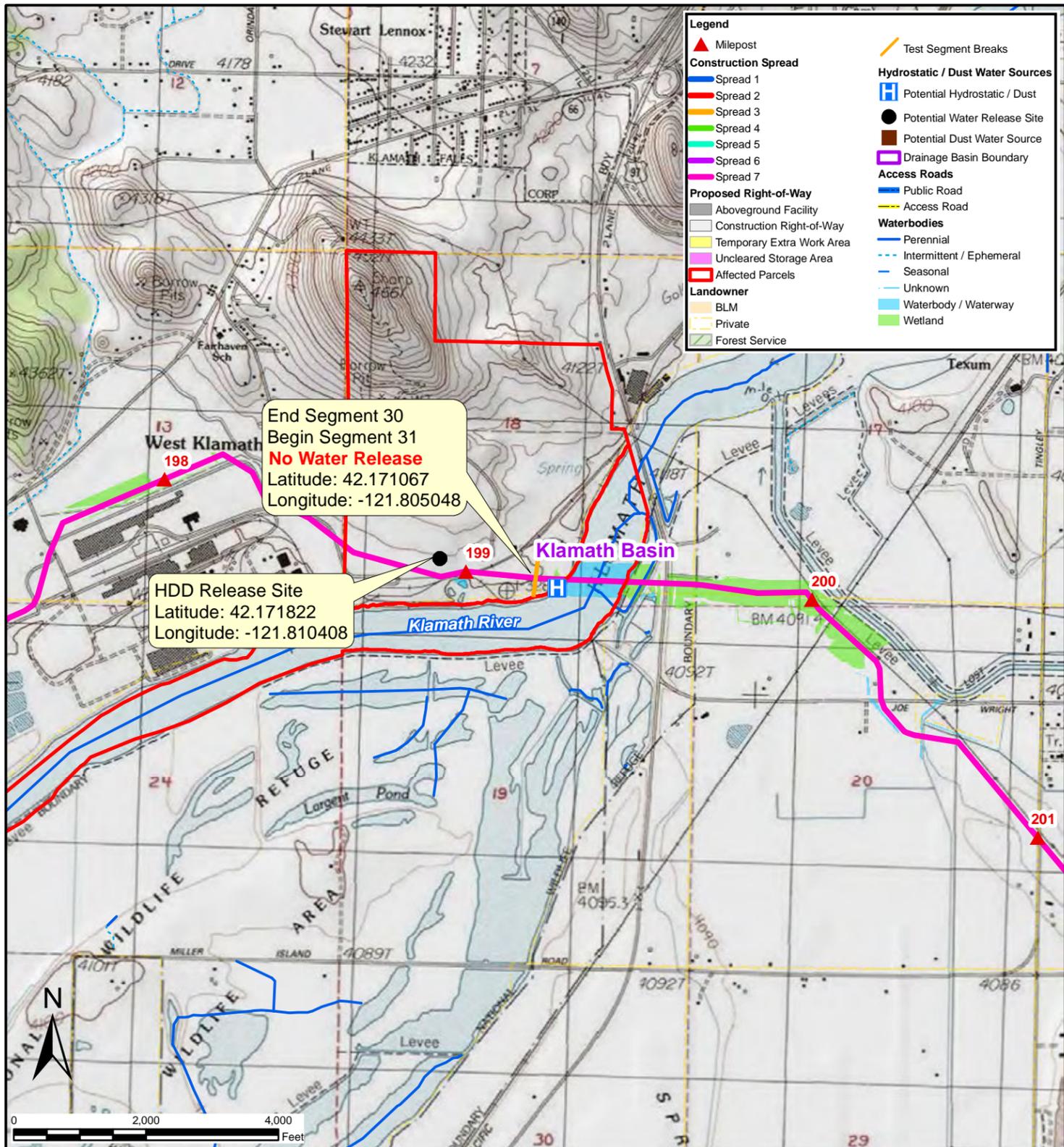
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 28 END / 29 BEGIN</b> <b>MP 179.00</b> <b>S-26, T-38-S, R-6-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 28 / 29</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 28 and 29.mxd										



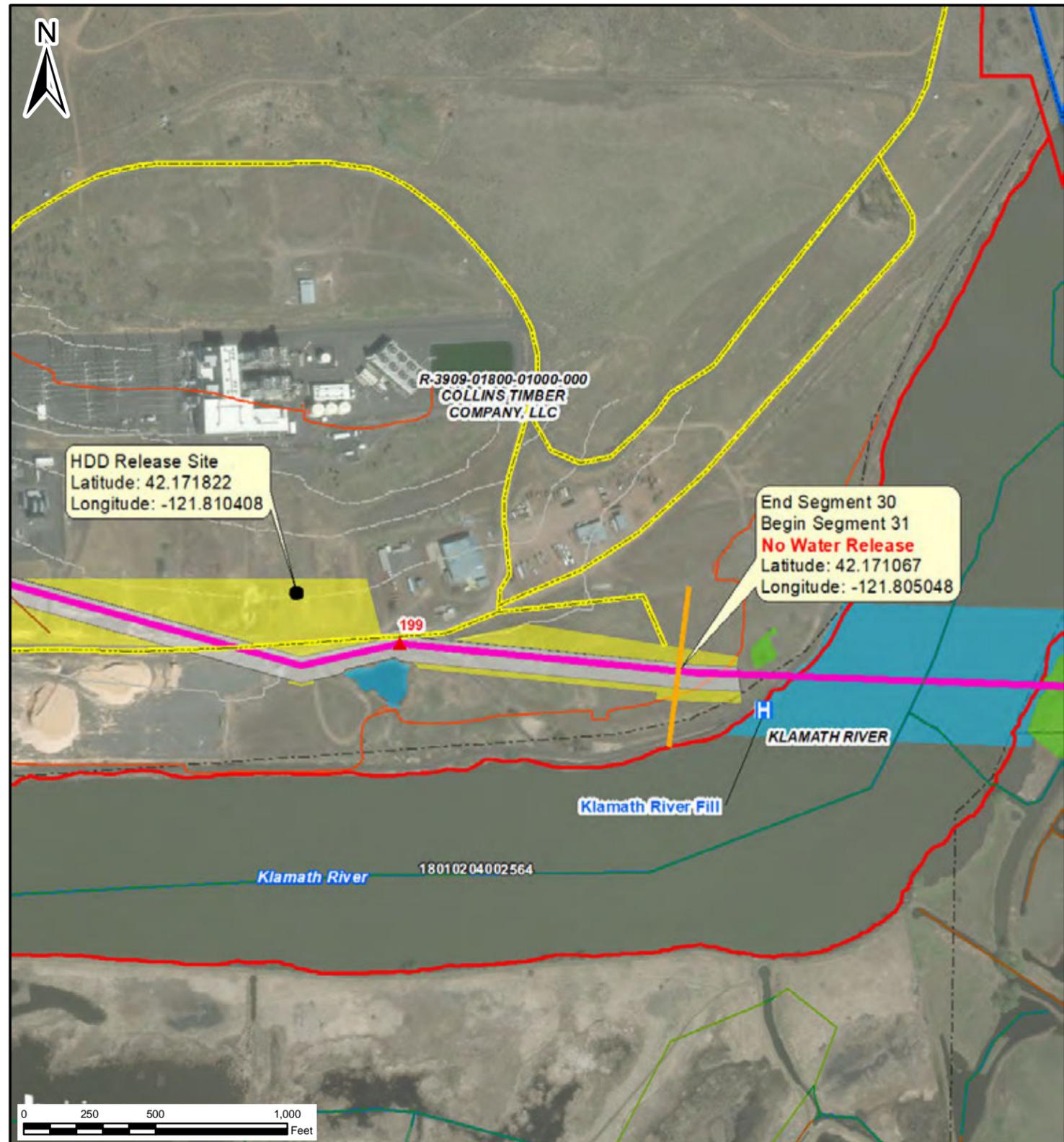
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 29 END / 30 BEGIN</b> <b>MP 191.39</b> <b>S-32, T-39-S, R-8-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 29 / 30	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 29 and 30.mxd										



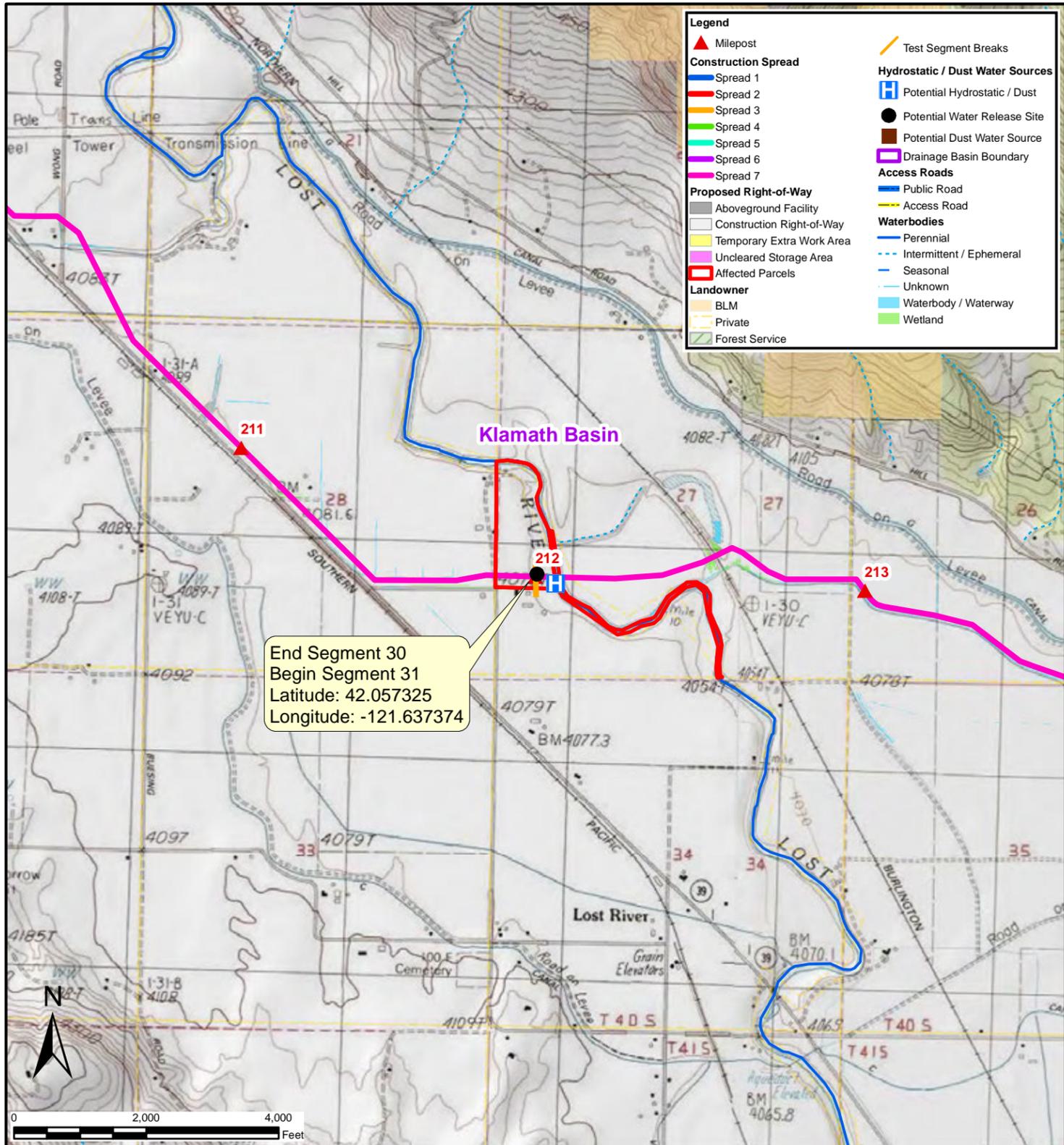
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 29 END / 30 BEGIN</b> <b>MP 191.39</b> <b>S-32, T-39-S, R-8-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 29 / 30	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 29 and 30.mxd										



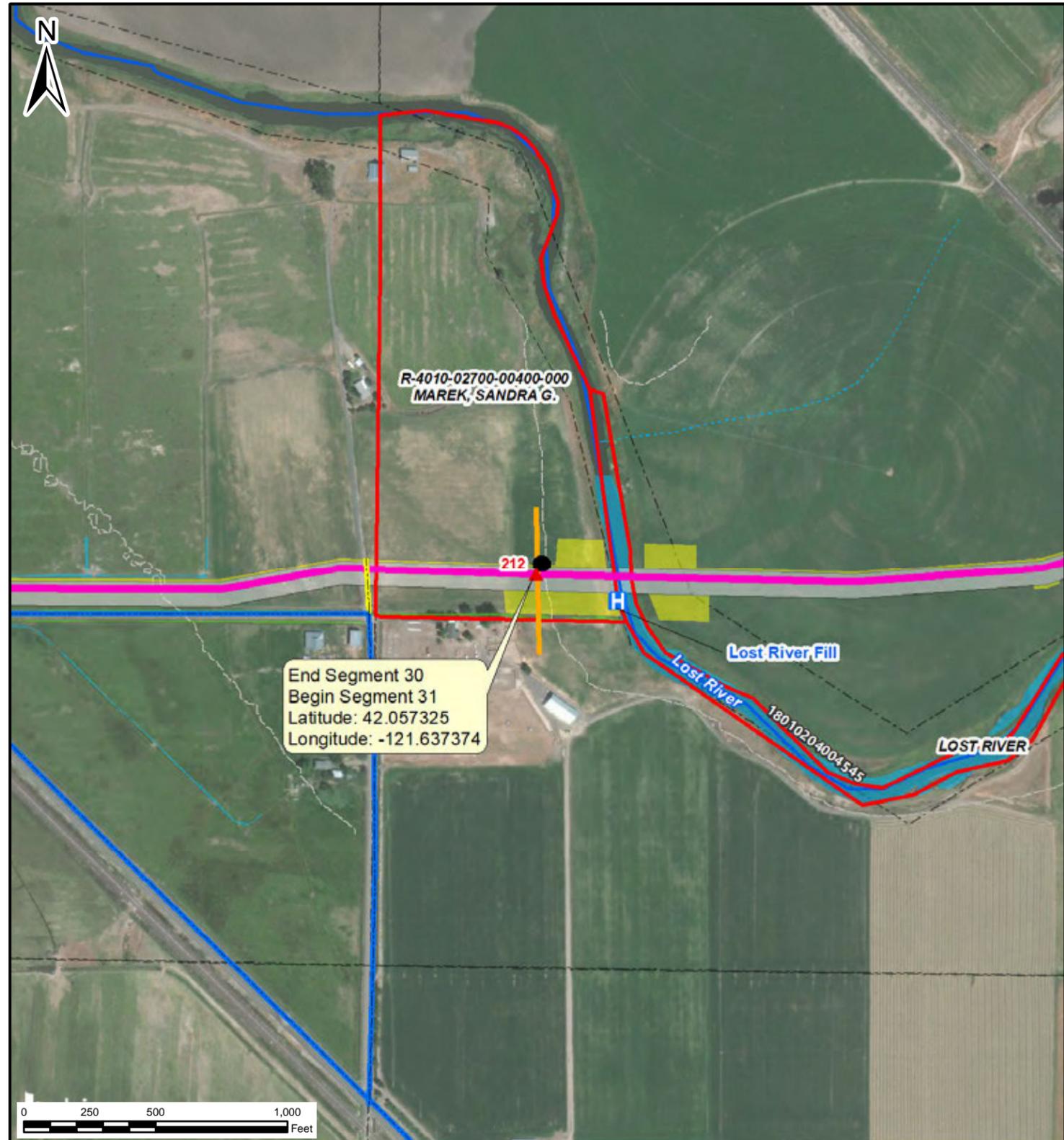
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 30 END / 31 BEGIN</b> <b>MP 199.20</b> <b>S-18, T-39-S, R-9-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 30 / 31	SHEET 1 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 30 and 31.mxd</small>										



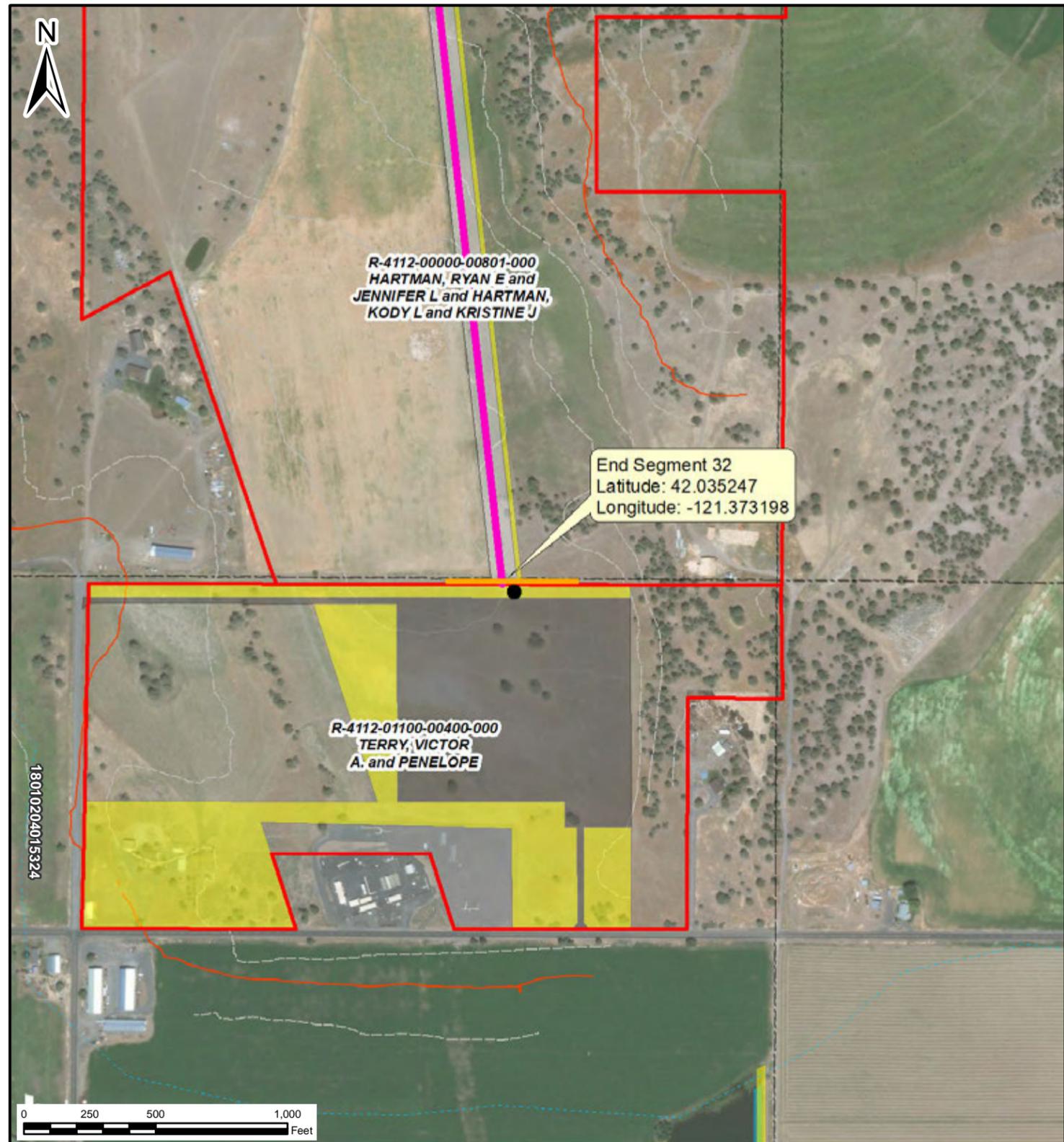
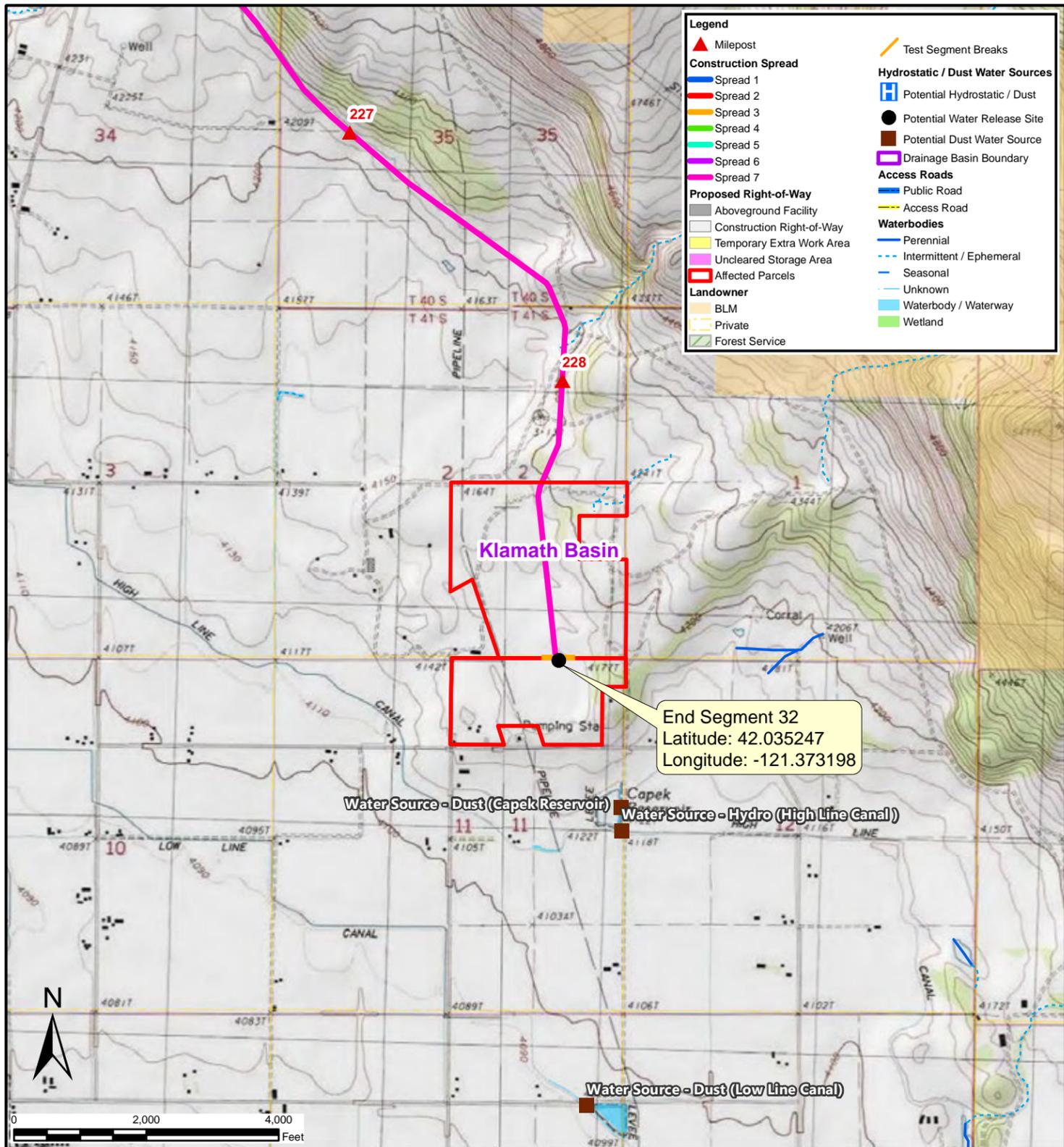
DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 30 END / 31 BEGIN</b> <b>MP 199.20</b> <b>S-18, T-39-S, R-9-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 30 / 31	SHEET 2 OF 2
<small>Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 30 and 31.mxd</small>										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 31 END / 32 BEGIN</b> <b>MP 212.00</b> <b>S-27, T-40-S, R-10-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 31 / 32	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 31 and 32.mxd										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 31 END / 32 BEGIN</b> <b>MP 212.00</b> <b>S-27, T-40-S, R-10-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: Test Segment 31 / 32	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 31 and 32.mxd										



DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 32 END</b> <b>MP 228.81</b> <b>S-11, T-41-S, R-12-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 2000
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 32</b>	SHEET 1 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 32 End.mxd										

DRAWING NO.		REFERENCE TITLE		<b>PACIFIC CONNECTOR GAS PIPELINE PROJECT</b> <b>PACIFIC CONNECTOR GAS PIPELINE, LP</b> <b>36" PACIFIC CONNECTOR GAS PIPELINE</b> <b>HYDROSTATIC TEST SEGMENT 32 END</b> <b>MP 228.81</b> <b>S-11, T-41-S, R-12-E</b> <b>KLAMATH COUNTY, OREGON</b>						
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: Aug - 2018	ISSUED FOR BID:	SCALE: 1 : 500
							CHK BY:	DATE:	ISSUED FOR CONST:	
							APPR. BY:	DATE:	DRAWING NUMBER: <b>Test Segment 32</b>	SHEET 2 OF 2
Path: P:\PCGP_JCLNG\ArcMap\DEQ\Test Segments 32 End.mxd										

**Attachment E**  
**Hydrostatic Test Plan Impacts Assessment**

---

---

**To:** Michael Warson (Pacific Connector Gas Pipeline)  
**From:** Minda Troost, Fluvial Geomorphologist *MCT*  
**Date:** August 27, 2018  
**File:** 22708-001-00  
**Subject:** Hydrostatic Test Plan Impacts Assessment

---

## INTRODUCTION

This memo is prepared in response to questions posed by the Oregon Department of Environmental Quality (ODEQ) in the October 7, 2015 Data Request II related to potential impacts associated with water withdrawals for hydrostatic testing of the proposed Pacific Connector Gas Pipeline (PCGP). The proposed hydrostatic testing plan is fully documented in the Hydrostatic Testing Plan (HTP) (PCGP, 2018).

Limited licenses for water withdrawals are proposed for four waterbody types to fill the pipeline for pressure testing: natural streams, managed canals, reservoirs, and municipal water supply and are listed in the HTP. Thermal impacts were evaluated for the ten sites characterized as natural streams with open channel flow, two of which have two withdrawal scenarios for a total of twelve analyses (Table 1).

The remaining types of withdrawals were not included in the thermal impacts assessment. Two locations are municipal water supplies (North Spit Pump House Mile Post [MP] 0.00 and Fire Hydrant at MP 1.31). Thermal impacts are not applicable at these locations.

One reservoir, Star Reservoir (MP 141.00), is proposed for limited withdrawal to aid in hydrostatic testing of the pipeline. Thermal analysis was not completed to evaluate impacts to open waterbodies because the relative quantities of withdrawals in the open waterbody is insignificant and not expected to have thermal or other impacts beyond that experienced by typical lake level fluctuations during the period of use.

One manmade channel is proposed for limited withdrawal, the Medford Aqueduct (MP 133.38). This water source is owned and operated by an Irrigation District. The water that flows through this water body is managed by water calls; the water is fully allocated to patrons/users. The sole function of the Aqueduct is to provide those patrons with water via withdrawal for various beneficial uses. Thermal effects associated with a limited withdrawal by PCGP would be no different from other users putting their water to another beneficial use.

## THERMAL IMPACTS ON NATURAL STREAMS CHANNELS

The United States Geological Survey's (USGS) Stream Segment Temperature Model (SSTEMP) v2.0.8 was used to estimate the potential thermal impacts of water withdrawals from ten natural channel crossing locations proposed for water use in Table 1. Models were run to simulate water withdrawals at various times of the year, the expected period of use for the limited withdrawal permits. Each withdrawal scenario was modeled for two conditions; to analyze thermal impacts at both 0.02 and 0.1 miles downstream of the withdrawal location.

SSTEMP is a mechanistic, one-dimensional heat transport model that predicts the daily mean and maximum water temperatures as a function of stream distance and environmental heat flux. Net heat flux is calculated as the sum of heat to or from long-wave atmospheric radiation, direct short-wave solar radiation, convection, conduction, evaporation, streamside vegetation (shading), streambed fluid friction, and the water's back radiation. The heat flux model includes the incorporation of groundwater influx. The heat transport model is based on the dynamic temperature-steady flow equation and assumes that all input data, including meteorological and hydrological variables, can be represented by 24-hour averages.

Model manipulations may include reservoir discharge and release temperatures, irrigation diversion, riparian shading, channel alteration, or thermal loading. The model was used in this study to help assess the effects of flow diversion on stream temperature.

### Model Assumptions

Ambient flow conditions were modeled using a 50 percent exceedance value for the site based on flow data from the USGS StreamStats Oregon program or USGS gages (HTP - attachment F: Hydrostatic Test Water Withdrawal Hydrologic Assessment). Ambient weather data was derived from historic measurements during the specified period. Channel geometry data was provided through site survey completed by PCGP and/or light detection and ranging (LiDAR) data. An estimated withdrawal rate of 0.67 cubic feet per second (cfs) is assumed.

Withdrawal proposed from the Ben Irving Reservoir is a special condition in which water will be released from the reservoir, allowed to flow down Berry Creek and be withdrawn from the creek at the pipeline crossing. We assumed 2 cfs of water will be flowing in Berry Creek for the assessment.

Tables 1 and 2 summarize the key model assumptions.

**TABLE 1. MODELED FLOWS**

Stream Name	Mile Post Location (MP)	Estimated Time of Use (month)	50% Exceedance (cfs)	Withdrawal Rate (cfs)	Outflow Rate (cfs)
Coos River	11.08R	October	131	0.67	130.3
EF Coquille	29.64	October	27.4	0.67	26.7
MF Coquille	50.28	October	1.9	0.67	1.2
Ben Irving Reservoir via Berry Creek	55.90	October	2	0.67	1.3
Olalla/Lookingglass Creek	58.79	Jun/July	9.3	0.67	8.6
South Umpqua #1	71.25	Jun/July	642	0.67	641.3
South Umpqua #1	71.25	July/Aug	268	0.67	267.3
South Umpqua #2	94.73	July/Aug	137	0.67	136.3
South Umpqua #2	94.73	September	87	0.67	86.3
Rogue River	122.8	September	1,333	0.67	1,329.3
Klamath River	199.2	February	1,175	0.67	1,174.3
Lost River	212.0	February	88	0.67	87.3

**TABLE 2. DATA SOURCES FOR SSTEMP PARAMETERS**

<b>Data</b>	<b>Source</b>
Flow Data	HTP – Appendix F; USGS StreamStats for Oregon and USGS gage data
Stream Temperature	NorWeST Stream Temp, USGS; or NOAA
Accretion Temperature	Mean annual air temperature: PRISM Climate Group
Latitude	GIS
Elevation	LiDAR
Widths A and B terms	Utilized Federal Highways Administration’s Hydraulic Toolbox 4.2 and Microsoft Excel. Channel Geometry for use in the tool was obtained from previous hydraulic models generated for a site or LiDAR with trapezoidal channel and/or low flow channel built in based on field observations.
Air Temperature	Monthly mean air temperature: PRISM Climate Group
Relative Humidity	Derived from Dew Point temperature from PRISM Climate Group
Wind Speed	<a href="http://weatherspark.com">http://weatherspark.com</a> - median of average of hourly speeds
Ground Temperature	Mean annual air temperature: PRISM Climate Group
Possible Sun	<a href="http://weatherspark.com">http://weatherspark.com</a>
Solar Radiation	PCGP - Thermal Impacts Assessment, August 2017 - Shade-a-lator v.6.2; based on solar load above riparian at site for time of year.
Total Shade	PCGP - Thermal Impacts Assessment, August 2017 - Shade-a-lator v.6.2; Construction scenario total shade for time of year was utilized for the 0.02 mi segment lengths. Total shade for 0.1 mi segments was estimated based on construction scenario and site potential total shade at the time of year.

**SSTEMP Model Results**

Results of the SSTEMP thermal predictions resulting from the twelve potential withdrawal scenarios from natural channels are presented in Attachment A. The stream and model run are shown in the bottom left corner of each screen shot. Each scenario is modeled for two conditions, at 0.02 and 0.1 miles downstream of the proposed withdrawal location. Model results are provided in terms of a predicted mean, maximum, and minimum outflow temperatures. Results and differences from inflow temperatures are summarized in Table 3. Some locations show lower mean temperatures for the segment than inflow temperature. Significant factors appear to be very low flows, less solar radiation during certain times of the year, and or lower air temperatures relative to inflow temperatures.

**TABLE 3. ESTIMATED TEMPERATURES**

<b>Stream Name</b>	<b>Segment Length (mi)</b>	<b>Predicted Mean (°F)</b>	<b>Estimated Maximum (°F)</b>	<b>Estimated Minimum (°F)</b>	<b>Difference Between Inflow and Predicted Mean Outflow (°F)</b>	<b>Difference Between Inflow and Estimated Maximum Outflow (°F)</b>
Coos River October	0.02	53.03	56.58	49.48	0.03	3.56
	0.10	53.14	55.47	50.81	0.14	2.46
EF Coquille October	0.02	55.99	57.55	54.42	0.00	0.72
	0.10	55.94	57.52	54.36	-0.02	1.74
MF Coquille October	0.02	55.94	60.25	51.63	-0.01	2.14
	0.10	55.56	59.11	52.00	-0.12	1.36
Ben Irving Reservoir via Berry Creek October	0.02	59.97	67.32	52.61	-0.02	10.07
	0.10	59.81	66.45	53.17	-0.15	8.43
Olalla Creek June/July	0.02	63.15	77.83	48.47	0.02	7.35
	0.10	63.57	78.63	48.52	0.09	9.74
South Umpqua #1 June/July	0.02	73.60	74.58	72.62	0.00	0.84
	0.10	73.60	76.11	71.09	0.00	2.14
South Umpqua #1 July/August	0.02	73.60	75.16	72.03	0.00	1.45
	0.10	73.59	77.39	69.80	0.00	3.54
South Umpqua #2 July/August	0.02	70.42	76.78	64.06	0.00	3.58
	0.10	70.45	79.65	61.24	0.02	6.08
South Umpqua #2 September	0.02	70.39	75.21	65.56	0.00	3.00
	0.10	70.31	77.40	63.22	-0.03	4.53
Rogue River September	0.02	52.00	55.54	48.47	0.00	3.46
	0.10	52.01	54.30	49.73	0.01	1.69
Klamath River February	0.02	39.20	41.62	36.78	0.00	1.89
	0.10	39.20	40.75	37.65	0.00	1.20
Lost River February	0.02	40.60	42.62	38.58	0.00	1.87
	0.10	40.59	41.88	39.30	-0.01	1.18

**REFERENCES**

Oregon Department of Environmental Quality, Shade-a-lator v.6.2, accessed August 2018.

Pacific Connector Gas Pipeline, 2017. "Thermal Impacts Assessment." August 2017.

Pacific Connector Gas Pipeline, 2018. "Hydrostatic Testing Plan." August 2018.

Umpqua Basin Watershed Council, 2003. "Olalla Lookingglass Watershed Assessment and Action Plan." August 2003.

Memorandum to Mike Warson  
August 27, 2018  
Page 5

United States Geological Survey, Stream Segment Temperature Model (SSTEMP). Version 2.0.8. Accessed August 2018.

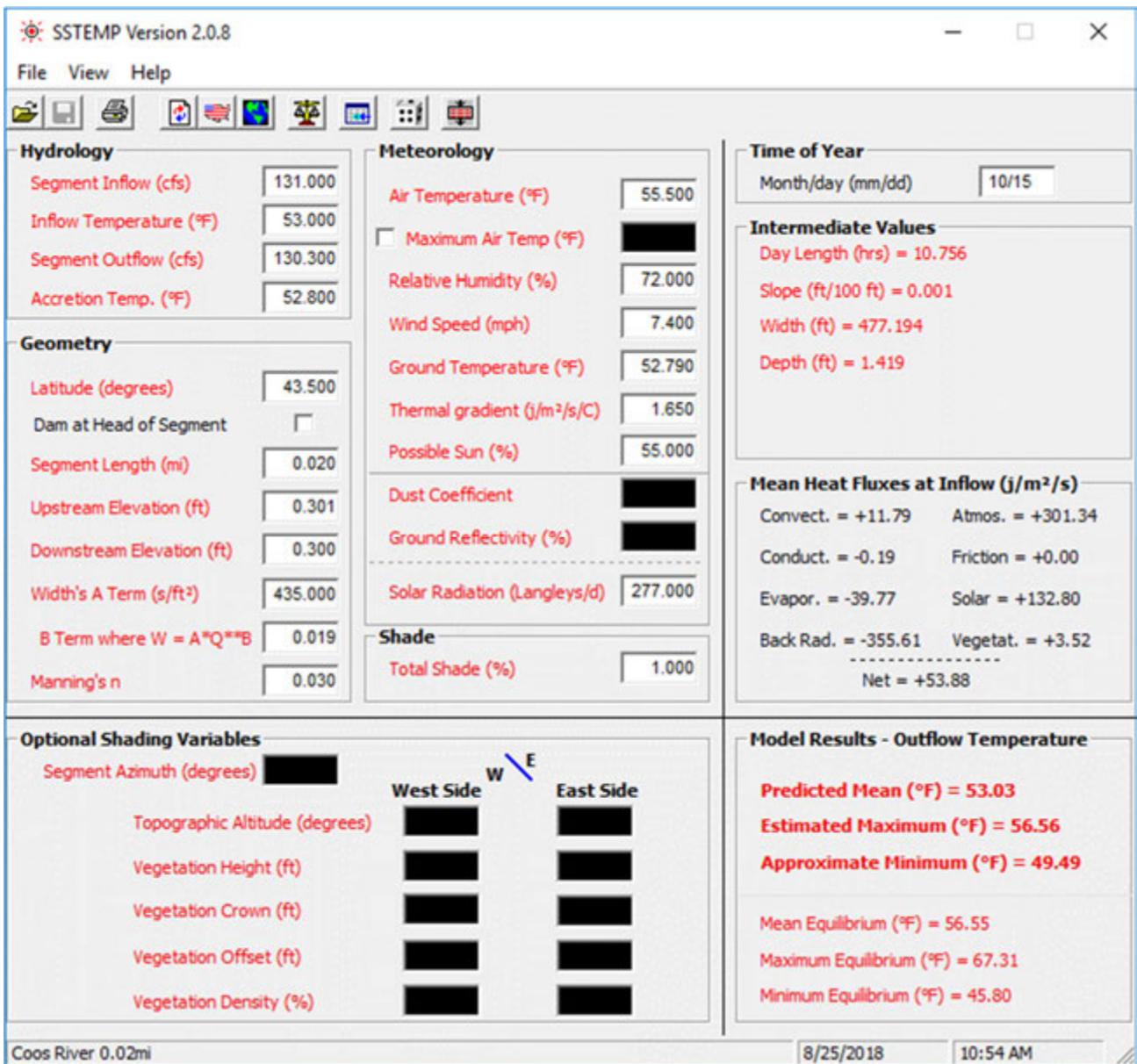
United States Fish and Wildlife Service, 2012. "Coquille River Basin Stream Temperature Assessment." November 29, 2012.

**MLT:TNH:tl**

Attachments:

Figures 1 through 22. SSTEMP Model Output

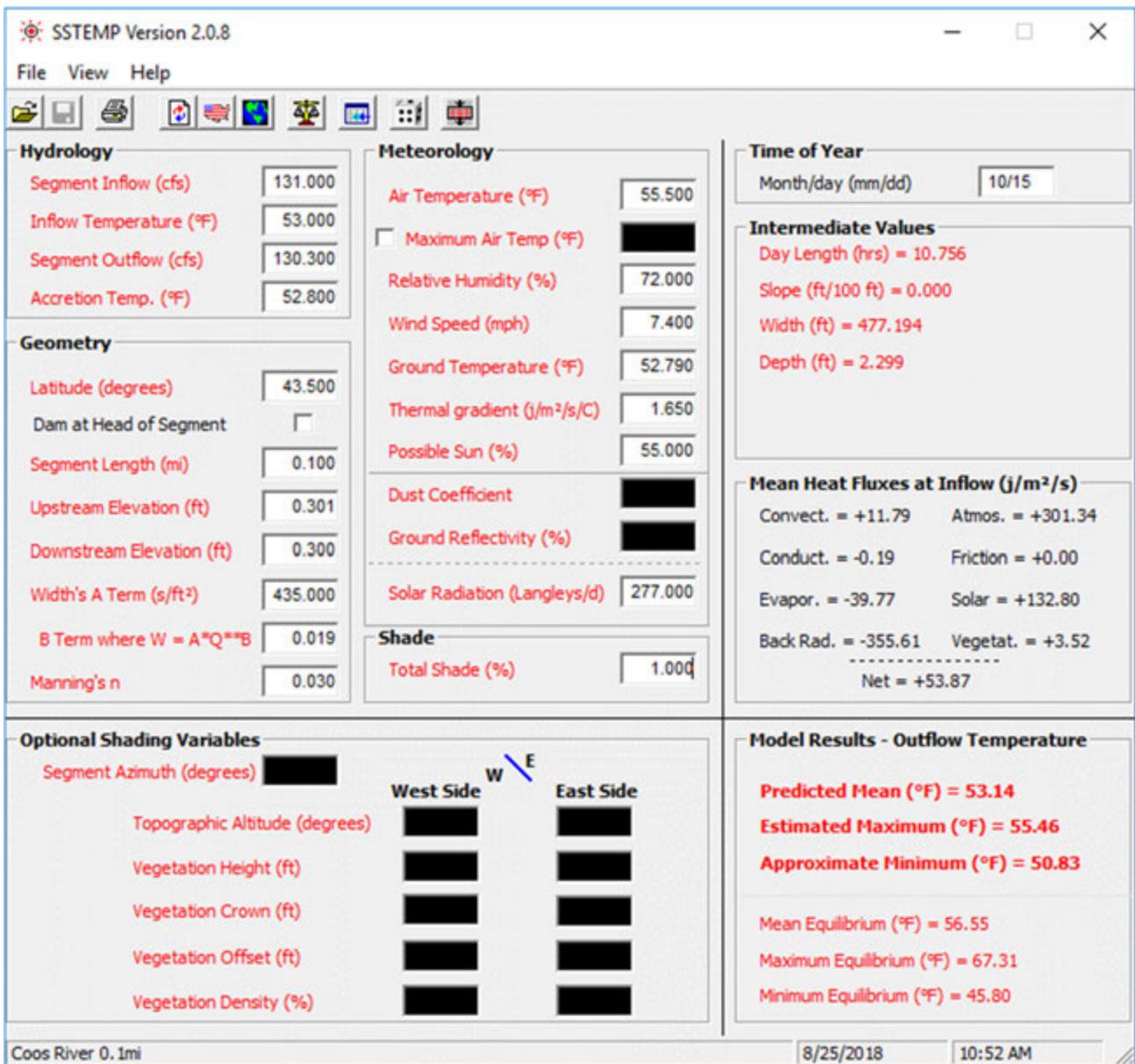
One copy submitted



**SSTEMP Model Output**  
**Coos River 0.02 mi**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon

 **Figure 1**

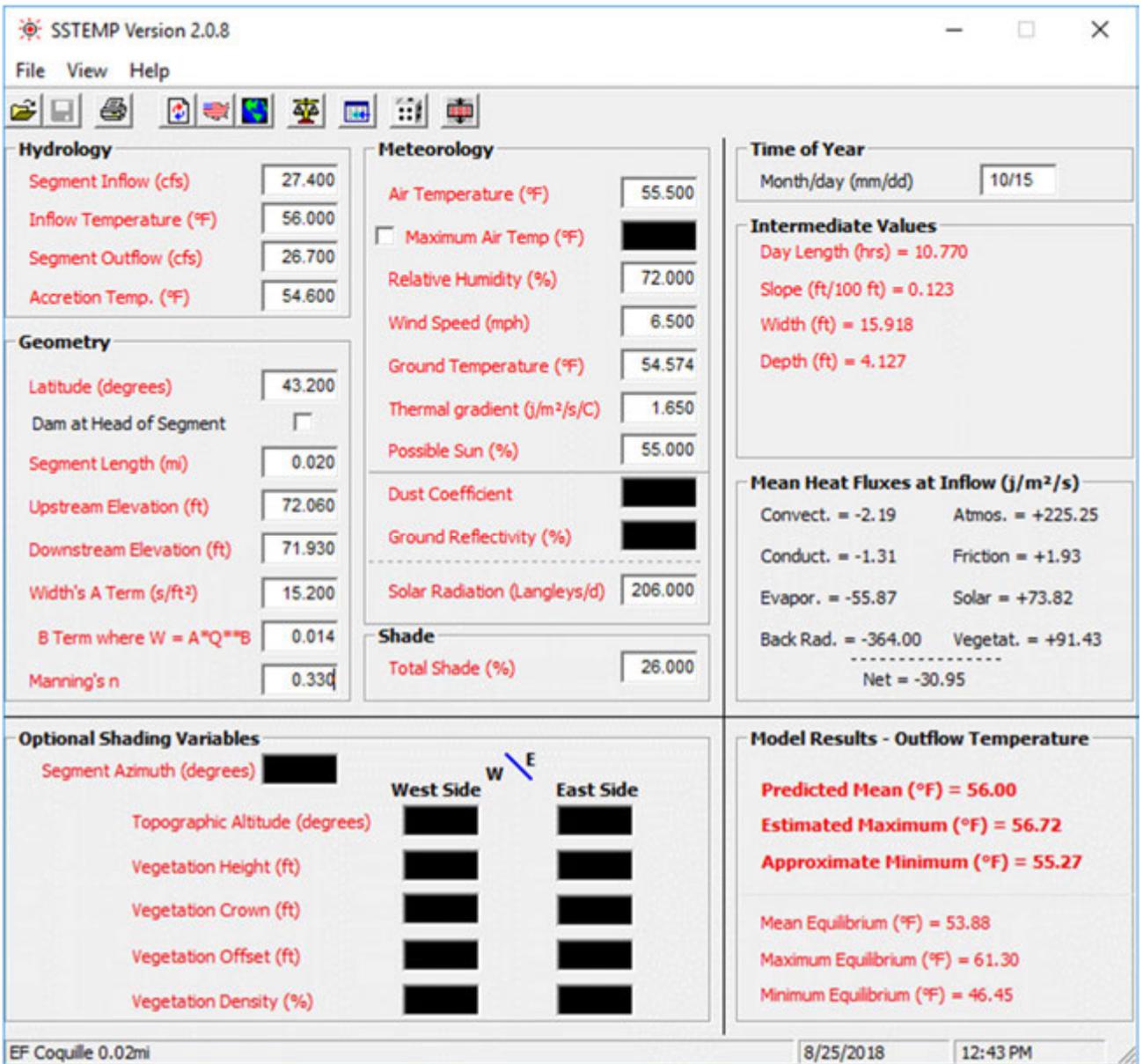


22708-001-00 Date Exported: 08/27/18

**SSTEMP Model Output**  
**Coos River 0.1 mi**

Pacific Connector Gas Pipeline  
 Malin to Jordan Cove, Oregon

 **Figure 2**

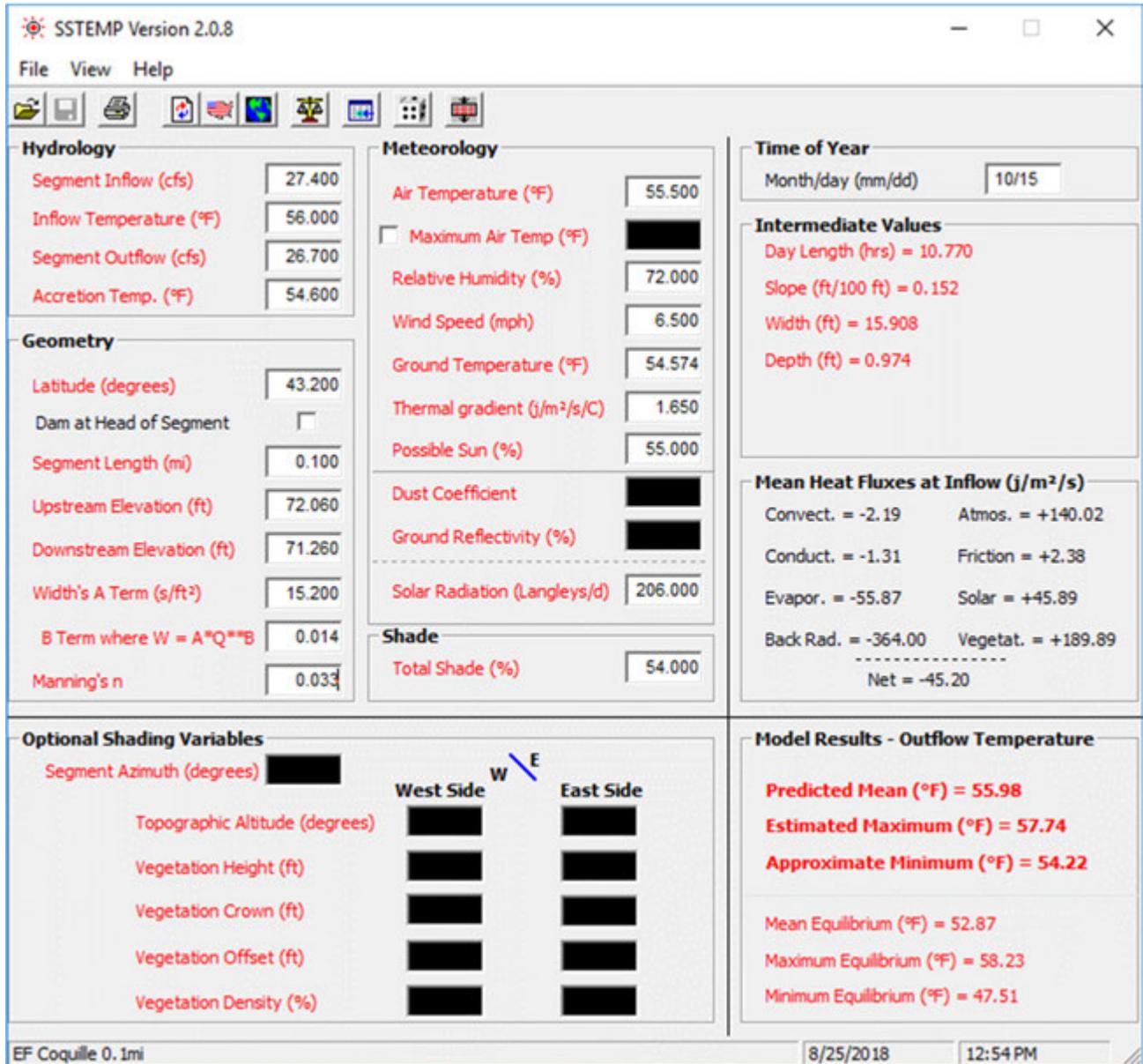


**SSTEMP Model Output  
East Fork Coquille 0.02 mi**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon

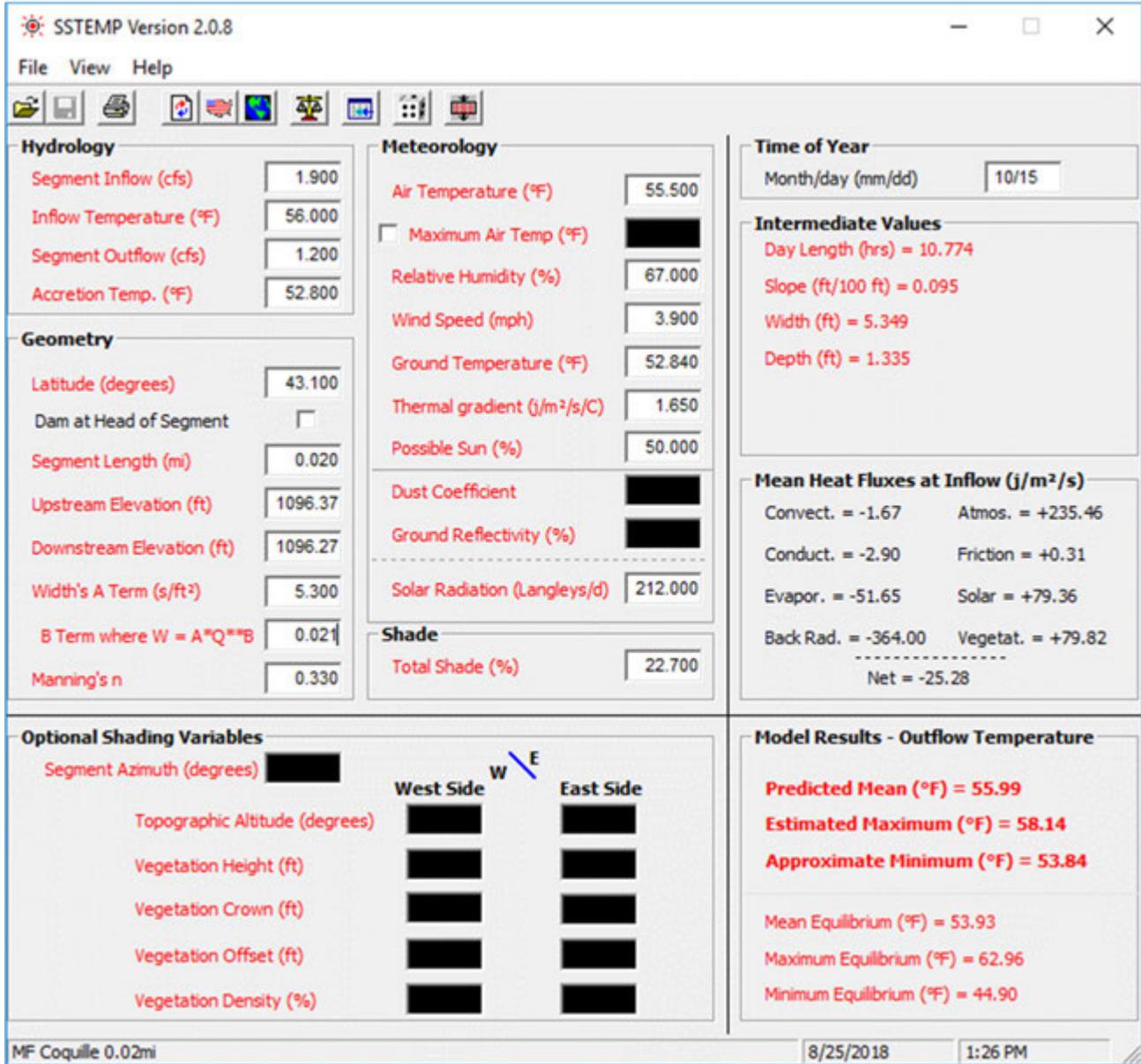


**Figure 3**



22708-001-00 Date Exported: 08/27/18

<b>SSTEMP Model Output</b>	
<b>East Fork Coquille 0.1 mi</b>	
Pacific Connector Gas Pipeline Malin to Jordan Cove, Oregon	
	<b>Figure 4</b>



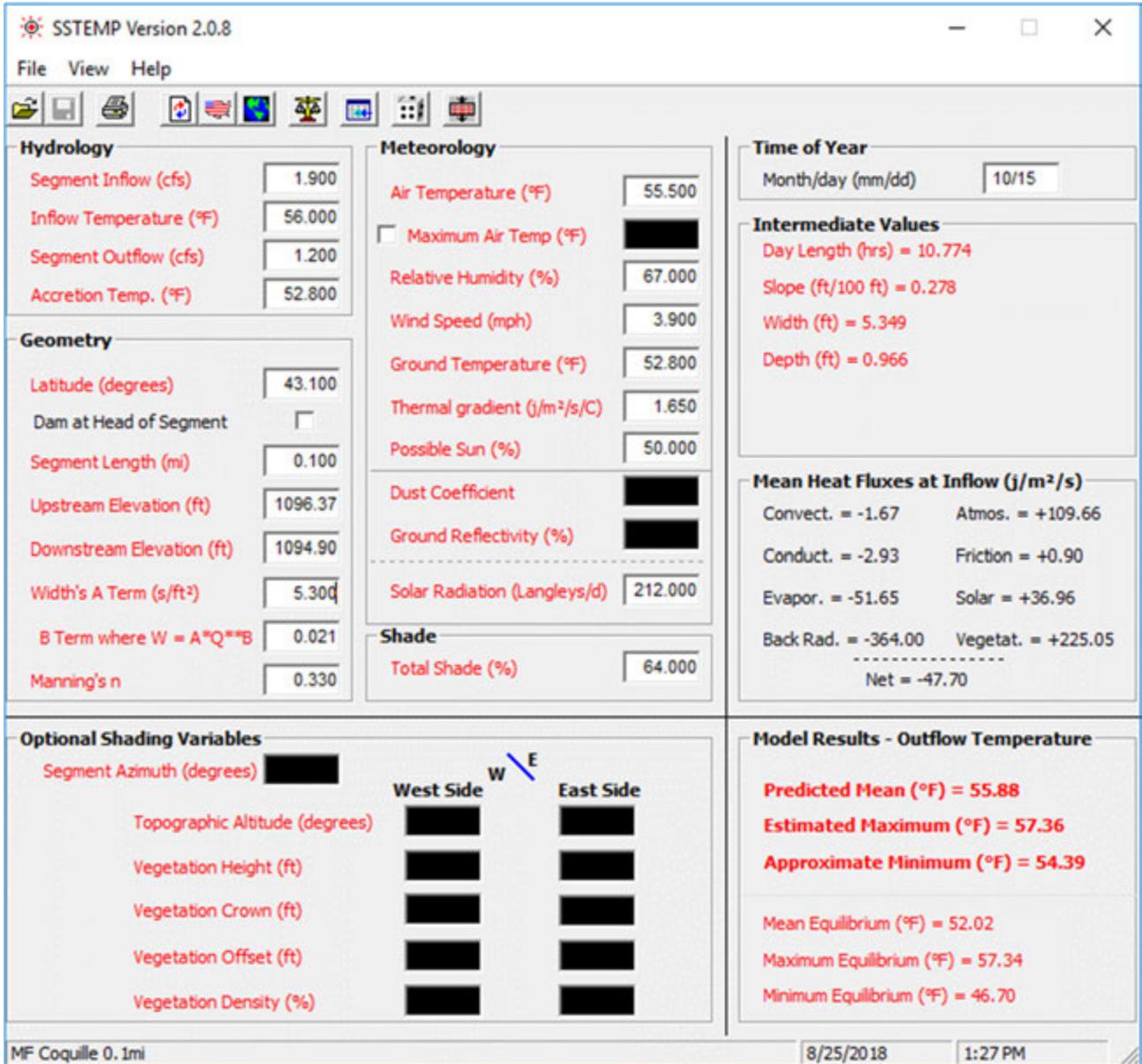
22708-001-00 Date Exported: 08/27/18

**SSTEMP Model Output**  
**Middle Fork Coquille 0.02 mi**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon

**GEOENGINEERS** 

**Figure 5**



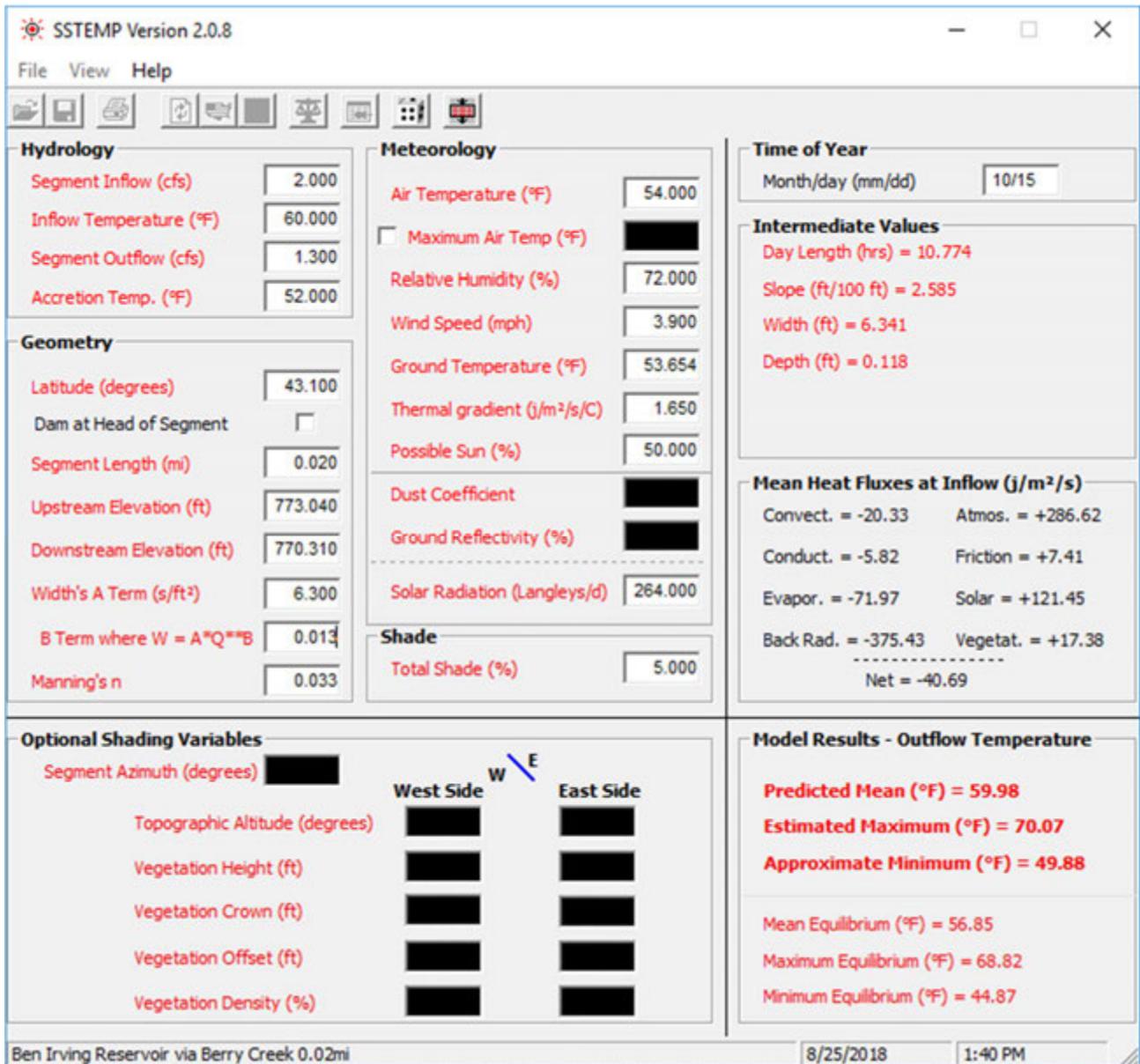
22708-001-00 Date Exported: 08/27/18

**SSTEMP Model Output**  
**Middle Fork Coquille 0.1 mi**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon

**GEOENGINEERS** 

**Figure 6**



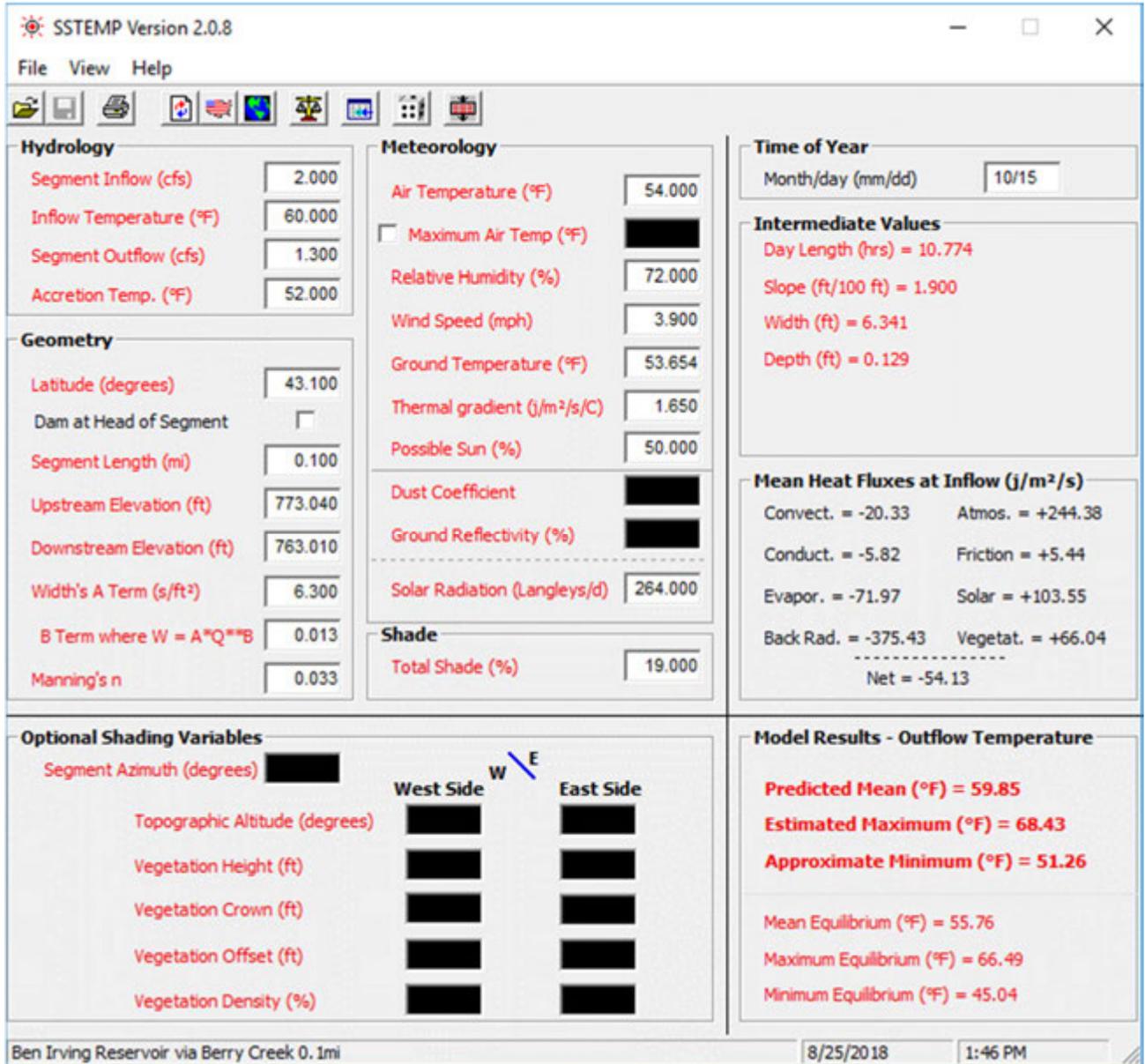
22708-001-00 Date Exported: 08/27/18

**SSTEMP Model Output**  
**Ben Irving Reservoir via Berry Creek 0.02 mi**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



**Figure 7**

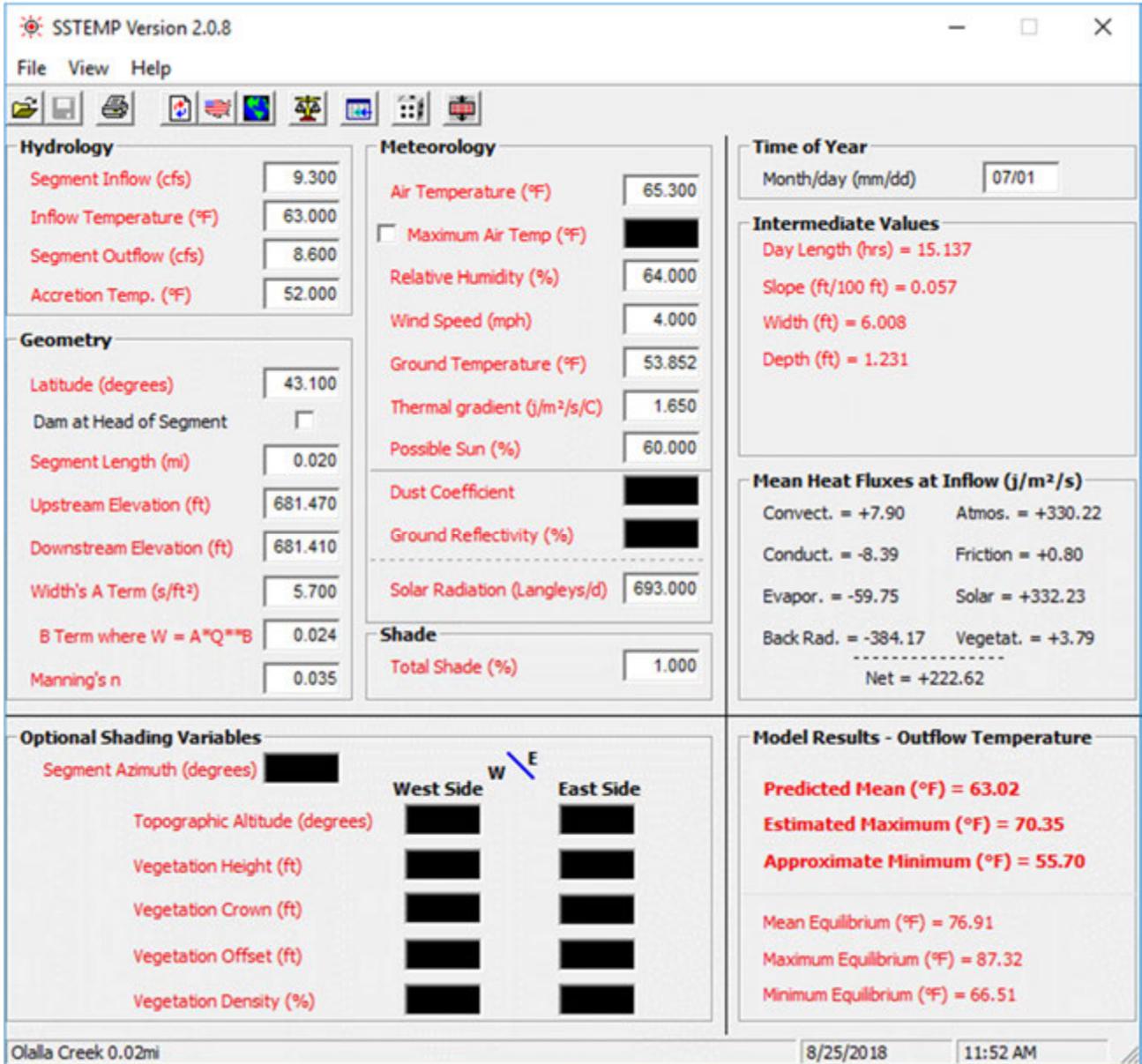


**SSTEMP Model Output**  
**Ben Irving Reservoir via Berry Creek 0.1 mi**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



Figure 8



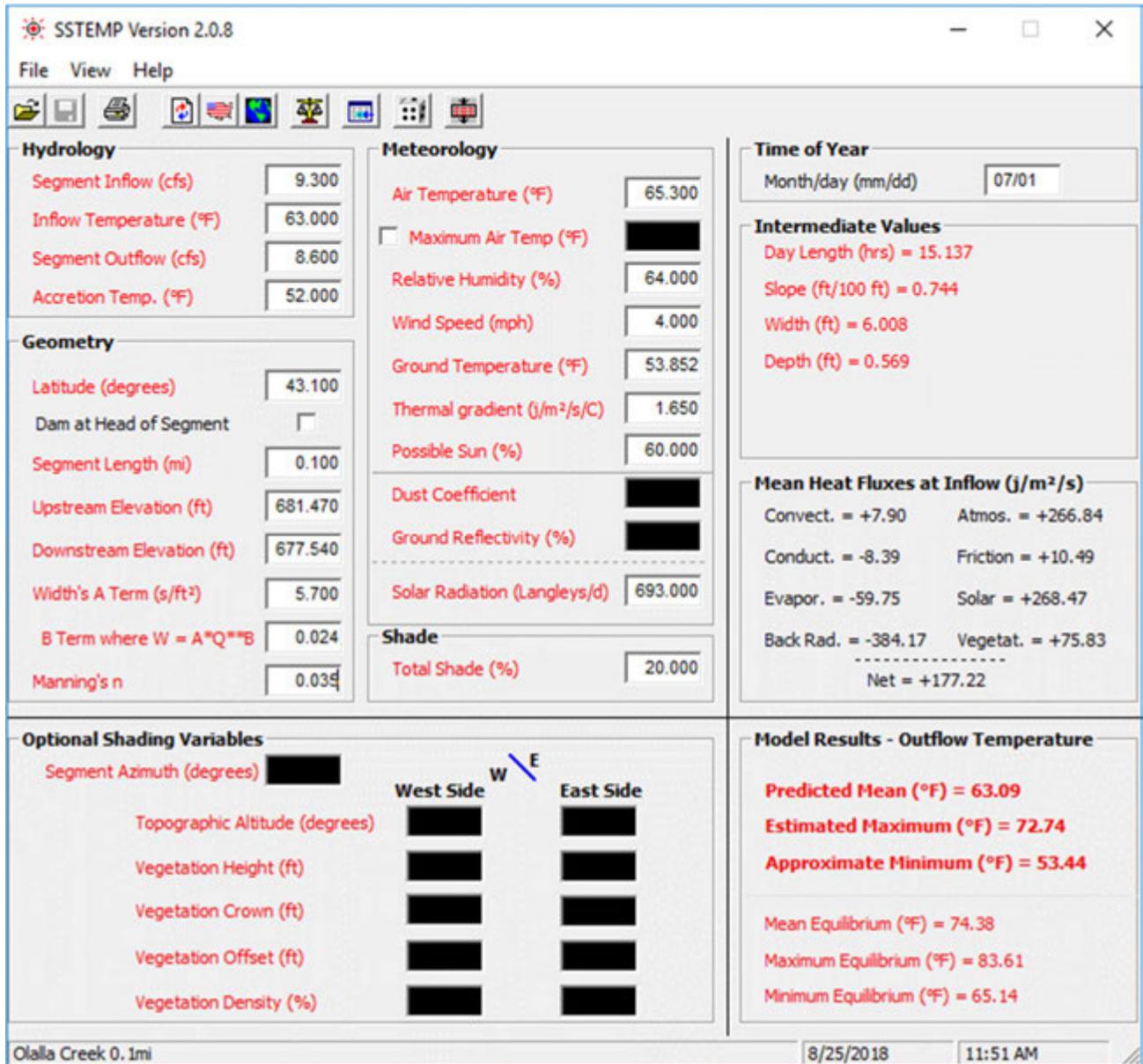
22708-001-00 Date Exported: 08/27/18

**SSTEMP Model Output**  
**Olalla Creek 0.02 mi**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon

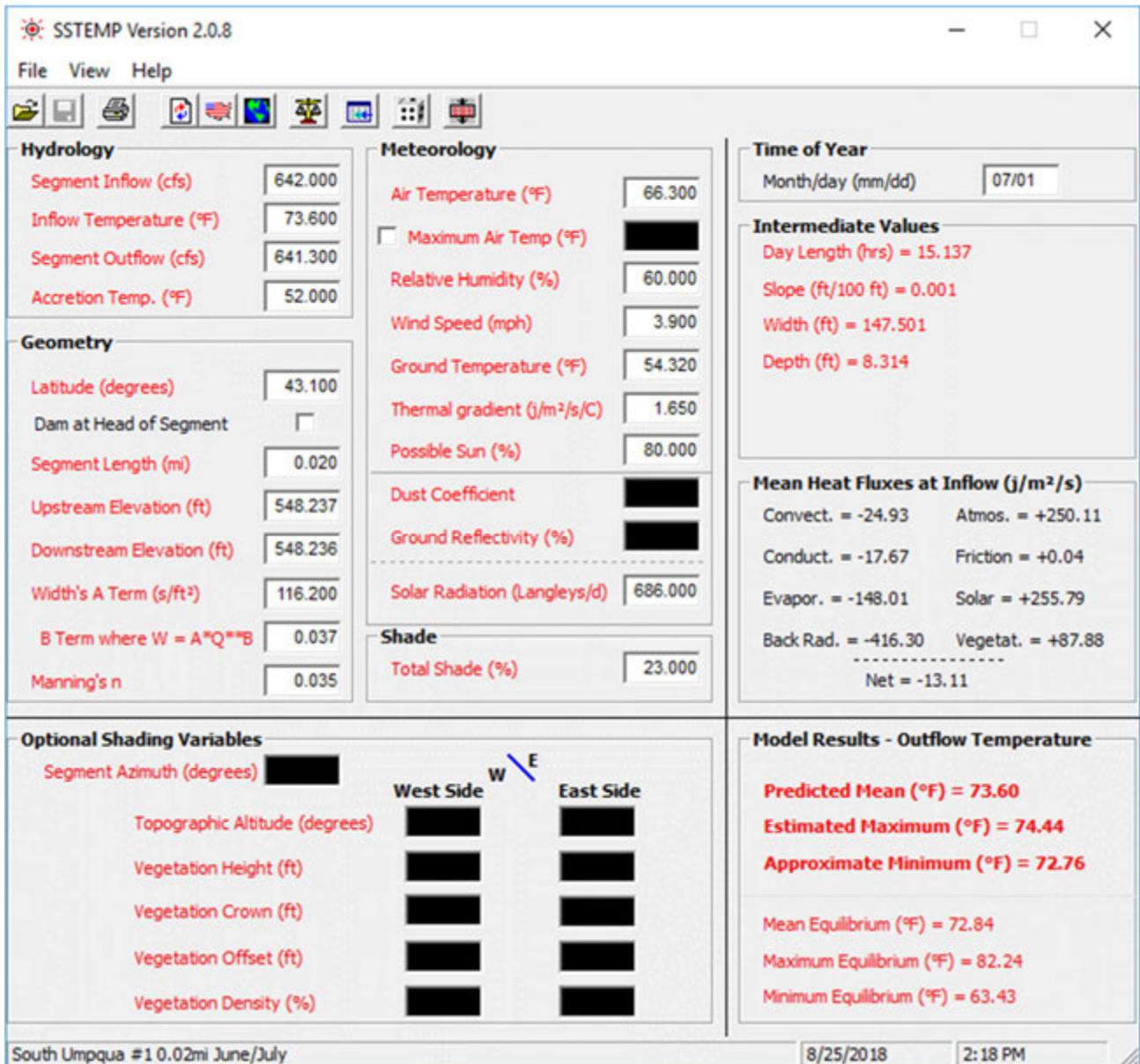
**GEOENGINEERS**

**Figure 9**



22708-001-00 Date Exported: 08/27/18

<b>SSTEMP Model Output</b>	
<b>Olalla Creek 0.1 mi</b>	
Pacific Connector Gas Pipeline Malin to Jordan Cove, Oregon	
	<b>Figure 10</b>

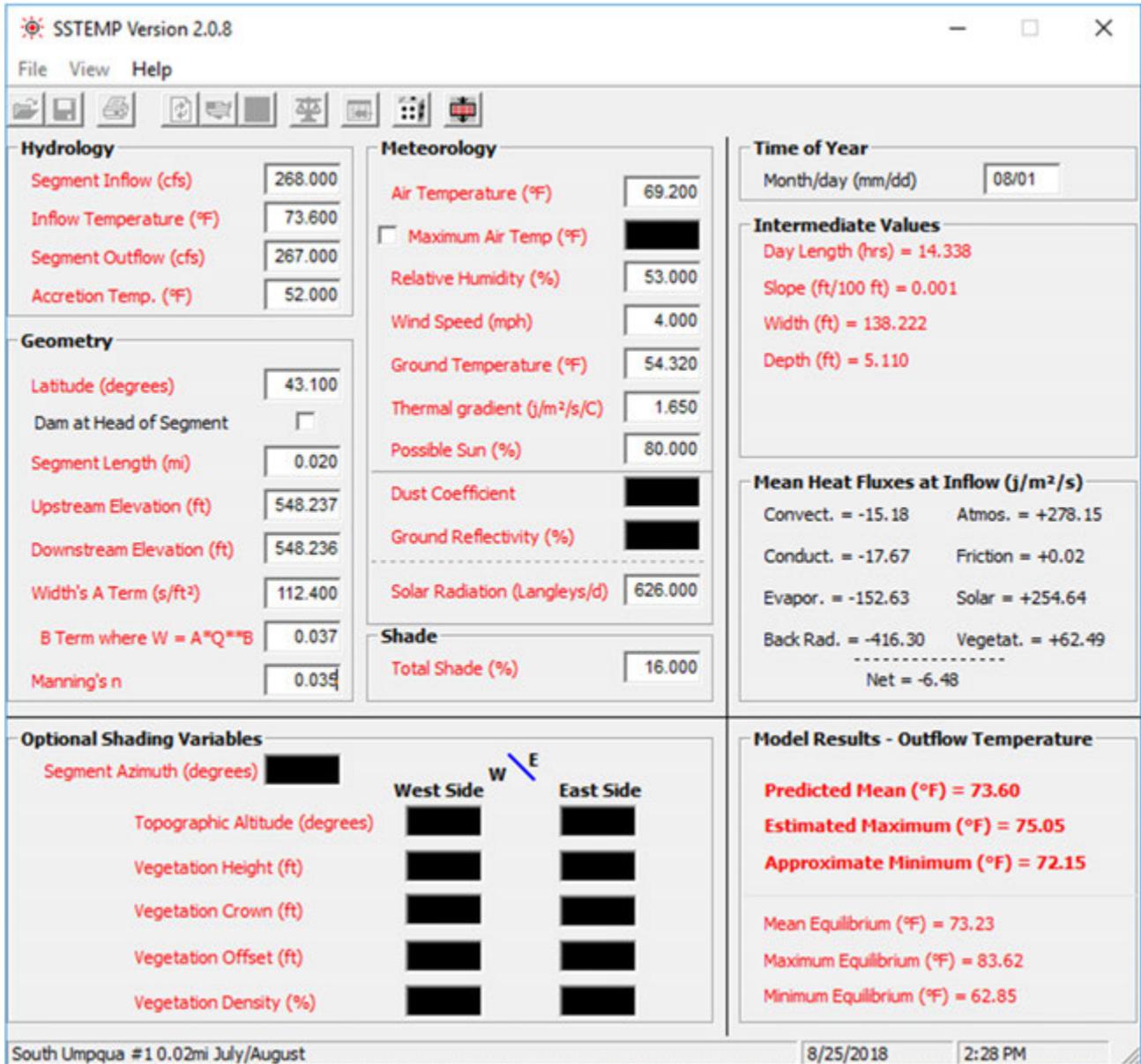


**SSTEMP Model Output**  
**South Umpqua #1 0.02 mi June/July**

Pacific Connector Gas Pipeline  
 Malin to Jordan Cove, Oregon



**Figure 11**

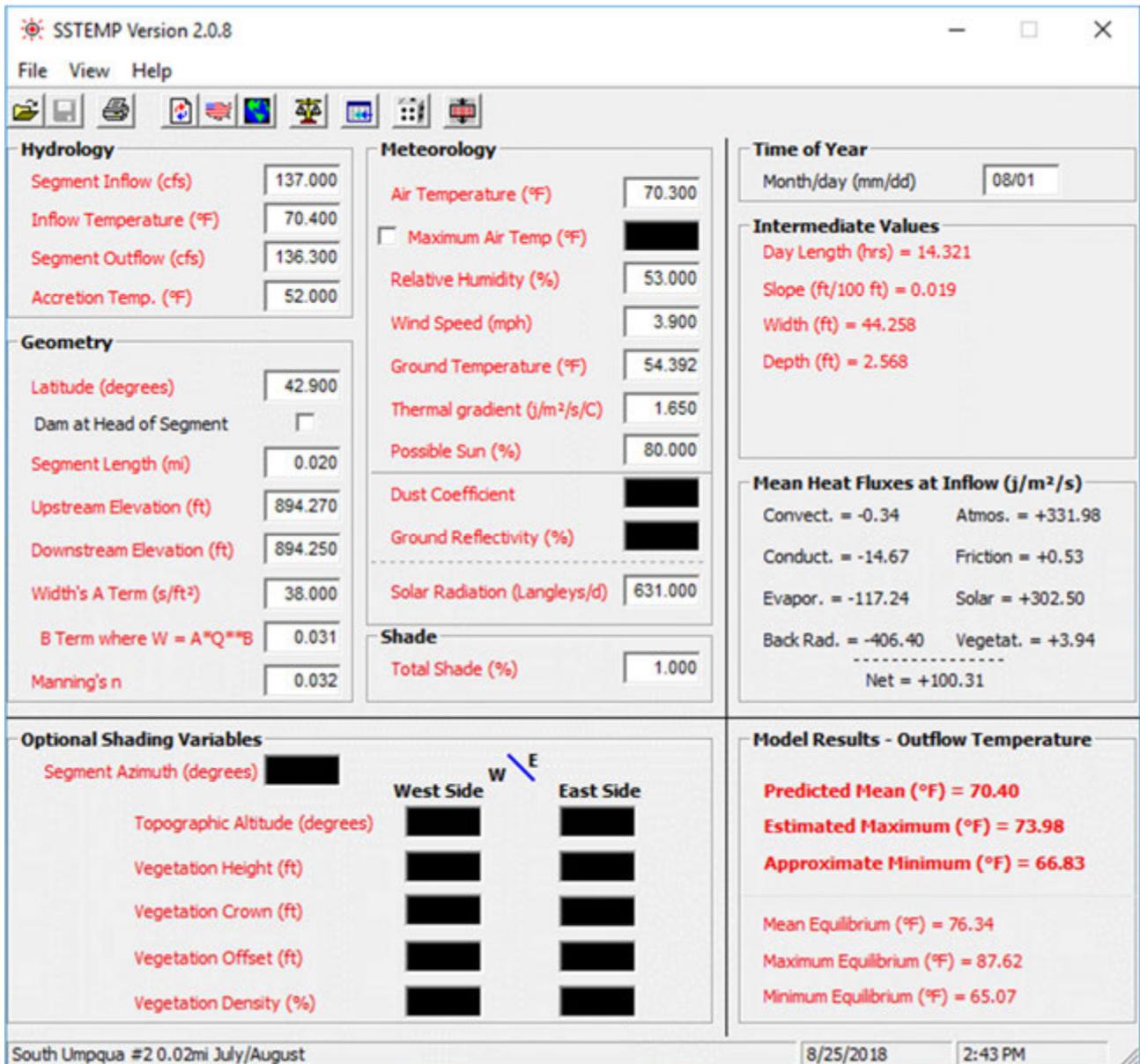


**SSTEMP Model Output  
South Umpqua #1 0.02 mi July/August**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



**Figure 12**

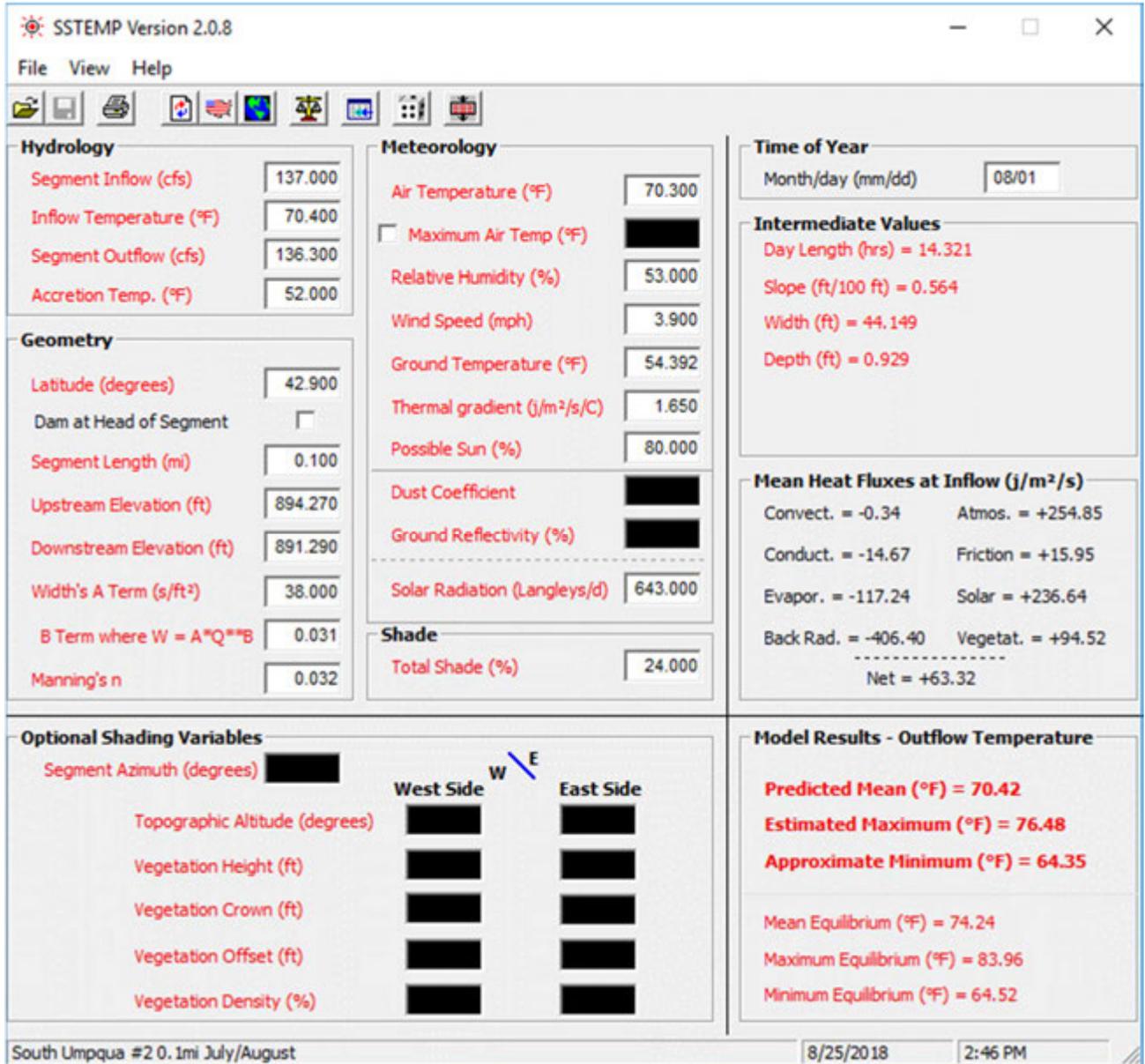


**SSTEMP Model Output**  
**South Umpqua #2 0.02 mi July/August**

Pacific Connector Gas Pipeline  
 Malin to Jordan Cove, Oregon



**Figure 13**

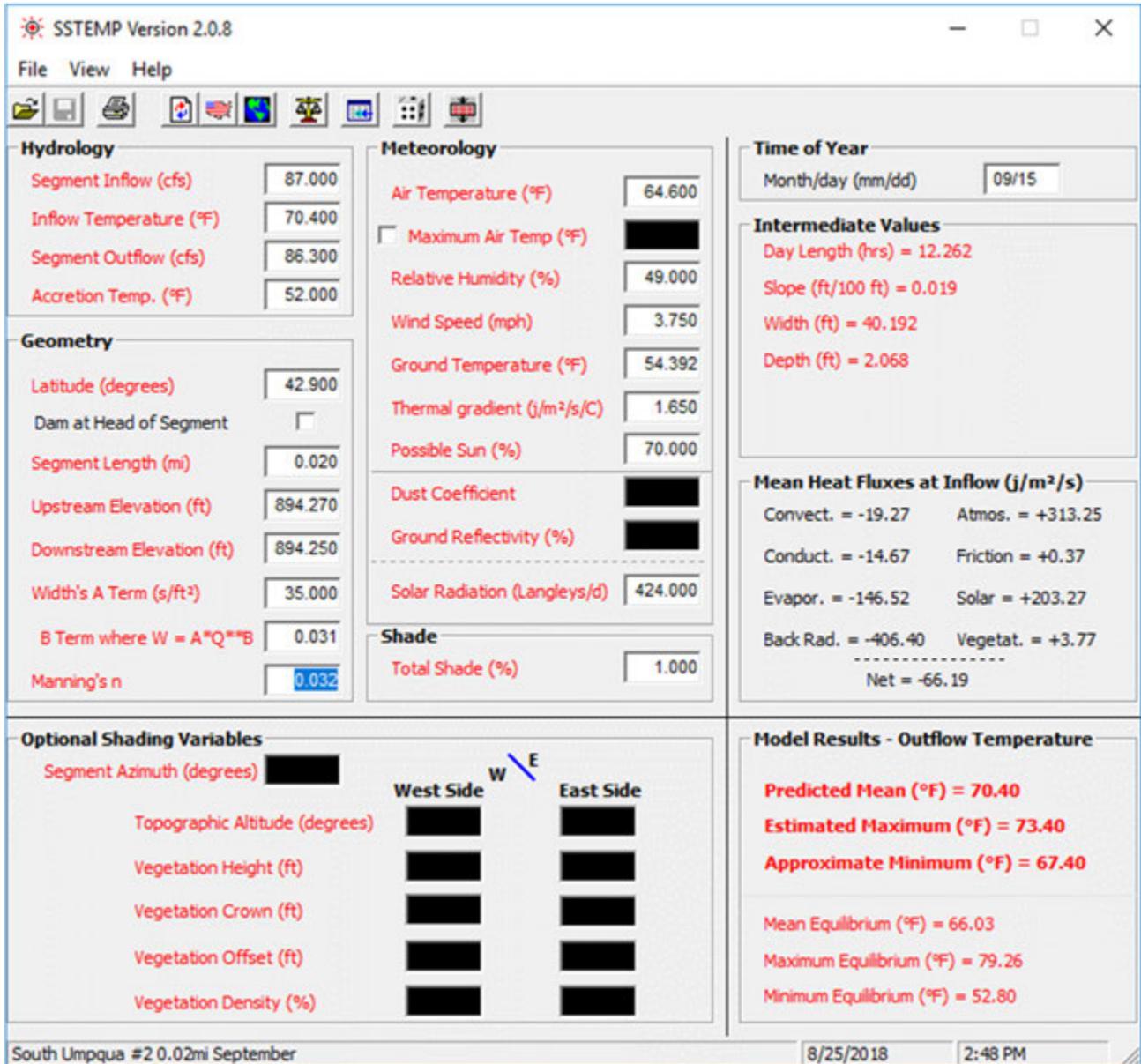


**SSTEMP Model Output**  
**South Umpqua #2 0.1 mi July/August**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



Figure 14

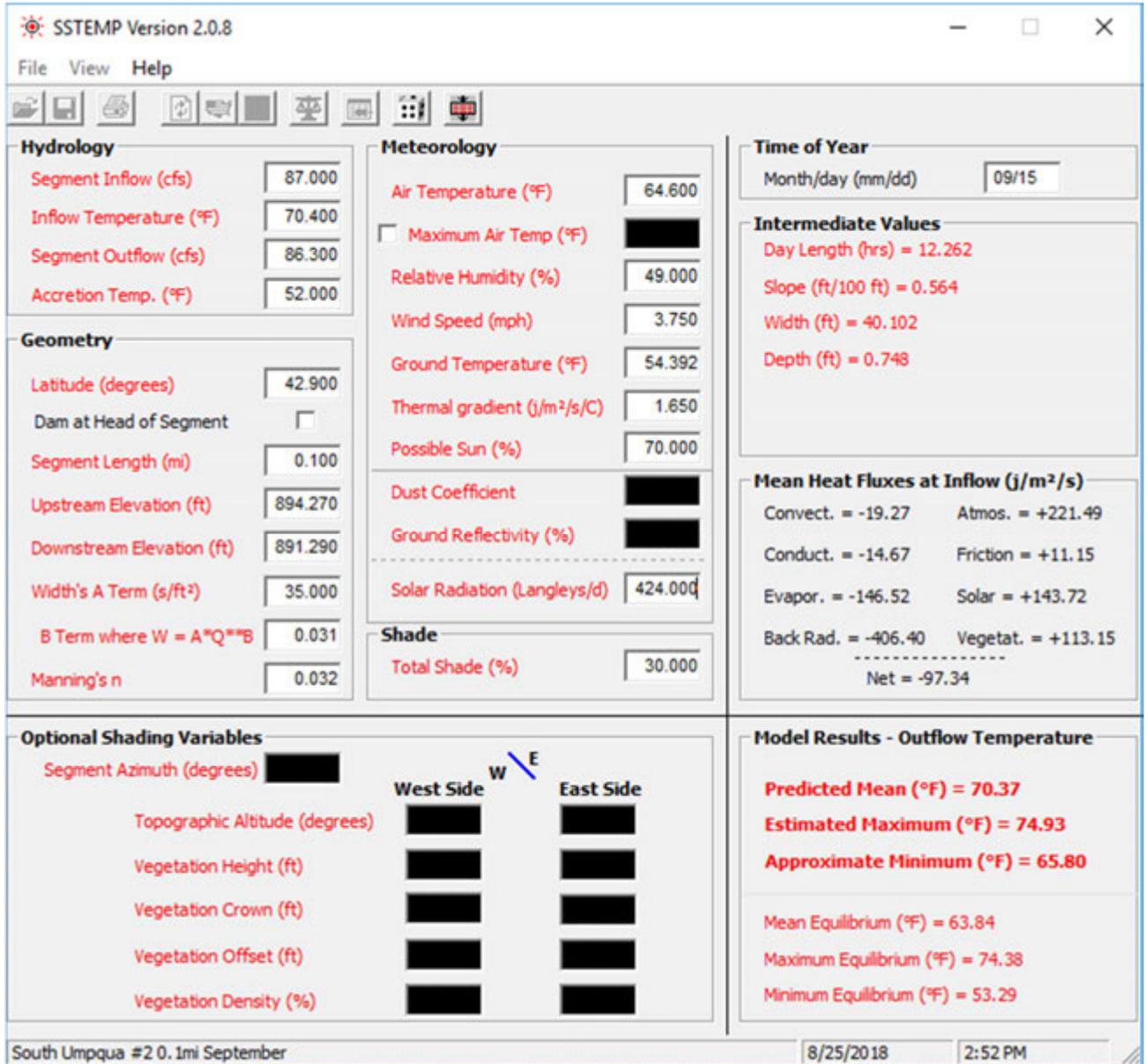


**SSTEMP Model Output**  
**South Umpqua #2 0.02 mi September**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



Figure 15

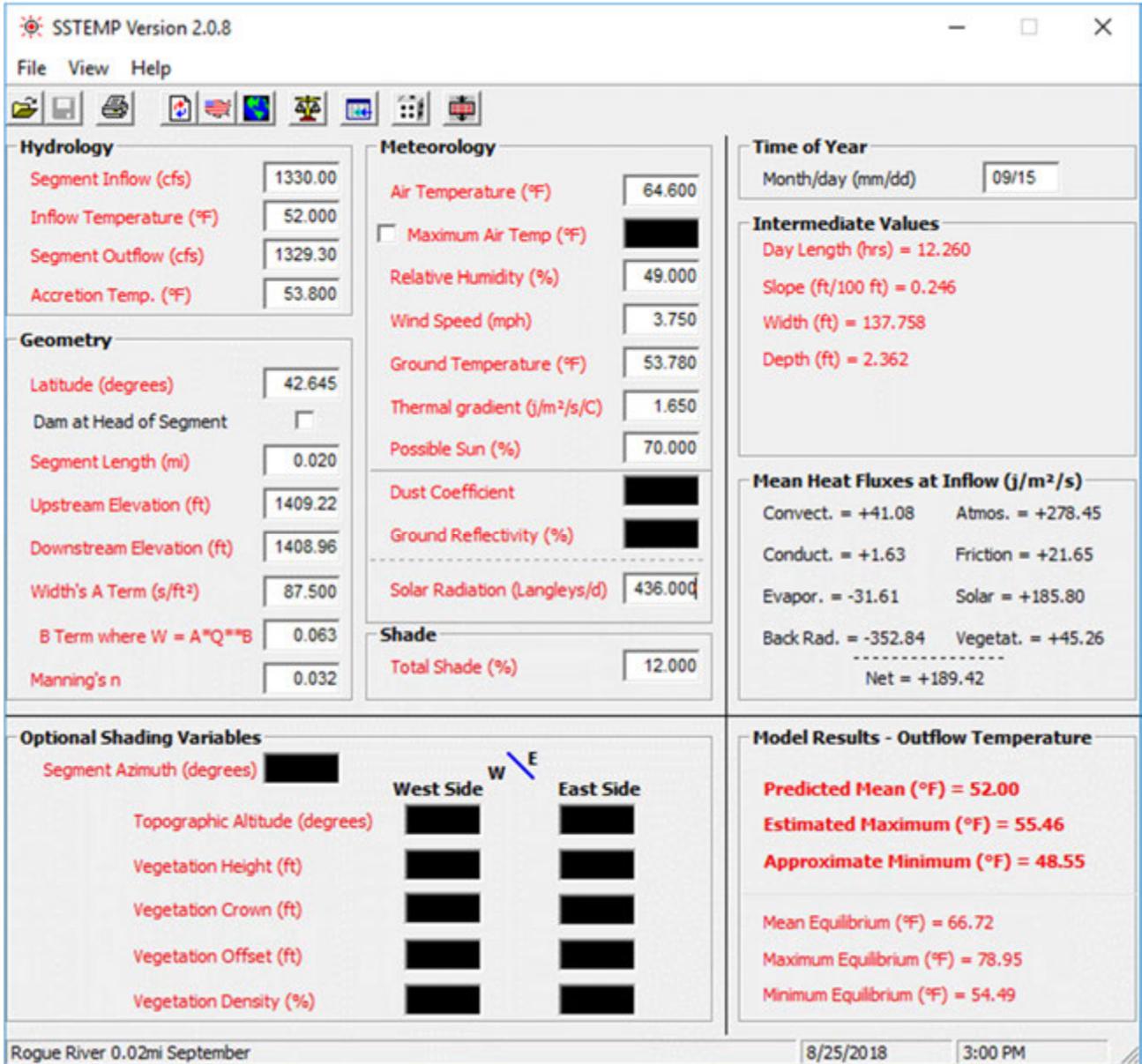


**SSTEMP Model Output  
South Umpqua #2 0.1 mi September**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



Figure 16

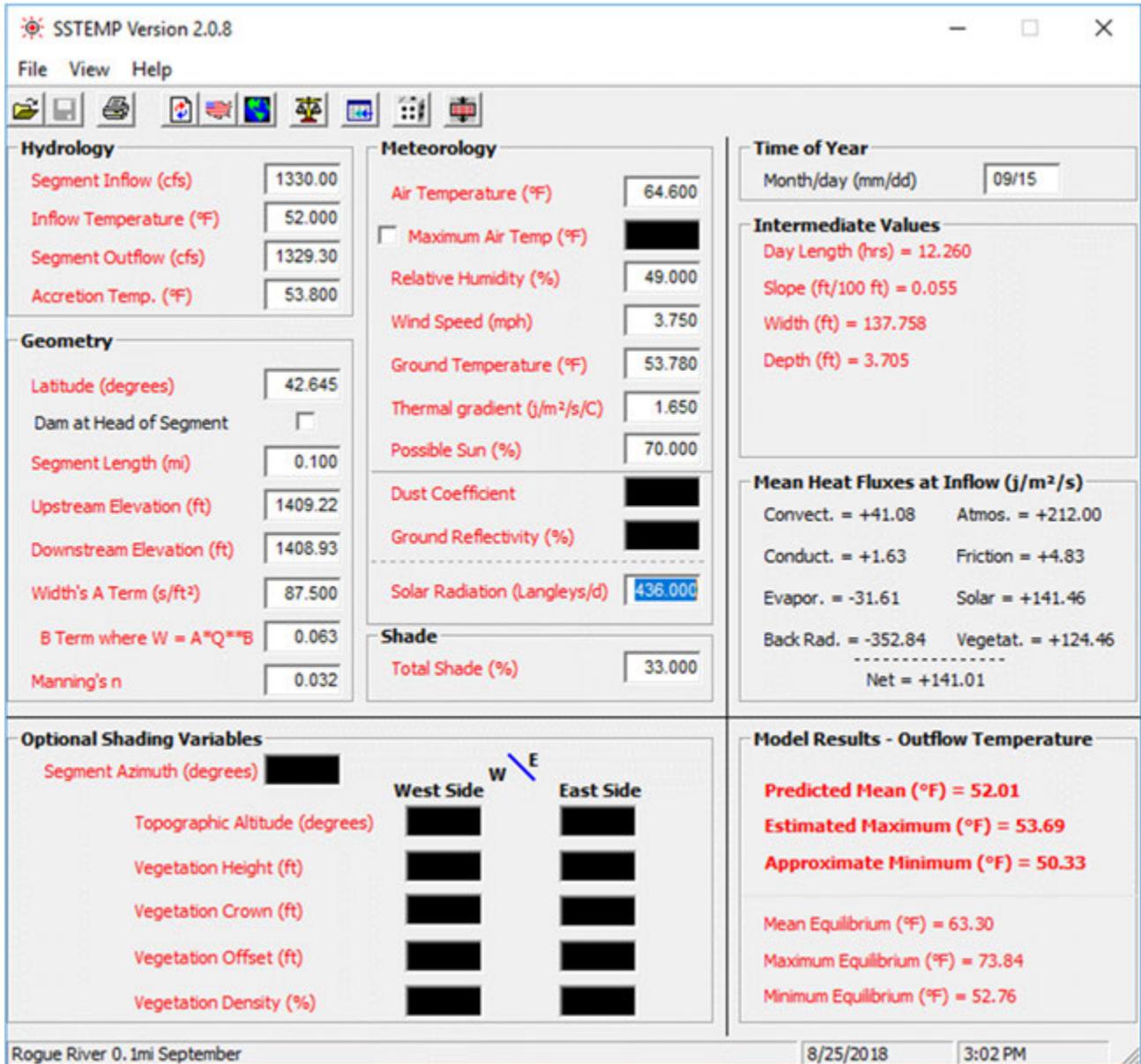


**SSTEMP Model Output  
Rogue River 0.02 mi September**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



**Figure 17**

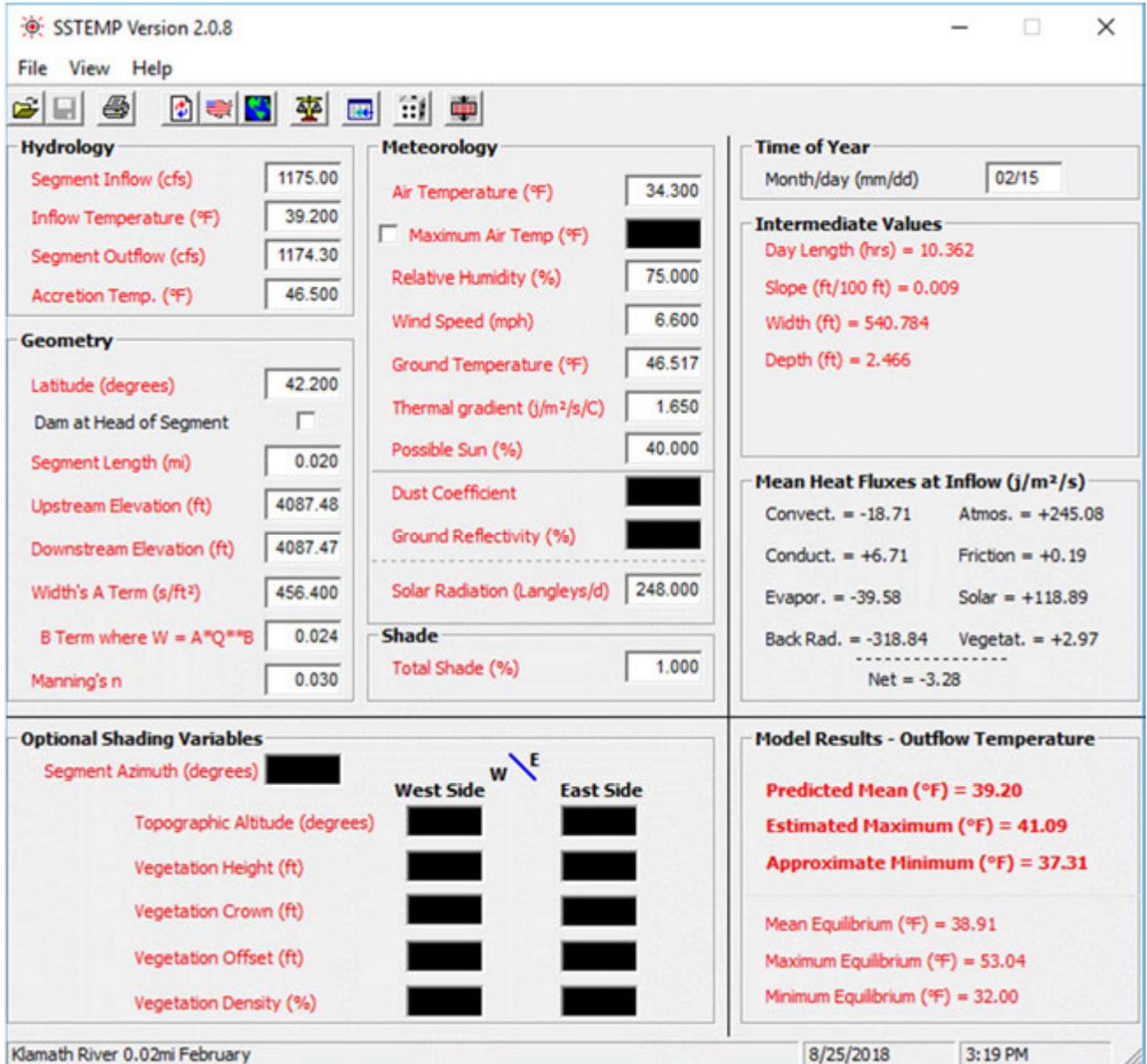


**SSTEMP Model Output  
Rogue River 0.1 mi September**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



**Figure 18**

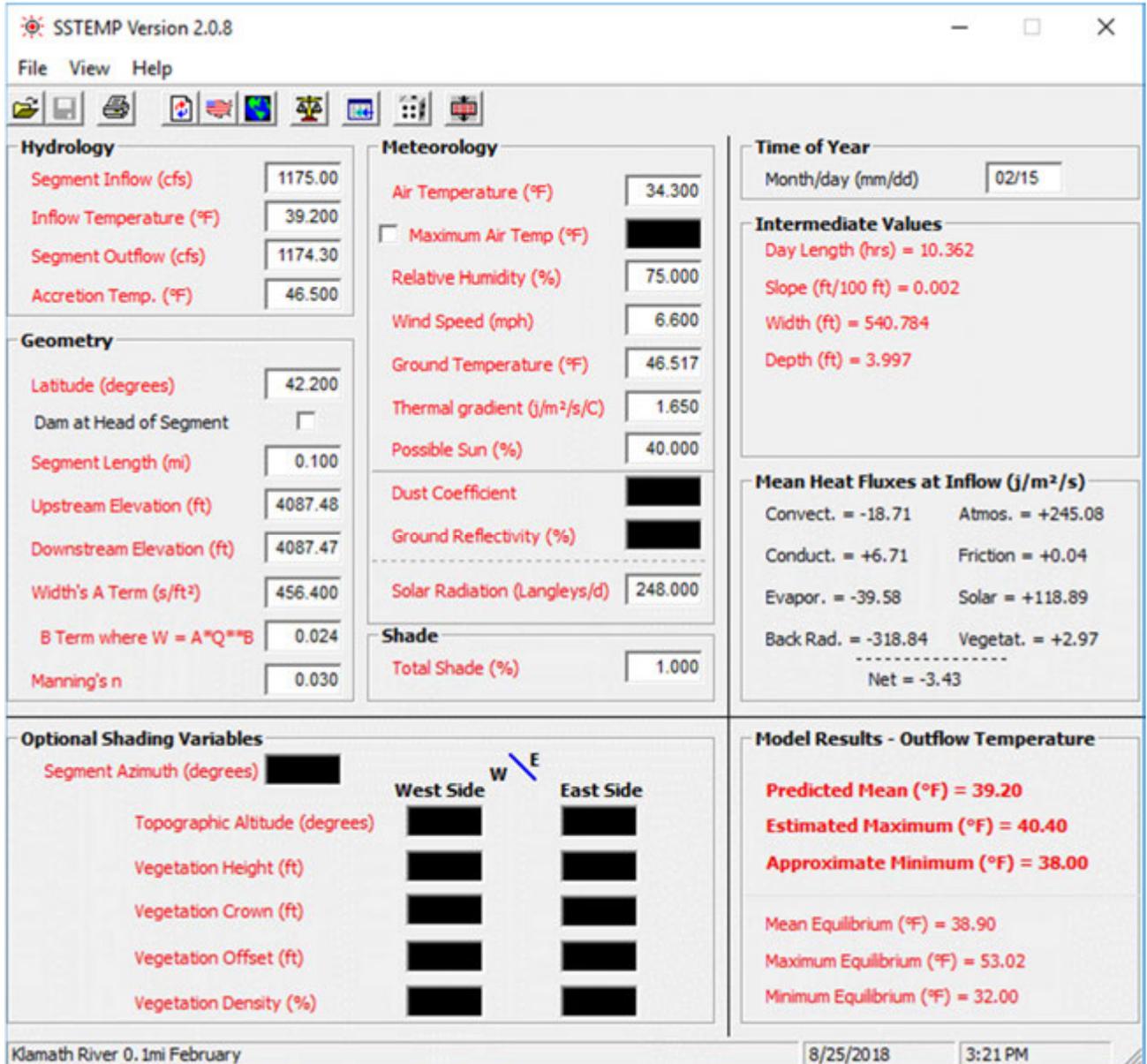


**SSTEMP Model Output  
Klamath River 0.02 mi February**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



**Figure 19**

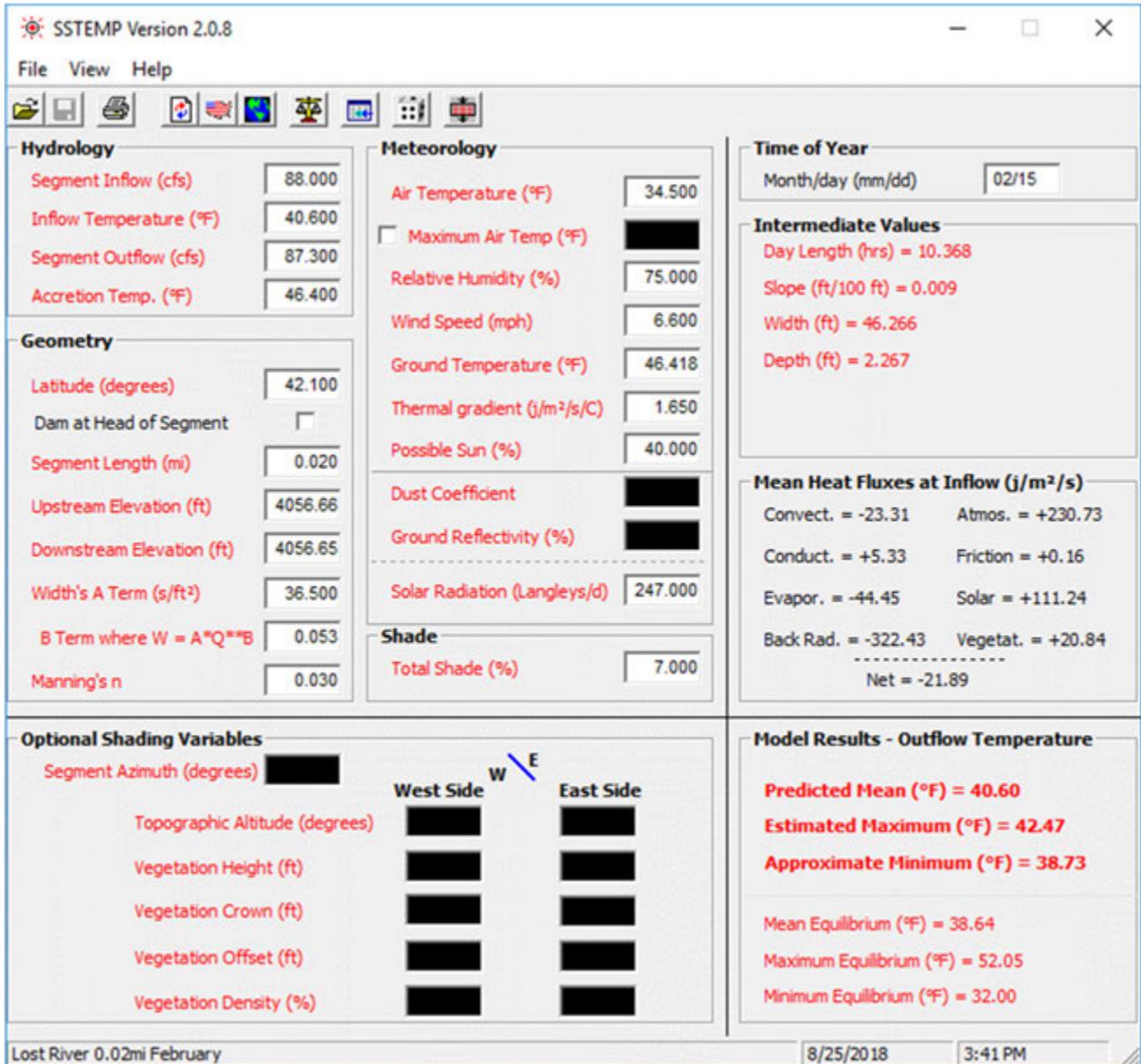


**SSTEMP Model Output  
Klamath River 0.1 mi February**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon



Figure 20



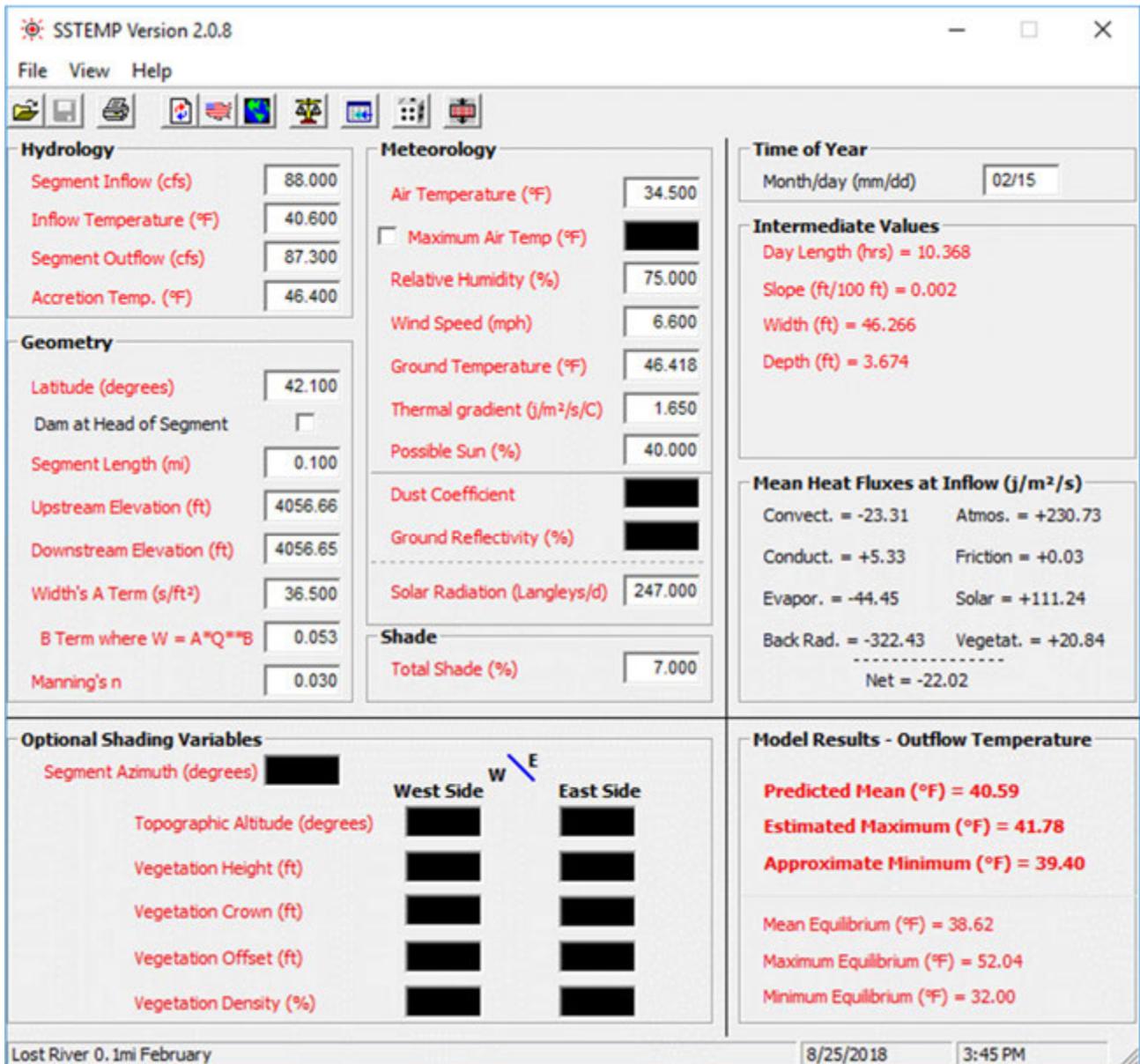
22708-001-00 Date Exported: 08/27/18

**SSTEMP Model Output**  
**Lost River 0.02 mi February**

Pacific Connector Gas Pipeline  
 Malin to Jordan Cove, Oregon

**GEOENGINEERS** 

**Figure 21**



22708-001-00 Date Exported: 08/27/18

**SSTEMP Model Output**  
**Lost River 0.1 mi February**

Pacific Connector Gas Pipeline  
Malin to Jordan Cove, Oregon

**GEOENGINEERS** 

**Figure 22**

## **Attachment F**

# **Hydrostatic Test Water Withdrawal Hydrologic Assessment**

# Technical Memorandum

**Date:** July 9, 2018

**To:** Trevor Hoyles-GeoEngineers; Dan Duce-Edge Environmental; Mike Warson, Jordan Cove Energy; Trey Broughton, Ensite USA.

**From:** Jonathan Ambrose, Principal Hydrologist

**RE:** **Pacific Connector Gas Pipeline-Hydrostatic Test Water Withdrawal Hydrologic Assessment**

---

## 1.0 Introduction

This memo presents the methods used to estimate the hydrologic impacts on streams and rivers as a result of water withdrawals for the purpose of hydrostatic testing of the Pacific Connector Gas Pipeline. This analysis was requested by Jordan Cove Energy and Ensite USA to support data requests from regulatory agencies raised during project permitting. Cardno is completing the analysis under contract to GeoEngineers.

## 2.0 Methods

Water withdrawals are proposed from water bodies along the PCGP alignment to conduct integrity tests on the pipeline prior to commencing operations. The locations and volumetric requirements of these hydrostatic test locations were provided to Cardno by Ensite USA. Only stream and river withdrawals were considered in this analysis. For this analysis, a pumping rate of 300 gallons per minute (gpm), or 0.67 cubic feet per second (cfs) was assumed for all water withdrawal locations.

To estimate the ambient stream flow, the State of Oregon module for the United States Geological Survey (USGS) Streamstats flow estimation software was utilized. Streamstats provides a variety of flow estimates for both gauged and ungauged streams. For Oregon, the analysis generally follows procedures developed by Cooper (2005) and Risley et al (2008). For ungauged locations, Streamstats calculates the necessary regression variable from which to estimate both peak flows and monthly flow statistics. See [https://water.usgs.gov/osw/streamstats/appinfo/OR\\_ss\\_appinfo.html](https://water.usgs.gov/osw/streamstats/appinfo/OR_ss_appinfo.html) for detailed information on the algorithm and data supporting the analysis. For this analysis, flow estimates were made for the 50% exceedance flow during the expected month(s) of water withdrawals. For sites where the expected withdrawals are expected to occur during two different months, the 50% exceedance flow from each month was calculated and averaged.

## 3.0 Results

The results of the analysis are presented in the attached Table 1. Table 1 presents the following data:

- Alignment/Spread Location
- Pump Rate (assumed 300 gpm for all sites)

- Total Estimated Volume Needs
- Water Source Name
- Water Source Milepost Intersection
- Water Source Basin Area
- Reference Gage (if applicable)
- Reference Gage Basin Area (if applicable)
- Estimated Period of Use
- 50% Exceedance Flow for Reference Gage
- 50% Exceedance Flow for Water Source
- Adjusted Flow Based on Hydrostatic Test Water Use
- Estimated Flow Reduction Duration
- % Flow Reduction from Ambient

## 4.0 References

Cooper, Estimation of Peak Discharges for Rural, Unregulated Streams in Western Oregon. USGS Scientific Investigations Report 2005-5116. Prepared in cooperation with the Oregon Water Resources Department, 2005.

Risley, Estimating Flow-Duration and Low-Flow Frequency Statistics for Unregulated Streams in Oregon, USGS Scientific Investigations Report 2008-5126, Revision 1.1. 2008

Streamstats, USGS <<https://streamstats.usgs.gov/ss/>>

## 5.0 Attachments

Streamstats Reports

**Pacific Connector Gas Pipeline**

**Table 1. Hydrostatic Testing Water Requirements and Flow Impacts on Water Sources**

Assumptions:

1. Water Sources and Volumes Provided by Enight Engineering
2. Fill (diversion) locations provided in .kmz file by Enight Engineering
3. Pump rate of 300 gallons per minute
4. Streamstats reports provided separately

Alignment Location	Pump Rate (gallons per minute)	Pump Rate (cfs)	Total Estimated Volume Needs (gallons)	Water Source Name	Water Source MP Intersection (MP)	Water Source Basin Area (sq miles)	Reference Gage	Reference Gage Basin Area (sq miles)	Estimated Time of Use (month)	50% Exceedance Flow for Reference Gage (cfs)	50% Exceedance Flow for Water Source (cfs)	Adjusted Flow Based on Hydrostatic Test Water Use (cfs)	Estimated Flow Reduction Duration (days)	% Flow Reduction
Spread 1	300	0.67	2,800,000	Coos River	11.08	400	streamstats	n/a	October	n/a	131	130.3	6.5	0.51%
Spread 1	300	0.67	2,800,000	EF Coquille River	29.64	101	streamstats	n/a	October	n/a	27.4	26.7	6.5	2.44%
Spread 2	300	0.67	2,500,000	EF Coquille River	29.64	101	streamstats	n/a	October	n/a	27.4	26.7	5.8	2.44%
Spread 2	300	0.67	2,500,000	MF Coquille River	50.28	17.5	streamstats	n/a	October	n/a	1.91	1.2	5.8	35.06%
Spread 3	300	0.67	4,000,000	Olalla Creek	58.79	68	streamstats	n/a	June/July	n/a	9.25	8.6	9.3	7.24%
Spread 3	300	0.67	4,000,000	S. Umpqua River	71.25	1410	streamstats	n/a	June/July	n/a	642	641.3	9.3	0.10%
Spread 4	300	0.67	2,800,000	S. Umpqua River	71.25	1410	streamstats	n/a	July/Aug	n/a	268	267.3	6.5	0.25%
Spread 4	300	0.67	2,800,000	S. Umpqua River	94.70	571	streamstats	n/a	July/Aug	n/a	137	136.3	6.5	0.49%
Spread 5a	300	0.67	2,500,000	S. Umpqua River	94.70	571	streamstats	n/a	Sept	n/a	87	86.3	5.8	0.77%
Spread 5b	300	0.67	2,800,000	Rogue River	122.80	1090	streamstats	n/a	Sept	n/a	1330	1329.3	6.5	0.05%
Spread 7	300	0.67	4,800,000	Klamath River	199.20		USGS 11509500	3920	February	1175	1175	1174.3	11.1	0.06%
Spread 7	300	0.67	4,800,000	Lost River	212.00	1350	streamstats	n/a	February	n/a	88	87.3	11.1	0.76%

Primary Water Source  
 Secondary Water Source

\*Klamath River Flow Estimate Based on Mean of February Monthly Means (2000-2017) at USGS Gage 11509500

**Analysis completed by:**

Jonathan Ambrose, Principal Hydrologist  
Cardno

# StreamStats Report-Coos River Hydrostatic

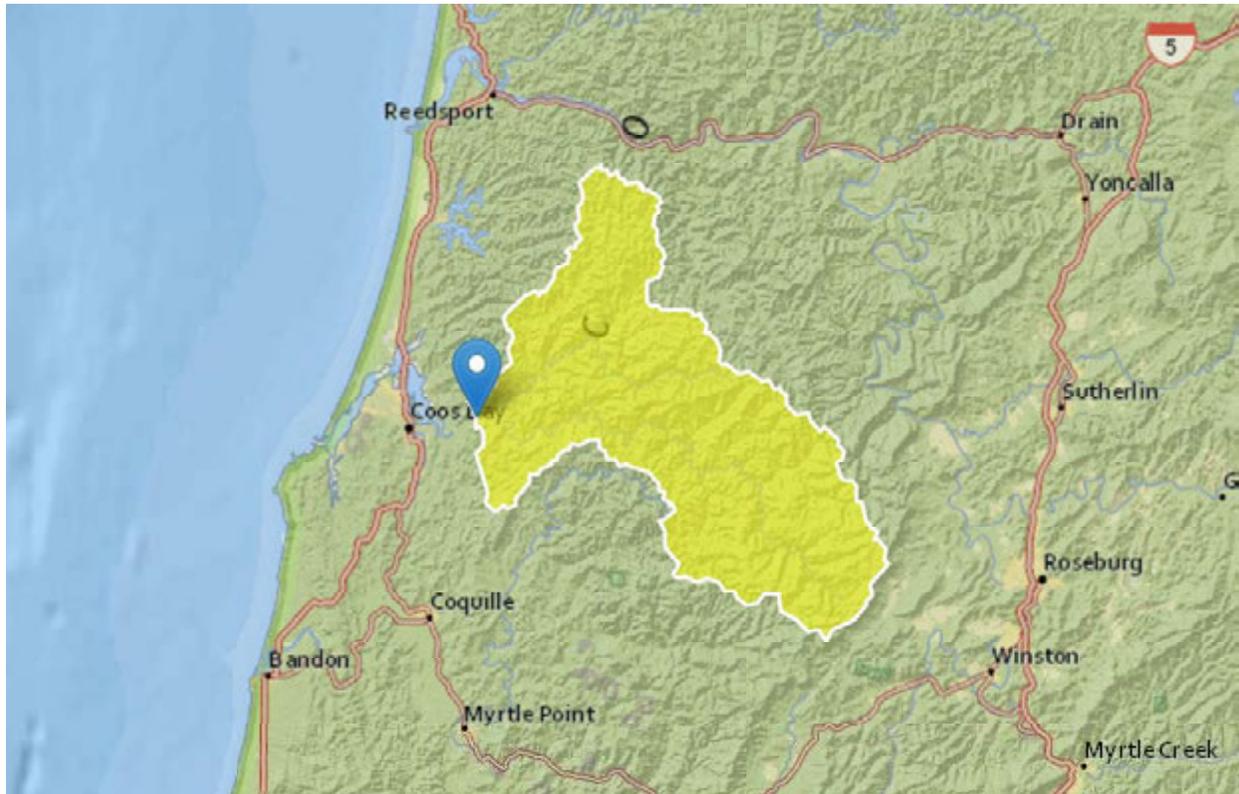
## Test Location October Data

Region ID: OR

Workspace ID: OR20180705210824312000

Clicked Point (Latitude, Longitude): 43.37798, -124.12459

Time: 2018-07-05 14:08:40 -0700



### Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	404	square miles
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	60.6	degrees F
PRECIP	Mean Annual Precipitation	76.9	inches

<b>Parameter Code</b>	<b>Parameter Description</b>	<b>Value</b>	<b>Unit</b>
WATCAPORR	Available water capacity from STATSGO data using methods from SIR 2008-5126	0.13	inch per inch

October Flow-Duration Statistics Parameters [100 Percent (404 square miles) LowFlow Oct Region10 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	404	square miles	6.282	3938.2
MAXTEMP	Mean Annual Max Temperature	60.6	degrees F	57.475	65.111
PRECIP	Mean Annual Precipitation	76.9	inches	37.0618	121.96
WATCAPORR	Available_Water_Capacity_OR_Risley	0.13	inch per inch	0.073	0.167

October Flow-Duration Statistics Flow Report [100 Percent (404 square miles) LowFlow Oct Region10 2008 5126]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>PIu</b>
October 5 Percent Duration	1320	ft <sup>3</sup> /s	678	2310
October 10 Percent Duration	757	ft <sup>3</sup> /s	393	1320
October 25 Percent Duration	298	ft <sup>3</sup> /s	145	540
October 50 Percent Duration	131	ft <sup>3</sup> /s	52.7	271
October 95 Percent Duration	51.3	ft <sup>3</sup> /s	15.6	125

*October Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1

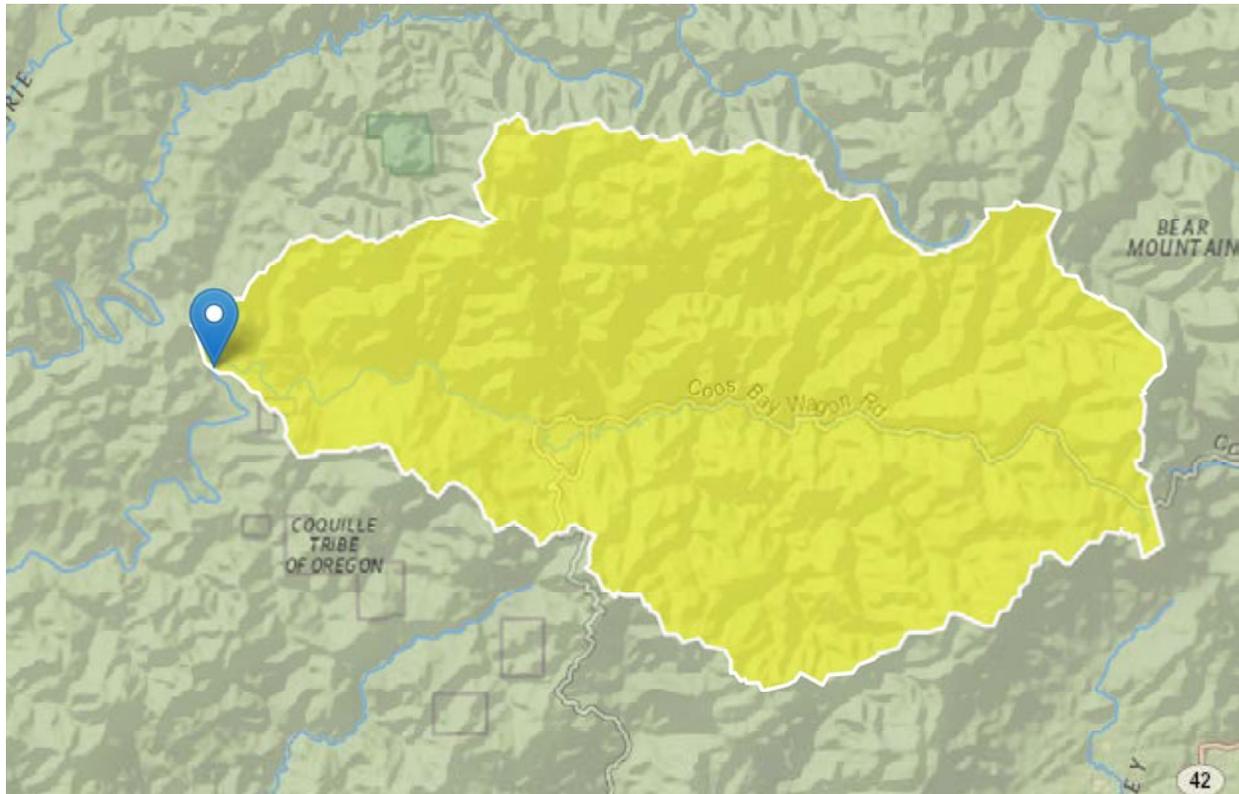
# StreamStats Report-EF Coquille at Hydrostatic Test Location October Data

Region ID: OR

Workspace ID: OR20180705224016927000

Clicked Point (Latitude, Longitude): 43.16017, -123.99480

Time: 2018-07-05 15:40:33 -0700



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	101	square miles
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	60.3	degrees F
PRECIP	Mean Annual Precipitation	80.8	inches

<b>Parameter Code</b>	<b>Parameter Description</b>	<b>Value</b>	<b>Unit</b>
WATCAPORR	Available water capacity from STATSGO data using methods from SIR 2008-5126	0.12	inch per inch
JANMAXTMP	Mean Maximum January Temperature	46.5	degrees F
MINBELEV	Minimum basin elevation	73.5	feet
OR_HIPERMG	Percent basin surface area containing high permeability geologic units as defined in SIR 2008-5126	0	percent

October Flow-Duration Statistics Parameters [100 Percent (101 square miles) LowFlow Oct Region10 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	101	square miles	6.282	3938.2
MAXTEMP	Mean Annual Max Temperature	60.3	degrees F	57.475	65.111
PRECIP	Mean Annual Precipitation	80.8	inches	37.0618	121.96
WATCAPORR	Available_Water_Capacity_OR_Risley	0.12	inch per inch	0.073	0.167

October Flow-Duration Statistics Flow Report [100 Percent (101 square miles) LowFlow Oct Region10 2008 5126]

PII: Prediction Interval-Lower, PIU: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>PIU</b>
October 5 Percent Duration	355	ft <sup>3</sup> /s	183	616
October 10 Percent Duration	190	ft <sup>3</sup> /s	99	327
October 25 Percent Duration	69.1	ft <sup>3</sup> /s	33.9	124
October 50 Percent Duration	27.4	ft <sup>3</sup> /s	11.1	56
October 95 Percent Duration	10.1	ft <sup>3</sup> /s	3.15	24.1

*October Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1

# StreamStats Report MF Coquille Hydrostatic

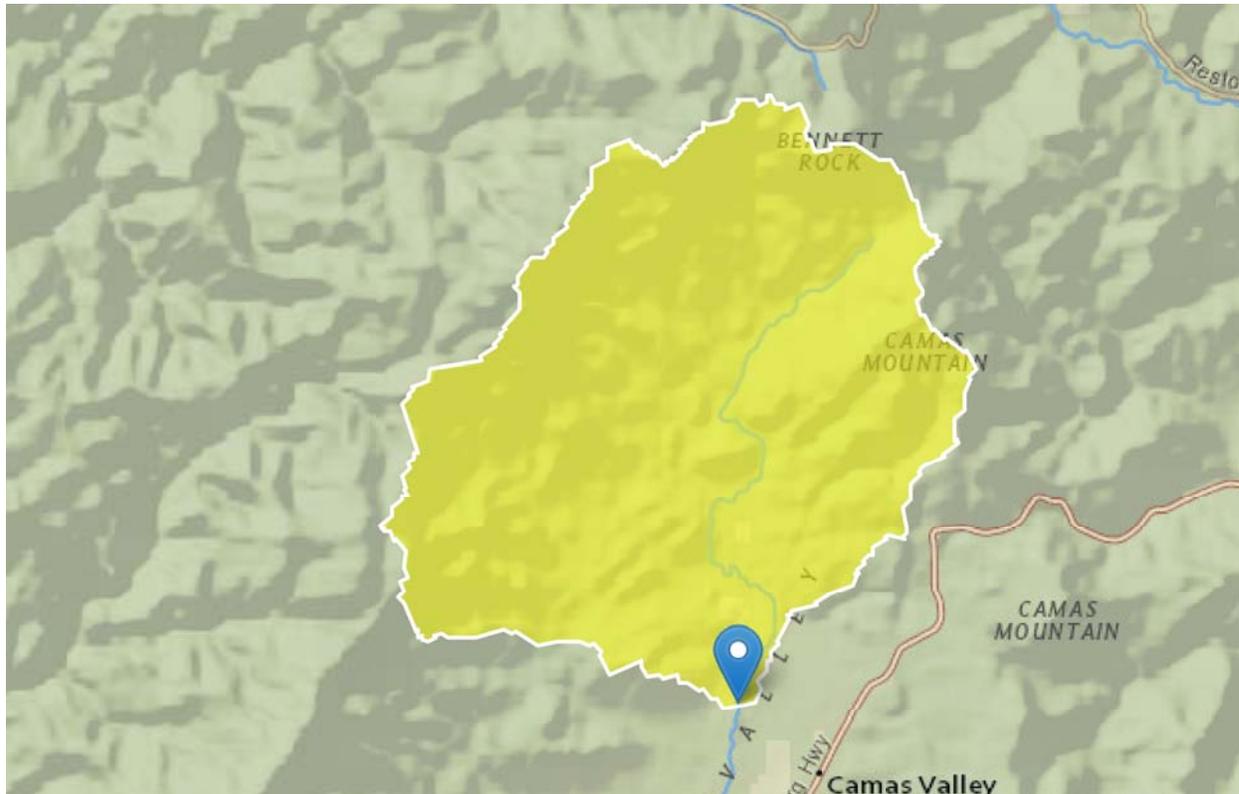
## Test Location, Oct Stats

Region ID: OR

Workspace ID: OR20180705232314562000

Clicked Point (Latitude, Longitude): 43.04283, -123.68772

Time: 2018-07-05 16:23:30 -0700



### Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	17.4	square miles
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	60.7	degrees F
PRECIP	Mean Annual Precipitation	54.8	inches

Parameter Code	Parameter Description	Value	Unit
WATCAPORR	Available water capacity from STATSGO data using methods from SIR 2008-5126	0.14	inch per inch

October Flow-Duration Statistics Parameters [100 Percent (17.4 square miles) LowFlow Oct Region10 2008 5126]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	17.4	square miles	6.282	3938.2
MAXTEMP	Mean Annual Max Temperature	60.7	degrees F	57.475	65.111
PRECIP	Mean Annual Precipitation	54.8	inches	37.0618	121.96
WATCAPORR	Available_Water_Capacity_OR_Risley	0.14	inch per inch	0.073	0.167

October Flow-Duration Statistics Flow Report [100 Percent (17.4 square miles) LowFlow Oct Region10 2008 5126]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu
October 5 Percent Duration	21.3	ft <sup>3</sup> /s	10.8	37.4
October 10 Percent Duration	10.4	ft <sup>3</sup> /s	5.37	18.2
October 25 Percent Duration	3.86	ft <sup>3</sup> /s	1.87	7.05
October 50 Percent Duration	1.91	ft <sup>3</sup> /s	0.751	4.02
October 95 Percent Duration	0.322	ft <sup>3</sup> /s	0.0952	0.806

*October Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1

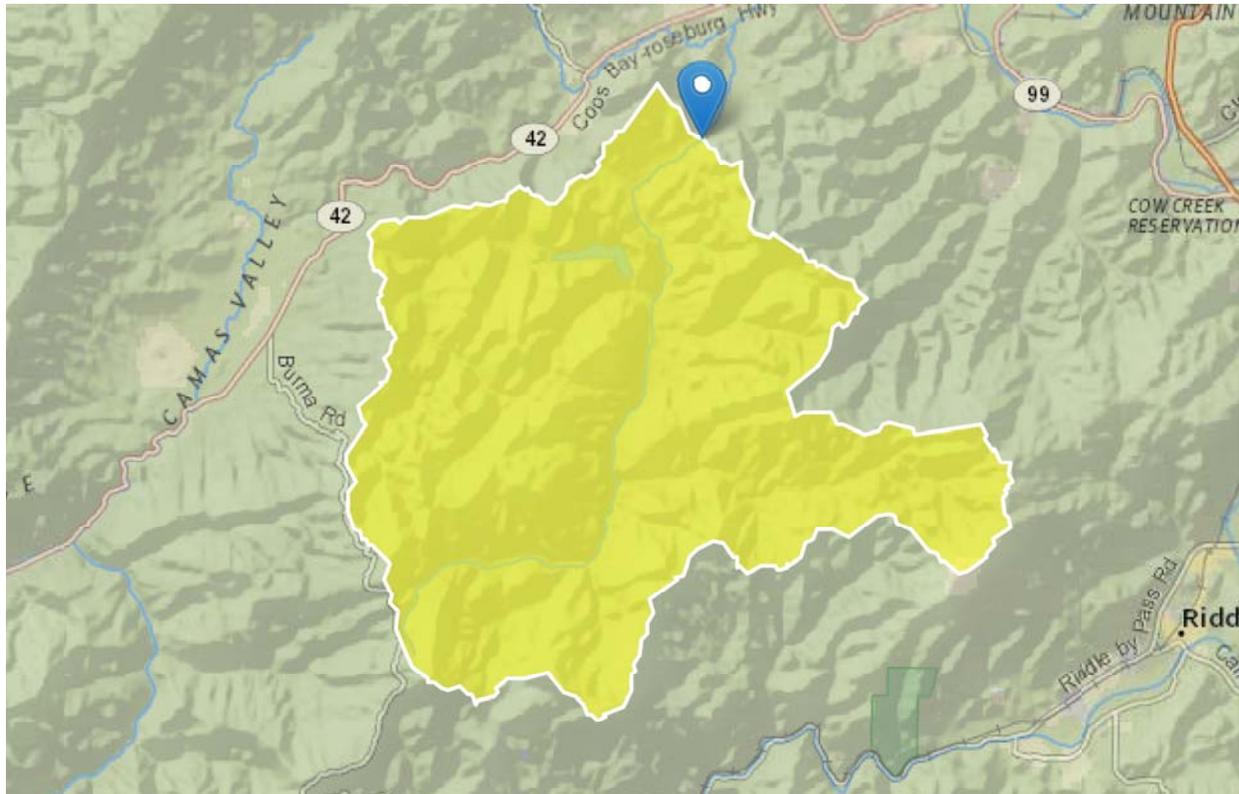
# StreamStats Report-Olalla Creek Hydrostatic Test Location, June/July Flows

Region ID: OR

Workspace ID: OR20180706183536478000

Clicked Point (Latitude, Longitude): 43.07542, -123.53057

Time: 2018-07-06 11:36:00 -0700



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	67.9	square miles
OR_HIPERMG	Percent basin surface area containing high permeability geologic units as defined in SIR 2008-5126	0	percent
PRECIP	Mean Annual Precipitation	44.7	inches

<b>Parameter Code</b>	<b>Parameter Description</b>	<b>Value</b>	<b>Unit</b>
ELEVMAX	Maximum basin elevation	3490	feet
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	62.6	degrees F
SOILPERM	Average Soil Permeability	1.61	inches per hour
DRNDENSITY	Basin drainage density defined as total stream length divided by drainage area.	0.65	dimensionless

July Flow-Duration Statistics Parameters [100 Percent (67.9 square miles) LowFlow Jul Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	67.9	square miles	8.061	2456.37
OR_HIPERMG	OR Percent HighPerm Geologic	0	percent	0	100
PRECIP	Mean Annual Precipitation	44.7	inches	33.6853	75.8026
ELEVMAX	Maximum Basin Elevation	3490	feet	1938.2508	9470.18
MAXTEMP	Mean Annual Max Temperature	62.6	degrees F	54.146	64.948

July Flow-Duration Statistics Flow Report [100 Percent (67.9 square miles) LowFlow Jul Region09 2008 5126]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PIl</b>	<b>PIu</b>
July 5 Percent Duration	13.8	ft <sup>3</sup> /s	5.63	28.1
July 10 Percent Duration	11.5	ft <sup>3</sup> /s	4.8	23.3
July 25 Percent Duration	8.66	ft <sup>3</sup> /s	3.44	17.9

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
July 50 Percent Duration	6.69	ft <sup>3</sup> /s	2.34	15
July 95 Percent Duration	4.6	ft <sup>3</sup> /s	1.71	9.84

*July Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

June Flow-Duration Statistics Parameters [100 Percent (67.9 square miles) LowFlow Jun Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	67.9	square miles	8.061	2456.37
PRECIP	Mean Annual Precipitation	44.7	inches	33.6853	75.8026
SOILPERM	Average Soil Permeability	1.61	inches per hour	0.914	5.087
ELEVMAX	Maximum Basin Elevation	3490	feet	3180.0436	9470.18
DRNDENSITY	Basin Drainage Density	0.65	dimensionless	0.465	0.819

June Flow-Duration Statistics Flow Report [100 Percent (67.9 square miles) LowFlow Jun Region09 2008 5126]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
June 5 Percent Duration	33.8	ft <sup>3</sup> /s	14.2	68.2
June 10 Percent Duration	25.3	ft <sup>3</sup> /s	11.1	49.2
June 25 Percent Duration	17.4	ft <sup>3</sup> /s	4.39	59.5
June 50 Percent Duration	11.8	ft <sup>3</sup> /s	4.91	23.8
June 95 Percent Duration	4.56	ft <sup>3</sup> /s	1.86	9.25

*June Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1

# StreamStats Report-S Umpqua Hydrostaticoc

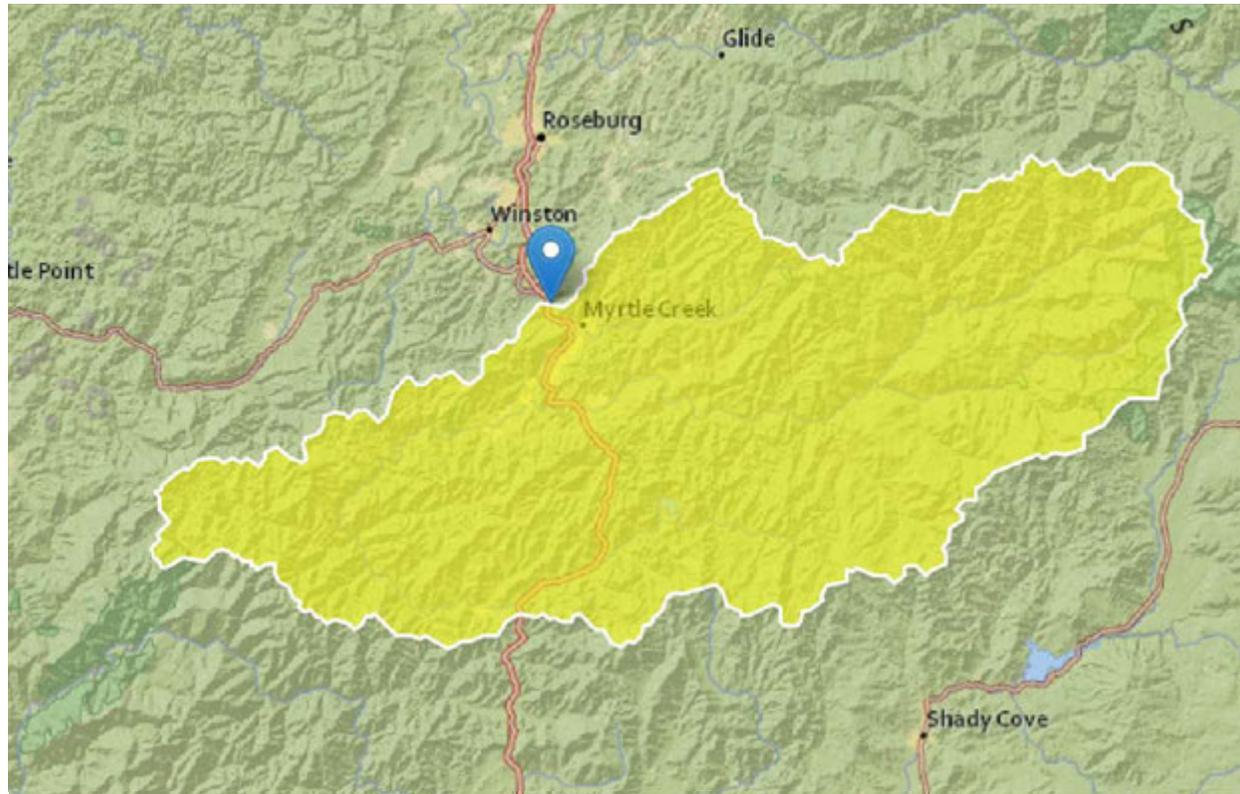
## Test Location, June July August Stats

Region ID: OR

Workspace ID: OR20180706185837863000

Clicked Point (Latitude, Longitude): 43.04725, -123.32927

Time: 2018-07-06 11:58:57 -0700



### Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1410	square miles
OR_HIPERMG	Percent basin surface area containing high permeability geologic units as defined in SIR 2008-5126	0	percent
PRECIP	Mean Annual Precipitation	46.1	inches

<b>Parameter Code</b>	<b>Parameter Description</b>	<b>Value</b>	<b>Unit</b>
ELEVMAX	Maximum basin elevation	6770	feet
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	62.7	degrees F
SOILPERM	Average Soil Permeability	1.99	inches per hour
DRNDENSITY	Basin drainage density defined as total stream length divided by drainage area.	0.67	dimensionless

July Flow-Duration Statistics Parameters [100 Percent (1410 square miles) LowFlow Jul Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	1410	square miles	8.061	2456.37
OR_HIPERMG	OR Percent HighPerm Geologic	0	percent	0	100
PRECIP	Mean Annual Precipitation	46.1	inches	33.6853	75.8026
ELEVMAX	Maximum Basin Elevation	6770	feet	1938.2508	9470.18
MAXTEMP	Mean Annual Max Temperature	62.7	degrees F	54.146	64.948

July Flow-Duration Statistics Flow Report [100 Percent (1410 square miles) LowFlow Jul Region09 2008 5126]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>PIu</b>
July 5 Percent Duration	839	ft <sup>3</sup> /s	341	1730
July 10 Percent Duration	662	ft <sup>3</sup> /s	273	1350
July 25 Percent Duration	464	ft <sup>3</sup> /s	183	969

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
July 50 Percent Duration	344	ft <sup>3</sup> /s	119	781
July 95 Percent Duration	214	ft <sup>3</sup> /s	77.2	470

*July Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

June Flow-Duration Statistics Parameters [100 Percent (1410 square miles) LowFlow Jun Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	1410	square miles	8.061	2456.37
PRECIP	Mean Annual Precipitation	46.1	inches	33.6853	75.8026
SOILPERM	Average Soil Permeability	1.99	inches per hour	0.914	5.087
ELEVMAX	Maximum Basin Elevation	6770	feet	3180.0436	9470.18
DRNDENSITY	Basin Drainage Density	0.67	dimensionless	0.465	0.819

June Flow-Duration Statistics Flow Report [100 Percent (1410 square miles) LowFlow Jun Region09 2008 5126]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
June 5 Percent Duration	2510	ft <sup>3</sup> /s	1060	5010
June 10 Percent Duration	2000	ft <sup>3</sup> /s	889	3850
June 25 Percent Duration	1370	ft <sup>3</sup> /s	609	2640
June 50 Percent Duration	940	ft <sup>3</sup> /s	395	1880
June 95 Percent Duration	431	ft <sup>3</sup> /s	177	869

*June Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana,2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

## August Flow-Duration Statistics Parameters [100 Percent (1410 square miles) LowFlow Aug Region09 2008 5126]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1410	square miles	8.061	2050.193
OR_HIPERMG	OR Percent HighPerm Geologic	0	percent	0	100
PRECIP	Mean Annual Precipitation	46.1	inches	33.6853	75.8026
ELEVMAX	Maximum Basin Elevation	6770	feet	1938.2508	9470.18

## August Flow-Duration Statistics Flow Report [100 Percent (1410 square miles) LowFlow Aug Region09 2008 5126]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu
August 5 Percent Duration	353	ft <sup>3</sup> /s	136	756
August 10 Percent Duration	306	ft <sup>3</sup> /s	112	676
August 25 Percent Duration	243	ft <sup>3</sup> /s	82.1	566
August 50 Percent Duration	202	ft <sup>3</sup> /s	53.2	544
August 95 Percent Duration	138	ft <sup>3</sup> /s	41.4	342

*August Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana,2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1

# StreamStats Report-SF Umpqua MP 94

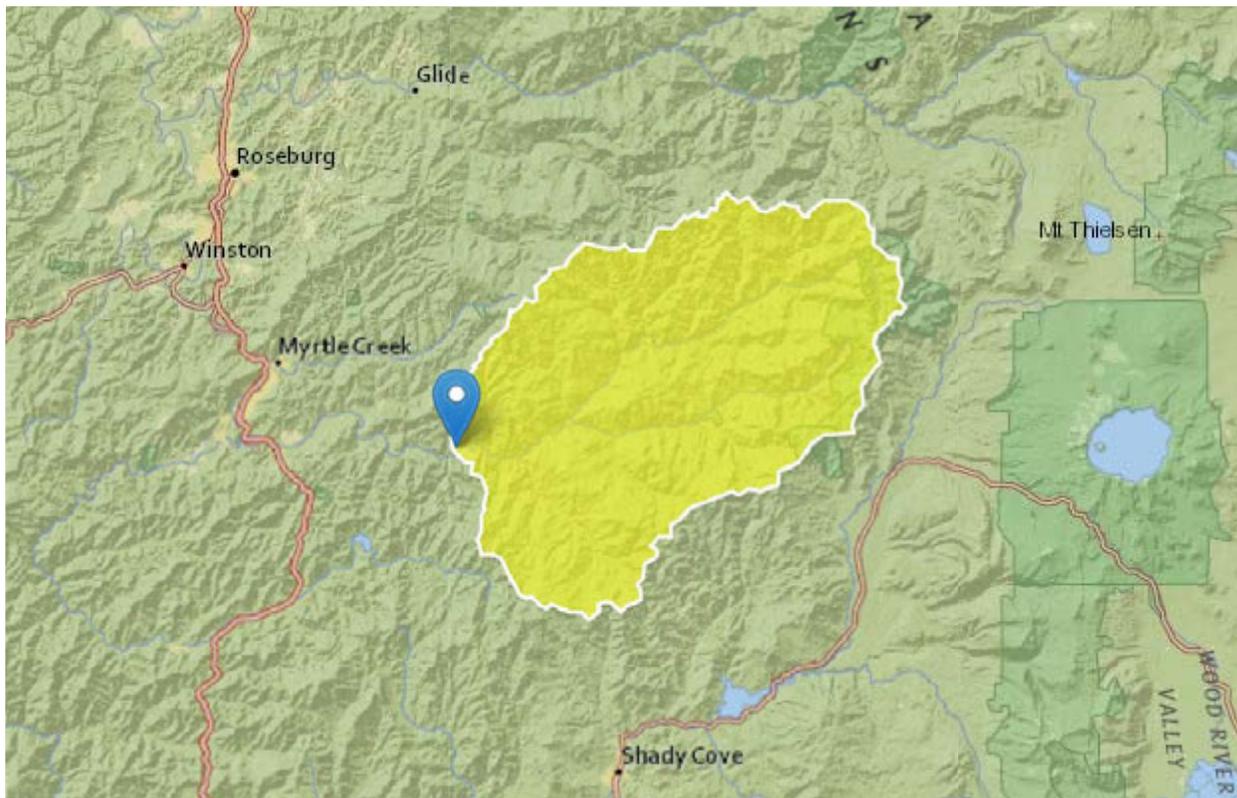
## Hydrostatic Test Location, July Aug Sep Flow Stats

Region ID: OR

Workspace ID: OR20180706194628066000

Clicked Point (Latitude, Longitude): 42.93799, -123.03786

Time: 2018-07-06 12:46:44 -0700



### Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	571	square miles

<b>Parameter Code</b>	<b>Parameter Description</b>	<b>Value</b>	<b>Unit</b>
OR_HIPERMG	Percent basin surface area containing high permeability geologic units as defined in SIR 2008-5126	0	percent
PRECIP	Mean Annual Precipitation	49.9	inches
ELEVMAX	Maximum basin elevation	6770	feet
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	61.7	degrees F
IMPERV	Percentage of impervious area	0	percent

July Flow-Duration Statistics Parameters [LowFlow Jul Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	571	square miles	8.061	2456.37
OR_HIPERMG	OR Percent HighPerm Geologic	0	percent	0	100
PRECIP	Mean Annual Precipitation	49.9	inches	33.6853	75.8026
ELEVMAX	Maximum Basin Elevation	6770	feet	1938.2508	9470.18
MAXTEMP	Mean Annual Max Temperature	61.7	degrees F	54.146	64.948

July Flow-Duration Statistics Flow Report [LowFlow Jul Region09 2008 5126]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>PIu</b>
July 5 Percent Duration	424	ft <sup>3</sup> /s	175	857
July 10 Percent Duration	336	ft <sup>3</sup> /s	141	672
July 25 Percent Duration	235	ft <sup>3</sup> /s	94.3	482

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
July 50 Percent Duration	173	ft <sup>3</sup> /s	61.2	384
July 95 Percent Duration	98.9	ft <sup>3</sup> /s	36.4	213

*July Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

September Flow-Duration Statistics Parameters [LowFlow Sep Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	571	square miles	8.061	2050.193
OR_HIPERMG	OR Percent HighPerm Geologic	0	percent	0	100
IMPERV	Percent Impervious	0	percent	0	3.953
ELEVMAX	Maximum Basin Elevation	6770	feet	1938.2508	9470.18
MAXTEMP	Mean Annual Max Temperature	61.7	degrees F	54.146	64.948
PRECIP	Mean Annual Precipitation	49.9	inches	33.6853	75.8026

September Flow-Duration Statistics Flow Report [LowFlow Sep Region09 2008 5126]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
September 5 Percent Duration	249	ft <sup>3</sup> /s	90.6	547
September 10 Percent Duration	180	ft <sup>3</sup> /s	63.2	406
September 25 Percent Duration	128	ft <sup>3</sup> /s	43.1	298

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
September 50 Percent Duration	86.6	ft <sup>3</sup> /s	23.1	230
September 95 Percent Duration	55.1	ft <sup>3</sup> /s	21.2	117

*September Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

August Flow-Duration Statistics Parameters [LowFlow Aug Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	571	square miles	8.061	2050.193
OR_HIPERMG	OR Percent HighPerm Geologic	0	percent	0	100
PRECIP	Mean Annual Precipitation	49.9	inches	33.6853	75.8026
ELEVMAX	Maximum Basin Elevation	6770	feet	1938.2508	9470.18

August Flow-Duration Statistics Flow Report [LowFlow Aug Region09 2008 5126]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
August 5 Percent Duration	179	ft <sup>3</sup> /s	70.7	374
August 10 Percent Duration	154	ft <sup>3</sup> /s	58.1	333
August 25 Percent Duration	122	ft <sup>3</sup> /s	42.2	276
August 50 Percent Duration	101	ft <sup>3</sup> /s	27.4	263
August 95 Percent Duration	66.1	ft <sup>3</sup> /s	20.5	159

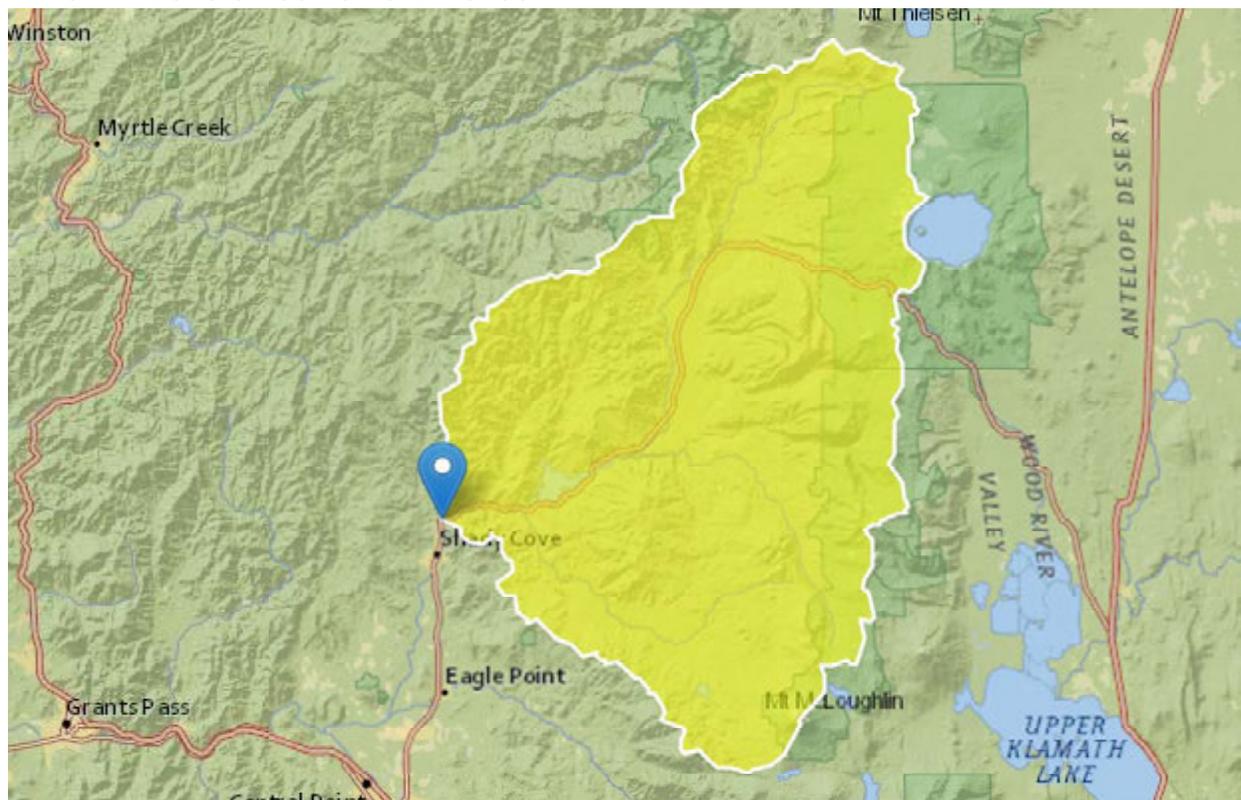
# StreamStats Report-Rogue River Nr Shady Grove Hydrostatic Test Location, Sept Flow Stats

Region ID: OR

Workspace ID: OR20180706201013568000

Clicked Point (Latitude, Longitude): 42.64695, -122.80811

Time: 2018-07-06 13:10:29 -0700



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1090	square miles

<b>Parameter Code</b>	<b>Parameter Description</b>	<b>Value</b>	<b>Unit</b>
OR_HIPERMG	Percent basin surface area containing high permeability geologic units as defined in SIR 2008-5126	67.8	percent
IMPERV	Percentage of impervious area	0.0107	percent
ELEVMAX	Maximum basin elevation	9470	feet
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	58	degrees F
PRECIP	Mean Annual Precipitation	49.8	inches

September Flow-Duration Statistics Parameters [100 Percent (1090 square miles) LowFlow Sep Region09 2008 5126]

<b>Parameter Code</b>	<b>Parameter Name</b>	<b>Value</b>	<b>Units</b>	<b>Min Limit</b>	<b>Max Limit</b>
DRNAREA	Drainage Area	1090	square miles	8.061	2050.193
OR_HIPERMG	OR Percent HighPerm Geologic	67.8	percent	0	100
IMPERV	Percent Impervious	0.0107	percent	0	3.953
ELEVMAX	Maximum Basin Elevation	9470	feet	1938.2508	9470.18
MAXTEMP	Mean Annual Max Temperature	58	degrees F	54.146	64.948
PRECIP	Mean Annual Precipitation	49.8	inches	33.6853	75.8026

September Flow-Duration Statistics Flow Report [100 Percent (1090 square miles) LowFlow Sep Region09 2008 5126]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
September 5 Percent Duration	1720	ft <sup>3</sup> /s	626	3780
September 10 Percent Duration	1580	ft <sup>3</sup> /s	554	3560

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>PII</b>	<b>Plu</b>
September 25 Percent Duration	1410	ft <sup>3</sup> /s	473	3270
September 50 Percent Duration	1330	ft <sup>3</sup> /s	351	3560
September 95 Percent Duration	629	ft <sup>3</sup> /s	239	1350

*September Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1

*August Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1

# StreamStats Report-Lost River Hydrostatic Test

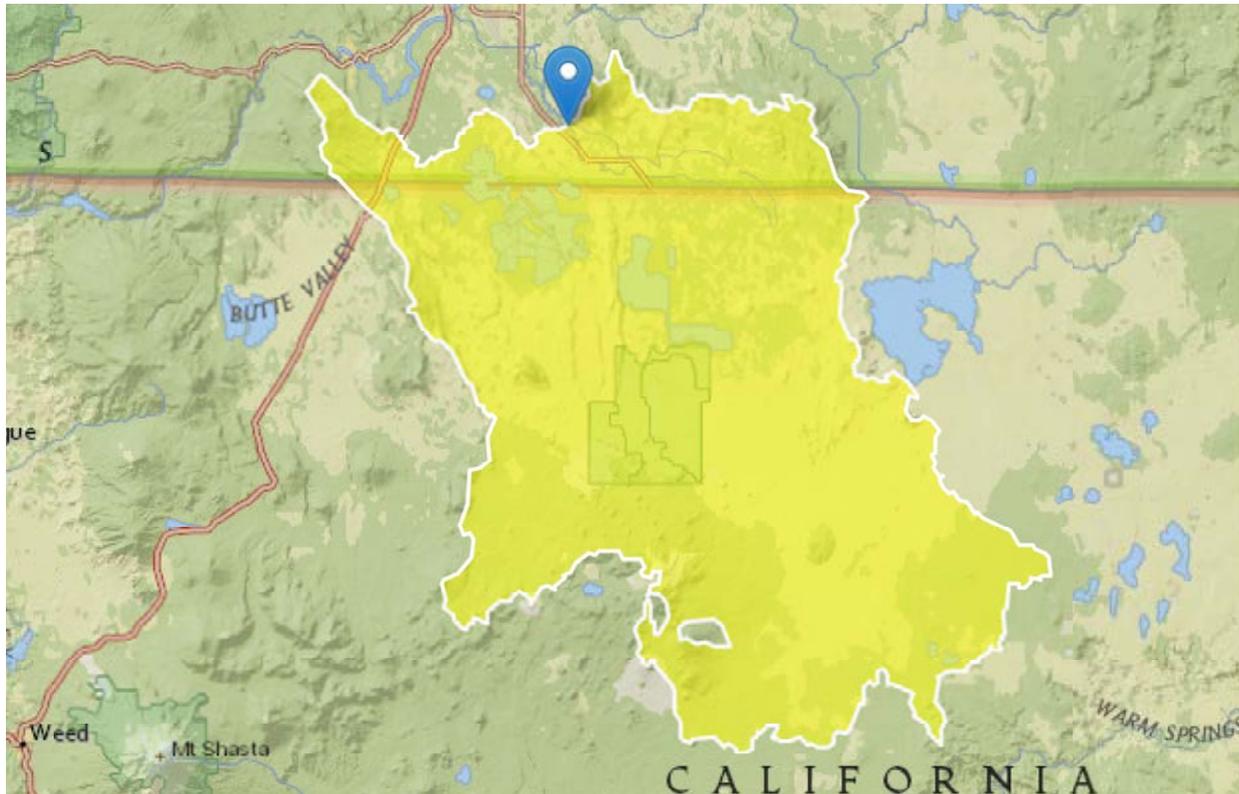
## Location, Feb Flow Stats

Region ID: OR

Workspace ID: OR20180706211205703000

Clicked Point (Latitude, Longitude): 42.05942, -121.63658

Time: 2018-07-06 14:12:24 -0700



### Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1350	square miles
PRECIP	Mean Annual Precipitation	16.7	inches
SOILPERM	Average Soil Permeability	2.56	inches per hour

## February Flow-Duration Statistics Parameters [100 Percent (1350 square miles) LowFlow Feb Region08 2008 5126]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1350	square miles	18.324	677.22
PRECIP	Mean Annual Precipitation	16.7	inches	13.8701	80.1552
SOILPERM	Average Soil Permeability	2.56	inches per hour	0.904	15.467

## February Flow-Duration Statistics Disclaimers [100 Percent (1350 square miles) LowFlow Feb Region08 2008 5126]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

## February Flow-Duration Statistics Flow Report [100 Percent (1350 square miles) LowFlow Feb Region08 2008 5126]

Statistic	Value	Unit
February 5 Percent Duration	1780	ft <sup>3</sup> /s
February 10 Percent Duration	935	ft <sup>3</sup> /s
February 25 Percent Duration	233	ft <sup>3</sup> /s
February 50 Percent Duration	88.4	ft <sup>3</sup> /s
February 95 Percent Duration	38.7	ft <sup>3</sup> /s

*February Flow-Duration Statistics Citations*

**Risley, John, Stonewall, Adam, and Haluska, Tana, 2008, Estimating flow-duration and low-flow frequency statistics for unregulated streams in Oregon: U.S. Geological Survey Scientific Investigations Report 2008-5126, 22 p. (<http://pubs.usgs.gov/sir/2008/5126/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.2.1



**Pacific  
Connector**  
GAS PIPELINE

**Pacific Connector Gas Pipeline, LP**

**Integrated Pest Management Plan  
(Noxious Weeds, Forest Pathogens, and Soil Pests)**

**Pacific Connector Gas Pipeline Project**

**September 2019**

## Table of Contents

1.0	Introduction .....	1
2.0	Prevention and Detection.....	1
2.1	Reconnaissance Surveys .....	2
2.2	Pretreatment .....	2
2.3	Equipment Inspection .....	4
2.4	Clearing and Grading.....	5
2.5	Weed-Free Materials .....	5
2.6	Restoration.....	6
2.7	Monitoring .....	6
3.0	Weed Control .....	7
4.0	Soil Pests .....	9
5.0	Forest Pathogens and Insects .....	9
6.0	Aboveground Facility Interiors .....	11
7.0	References.....	11

## List of Appendices

Appendix 1	Table 1-1	Oregon State Listed Noxious Weeds that Could Occur or Are Documented in the Vicinity of the Pipeline Project
	Table 1-2	Tree Insect and Disease Infestation Documented within 0.5 Mile of the Pipeline Project
Appendix 2	Table 2-1	Herbicides Approved for Use on Public and Private Lands in Oregon
	Table 2-2	Herbicide Products Registered in Oregon for Use of Rights-of-Ways
Appendix 3		Pesticide – Use Proposal (FSM 2150) for Use on National Forest Lands
Appendix 4		Equipment Cleaning Checklist
Appendix 5		Weed Monitoring Report Form
Appendix 6		Herbicide Application Record for BLM- and NFS-Managed Lands
Appendix 7	Table 7-1	Sensitive Species or Habitats Crossed or in the Vicinity of the Pipeline Project (to be updated)

---

## 1.0 INTRODUCTION

---

Pacific Connector Gas Pipeline, LP (PCGP) has prepared this Integrated Pest Management Plan (IPM) for the pipeline it proposes to construct from interconnections with the Ruby pipeline and the Gas Transmission Northwest pipeline near Malin, Oregon (Pipeline) to a proposed liquefied natural gas terminal to be built on the North Spit of Coos Bay, Oregon by Jordan Cove Energy Project, LP. This IPM will provide PCGP's management and staff with the necessary Best Management Practices (BMPs) to address the control of noxious weeds, invasive plants, forest pathogens, and soil pests across the route of the Pipeline. The BMPs have been created to minimize the potential spread of invasive species and minimize the potential adverse effects of control treatments. The IPM provides BMPs and decision-making tools PCGP's managers and staff during both the construction and operational phases of the Pipeline and includes logical and easily accessible references for the protection of sensitive resources along the Pipeline route or near associated facilities.

The Oregon Department of Agriculture (ODA) (Butler, 2017), Bureau of Land Management (BLM), and USDA Forest Service (Forest Service) have been consulted for recommendations to prevent the introduction, establishment, or spread of noxious weeds, soil pests, and forest pathogens. In general, these agencies have recommended that reconnaissance surveys be conducted along the Pipeline alignment to determine the presence of noxious weeds, other invasive plants and forest pathogens so that appropriate BMPs can be developed and applied prior to and during construction to prevent the introduction or establishment of weeds and forest pathogens. Additionally, these agencies have recommended that construction equipment and vehicles be cleaned to remove all soil, mud, oil, grease, plant material or other substances that could contain weed seeds prior to moving them onto the construction right-of-way to prevent the import and spread of weeds and that vegetation clearing and grading equipment be cleaned if they pass through known noxious weed infestations. Disturbed areas will be promptly replanted as described in the Erosion Control and Revegetation Plan (ECRP) (Appendix I to the POD) with appropriate seed mixtures to help prevent noxious weed infestation. All disturbed areas of the construction right-of-way including temporary extra work areas (TEWAs), uncleared storage areas (UCSAs), temporary access roads, and road improvement areas will be monitored after construction, and any noxious weed infestations will be controlled in accordance with the requirements of the applicable permit and any conditions agreed to with landowners.

The following section describes in more detail the measures that will be implemented by PCGP during construction and operation to minimize the potential spread of noxious weeds, invasive plants, soil pests, and forest pathogens. Where treatment of weeds is required, BMPs are described that would minimize the potential effects to sensitive resources and the environment. PCGP has developed a Hydrostatic Test Plan that is included as Appendix M to the POD which describes the BMPs that would be implemented to minimize the potential spread, or introduction of noxious or invasive weeds, forest pathogens and aquatic invasive species from the Pipeline's hydrostatic testing operations. The BMPs described in the Hydrostatic Test Plan are not included or repeated in this document. Section 6.0 of this IMP includes measures that may be used to control rodents at the Pipeline's aboveground facilities (compressor station and meter stations), if necessary. All of the aboveground facilities are located on private lands.

---

## 2.0 PREVENTION AND DETECTION

---

Prevention and detection is a crucial component of integrated weed management principles. Early detection and proper identification of weed infestations are critical to successful weed

management (or maintenance of land health). PCGP has completed initial reconnaissance weed surveys and will complete preconstruction weed surveys to determine potential pretreatment requirements and construction practices that would be implemented during clearing and grading activities to minimize and avoid the potential spread of weeds and forest pathogens.

## 2.1 Reconnaissance Surveys

The ODA Noxious Weed Control Program and the Oregon State Weed Board (OSWB) maintain the State Noxious Weed List, which covers all lands within the State of Oregon. Noxious weeds are defined under ORS 569.175 as non-native, aggressive and invasive plants (terrestrial, aquatic, or marine) designated by the State Weed Board (OSWB) to be a menace to public welfare. The OSWB also classifies noxious weeds as any plant that has detrimental effects to agricultural economy and natural resources, endangers native flora and fauna, affects recreation, or is injurious or harmful to humans and/or animals (ODA, 2017). The ODA Noxious Weed Control Classification System establishes three categories for weeds within, or having potential habitat, in Oregon. The three ODA noxious weed classes are described below with ODA's recommended control actions.

- Class "A" weeds—a weed of known economic importance which occurs in the state in small enough infestations to make eradication or containment possible; or is not known to occur, but its presence in neighboring states make future occurrence in Oregon seem imminent.

**Recommended action:** Infestations are subject to eradication or intensive control when and where found.

- Class "B" weeds—a weed of economic importance which is regionally abundant, but which may have limited distribution in some counties.

**Recommended action:** Limited to intensive control at the state, county or regional level as determined on a site-specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.

- Class "T" weeds—a designated group of weed species that is selected and will be the focus for prevention and control by the Noxious Weed Control Program. Action against these weeds will receive priority. T designated noxious weeds are determined by the Oregon State Weed Board, which directs ODA to develop and implement a statewide management plan. "T" designated noxious weeds are species selected from either the "A" or "B" list.

PCGP conducted initial reconnaissance weed surveys concurrently with wetland and waterbody inventories during the summer and fall of 2006 and 2007. Additional reconnaissance weed surveys were conducted during biological surveys in 2007 and 2008 and various supplemental surveys through 2017. These surveys were conducted by local biologists who are familiar with priority listed noxious weeds. The results of these inventories are provided in Table 1-1 of Appendix 1, which also provides the state classification. Table 1-1 includes potential ODA listed

weeds that may occur in the counties crossed by the Pipeline according to ODA Weedmapper<sup>1</sup>. PCGP will complete additional preconstruction surveys for noxious weeds prior to Year One construction and will use biologists or botanists that are familiar with the noxious weeds that may occur within the Pipeline area. For the route on federal lands, preconstruction weed surveys will be conducted to identify current ODA-listed weeds, as well as invasive weeds listed, for each National Forest, BLM, or Bureau of Reclamation (Reclamation) district. The preconstruction surveys will assist in determining where management or pretreatment may be necessary prior to construction to prevent the spread of noxious weeds. After the preconstruction surveys have been completed on federal lands, PCGP will update Table 1-1 of Appendix 1 and prepare a summary report to review the results of these surveys with the authorized agency representative. The results of these surveys would be used to determine appropriate actions to take during pre-construction weed management, clearing and grading activities as well as monitoring treatment efforts after construction (see Sections 2.2, 2.4, 2.7, and 3.0). Table 1-1 provides the weeds that are subject to control by the BLM and Forest Service. Further, the EI will be responsible for uniquely flagging and signing these weed populations and providing the preconstruction weed survey location information to all project personnel so that they are aware of the weed locations and do not inadvertently drive through and potentially spread the species.

During timber cruises that will be necessary for timber appraisals and landowner agreements prior to construction, surveys will be conducted to identify potential forest pathogens within the construction footprint (i.e., right-of-way or TEWAs). These forest pathogen surveys will help assess silvicultural treatments that may be required during clearing operations to minimize the spread of forest pathogens. Table 1-2 in Appendix 1 provides forest pathogens (tree insect and disease infestation) that have been documented in the vicinity of the Pipeline by the Oregon Department of Forestry. Current forest pathogen data provided by the Oregon Department of Forestry<sup>2</sup> would be reviewed again prior to timber cruises/surveys to assist in assessing forest pathogens in the vicinity of the Pipeline.

## **2.2 Pre-Project Weed Management**

Preconstruction weed treatment will primarily be accomplished through mechanical treatment appropriate for the weed species. Hand-pulling methods may also be utilized if the area of infestation is small or where mechanical methods are not feasible. Infested areas will be cleared in a manner to minimize transport of weed seed, roots, and rhizomes or other vegetative materials and soil from the site along the construction right-of-way and to minimize sediment delivery to waterbodies. Spot treatments with appropriate herbicides will also be conducted where applicable depending on the specific weed and site-specific conditions using integrated weed management principles. Spot herbicide treatment would only be utilized when it is likely to be effective (i.e., where plant phenology and effective herbicide treatment windows coincide) prior to construction. Any herbicide treatment would be conducted by a licensed applicator using herbicides labeled for the targeted species and registered for the use. PCGP would only use herbicides where approved by the land-managing agency or landowner. If ODA A listed weeds are present within the construction work limits, they will be controlled by eliminating all visible plants prior to seed development and prior to construction activities.

On federal lands, PCGP would consult with the authorized agency representative on the specific method that would be used to eliminate any A listed weeds. Other Priority weeds that will be

---

<sup>1</sup> <http://www.oregon.gov/ODA/programs/Weeds/Pages/WeedMapper.aspx>

<sup>2</sup> <http://www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx>

considered for pretreatment will include ODA T and some B listed weeds based on site-specific conditions and direction provided by the BLM, Forest Service, Reclamation, or private landowner. Table 1-1 includes the B listed weeds noted by the BLM and Forest Service that are subject to control. On federal lands, after the preconstruction weed surveys have been completed, PCGP would consult with the authorized agency representative to determine appropriate pre-project weed control measures that would be implemented. Pretreatment consideration will be based on consultation with the landowner or land-managing agency and specific conditions on the construction right-of-way. Table 1-1 provides the ODA-listed weeds by class (A, B, and T) that may occur in the Pipeline area and lists the locations of these species where they were identified during the project reconnaissance weed surveys during 2006, 2007, and 2008, and various supplemental surveys through 2017.

Table 2-1 in Appendix 2 lists the herbicide active ingredients that are approved for use on public lands managed by the BLM and Forest Service based on their vegetation management/invasive species program Environmental Impact Statements and Records of Decision (USDI, 2010, and USDA, 2005). The BLM released a *Final Vegetation Treatments Using Herbicides on BLM Lands in Oregon* Environmental Impact Statement (EIS) in July 2010 and released the Final EIS and Record of Decision (ROD) in October of 2010<sup>3</sup>. PCGP would use only herbicides registered in Oregon and on federal lands only those herbicides approved for use based on existing or current management direction. Table 2-2 lists the current 2017 registered herbicides in Oregon for use on utility and road rights-of-way. The data in Table 2-2 was queried using Washington State University Pesticide Information Center Online (PICOL) Databases as directed by ODA (Riley, 2009)<sup>4</sup>. The PICOL database can also be queried to determine the pest (weeds) species for which specific herbicides are registered. PCGP's licensed applicators would ensure that all herbicides and adjuvants<sup>5</sup> would be registered for the applicable use. PCGP would obtain applicable approvals or permits for use of herbicides on federal lands prior to use/treatment. On NFS and BLM-managed lands PCGP would submit a Pesticide-Use Proposal for agency approval prior to herbicide use. A Pesticide - Use Proposal (FSM-2150) for National Forest lands is provided in Appendix 3; this form or a similar form would also be submitted to the BLM. BMPs that would be implemented to minimize potential adverse effects of herbicide treatment are discussed below in Section 3.0.

### 2.3 Equipment Inspection

Prior to transporting construction equipment to the construction right-of-way, all equipment will be inspected to ensure that it is clean and free of potential weed seed or propagules (i.e., soil roots or rhizomes) and power washed, if necessary, as determined by PCGP's Environmental Inspectors (EIs). In addition, initial inspections of all inspected vehicles and construction contractor vehicles will also be performed prior to being allowed on the construction right-of-way. This does not apply to local service vehicles that will stay on the existing roadway, traveling frequently in and out of the Pipeline area. The EI or PCGP's authorized representative will be responsible for performing inspections and registering or tagging the equipment prior to being transported or moved to the construction right-of-way. To ensure the equipment is thoroughly inspected, the EI or authorized representative will use the inspection checklist provided in Appendix 4. The inspection checklist included in Appendix 4 will also be used during the operations phase of the Pipeline to ensure that all maintenance equipment is cleaned of potential weed seed or propagules prior to entering the construction right-of-way on federal

<sup>3</sup> <https://permanent.access.gpo.gov/gpo2685/gpo2685/www.blm.gov/or/plans/vegtreatmentseis/documents.php.htm>

<sup>4</sup> <http://cru66.cahe.wsu.edu/LabelTolerance.html>

<sup>5</sup> Adjuvant(s) are substances added to the pesticide formulation to enhance the toxicity of the active ingredient or to make the active ingredient easier to handle.

lands. PCGP will inform contractors to clean equipment and vehicles in the contractor yards prior to moving to the construction right-of-way on federal lands. The EIs would conduct environmental training at the beginning of the project, informing all contractor personnel and PCGP's inspectors about the BMPs to prevent the potential spread of noxious weeds and how to complete vehicle and equipment inspections and cleaning on a regular basis during construction. PCGP's EIs would also be responsible for random verification inspections during construction to ensure all equipment and vehicles are clean of noxious weeds.

## 2.4 Clearing and Grading

In areas where infestations have been identified or noted in the field from preconstruction surveys (see Section 2.1), the contractor will stockpile cleared vegetation and salvage topsoil or graded material adjacent to the area from which they are stripped to eliminate the transport of soil-born noxious weed seeds, roots, or rhizomes. Where practical and feasible, construction right-of-way grading activities will occur from uninfested areas toward any known areas of infestation to minimize the potential spread of noxious weeds or forest pathogens. During reclamation, any graded materials and vegetative material will be returned to the infestation sites from which they were stripped or moved. Clearing equipment that is used in areas of priority A and T listed weeds, as well as selected B listed weeds, will be cleaned by hand, blown down with air, or pressure washed prior to leaving the site, as determined necessary by the EI based on the specific weed infestation, level of infestation, and stage of growth of the weed. On federal lands equipment cleaning would occur as described below (see Federal Lands). Equipment cleaning on the construction right-of-way will occur in an approved cleaning station such as that shown on Drawing 3430.34-X-0020 in Attachment C of the ECRP (Appendix I to the POD). The EI will approve the appropriate cleaning station location(s) and will be responsible for determining the effective cleaning method for the grading/clearing equipment (including power washing). Infested areas and cleaning station locations will be mapped to ensure that these areas are monitored during construction and to ensure that these weeds are controlled and not spread. PCGP would monitor these sites after construction as described in Section 2.6.

**Federal Lands.** Because of the contiguous pattern of NFS Lands crossed by the Pipeline, equipment will be inspected and cleaned at cleaning stations located at the borders of each National Forest prior to clearing and grading activities. Because the BLM-managed lands crossed by the Pipeline are not contiguous and are spread out in a checkerboard pattern, it is not practical to set up inspection and cleaning stations at each entry point. However, where BLM lands are contiguous to NFS Lands, the cleaning station will be located to include the adjacent BLM lands. Additionally, equipment will be inspected and cleaned at cleaning stations located adjacent to mapped noxious weed infestation areas that were identified during preconstruction surveys (see Section 2.1) on federal lands and where a treatment plan has been developed in consultation with the agency authorized representative. The cleaning station(s) will be located and approved by the EIs and authorized agency representative. The cleaning station location(s) will also be mapped for future monitoring efforts to determine if potential infestations occur at these sites and, if they do, to ensure that appropriate control treatments are applied. Timeframes for monitoring these sites are described in Section 2.7.

## 2.5 Weed-Free Materials

PCGP will use certified weed-free seed during seeding operations. In addition, PCGP will use certified weed-free straw for mulch and sediment barriers, dewatering structures, or other uses along the construction right-of-way, or may utilize other mulch materials that are weed free such

as hydromulch or erosion control fabrics. The EI or PCGP's authorized representative will be responsible for ensuring that all straw hauled to the construction yards will be certified weed-free and is stored so that it remains weed free. ODA has a certification process through their Weed Free Forage Program and maintains a database of weed free forage providers<sup>6</sup>. If other vendors are used to supply straw, PCGP's EI will insure that before straw is delivered to the right-of-way documentation from straw producers/vendors is provided which indicates the straw was produced from certified weed-free fields, or the straw can be inspected by the ODA, county extension agent or qualified conservation district personnel. Where straw is to be used on federal lands, the authorized agency representative may also inspect and approve straw materials to verify that the straw is weed-free. If gravel or other fill materials are used on Forest Service or BLM-managed lands, they will be from a weed-free source and approved by the Forest Service's or BLM's authorized representative. Where feasible, PCGP would provide the locations of potential gravel sources, including commercial sources that may be used on federal lands, in advance so that these sites can be inspected during the growing season by the authorized agency representative. PCGP will consult with BLM and Forest Service about use of commercial sites that have been approved for use on federal lands.

## **2.6 Restoration**

PCGP has developed the ECRP in cooperation with the FERC, Forest Service, BLM, and Natural Resource Conservation Service (NRCS). The revegetation measures outlined in the ECRP have been prescribed to stabilize disturbed areas and to revegetate the construction right-of-way to a condition which supports the preconstruction land use (i.e., forest lands, rangelands, croplands, hayfields, and pasturelands) as quickly as possible following construction. Promptly replanting disturbed areas with appropriate seed mixtures will help prevent noxious weed establishment. The ECRP details the measures that will be implemented to restore all disturbed areas.

## **2.7 Monitoring**

After construction and restoration, PCGP will monitor all disturbed areas of the construction right-of-way including TEWAs, UCSAs, temporary access roads, and road improvement areas for infestation of noxious and invasive weeds. Special consideration for monitoring noxious and invasive weeds will be taken in the areas where noxious weeds were identified prior to construction and were previously mapped to ensure that potential infestations do not recur and spread. Special consideration will also occur in areas along the construction right-of-way where equipment cleaning stations and hydrostatic dewatering sites were located to ensure that infestations at these locations do not occur. Monitoring in these areas will occur for a period of 3 to 5 years on federal lands; in areas where treatment is required, monitoring will occur for 3 years following the presumed eradication date, which would be based on the first monitoring year when infestations at a site have not been recorded. Monitoring report forms (see Appendix 5) would be submitted to the appropriate federal land-managing agency annually. PCGP's operational staff or their contractors will be responsible for these monitoring efforts. If weeds are observed during these monitoring efforts on federal lands, agency siting forms would be completed and submitted to the appropriate agency, if the report forms provided in Appendix 5 are not sufficient. PCGP may also enter into cost-recovery agreements with federal land-managing agencies to conduct or participate in monitoring efforts along the construction right-of-way on federal lands including monitoring during regular intervals during the life of the Pipeline. Payments under any cost-recovery agreements would be made to the appropriate land

---

<sup>6</sup> <http://www.oregon.gov/ODA/programs/MarketAccess/MACertification/Pages/WeedFreeForage.aspx>

managing agencies and included in the annual Right-of-Way Grant payments as per payment stipulations listed in the Grant. If infestations occur in any of the disturbed areas of the construction right-of-way including TEWAs, UCSAs, temporary access roads, and road improvement areas, PCGP would make an assessment of the source of the infestation, the potential of the infestation to spread to other adjacent areas, and develop a treatment plan to control the infestation. Where infestations occur on federal lands, this assessment and treatment plan would be developed cooperatively with these agencies. The treatment plan would be developed using integrated weed management principles, and if herbicides are used, all applicable approvals would be obtained prior to their use including landowner approvals. PCGP would consult with the ODA Noxious Weed Control Program, local County Weed Program, or land-managing agency for additional support regarding noxious weed control issues that may occur during operation of the pipeline. PCGP may also contract with county or local conservation districts or Watershed Associations to conduct any necessary weed treatment programs that may arise after construction.

Monitoring of all disturbed areas of the construction right-of-way including TEWAs, UCSAs, temporary access roads, and road improvement areas where noxious weeds were not known to occur prior to construction will occur as an ongoing function of PCGP's operational personnel during the life of the Pipeline. PCGP's operational staff would also investigate noxious weed issues raised by landowners and land-managing agencies during operation of the Pipeline. In these situations, PCGP would conduct a site assessment (see Appendix 5) of the potential weed issue and would provide a proposed treatment plan to the extent the noxious weeds are attributable to actions of PCGP (to the landowner or land-managing agency), if necessary.

### **3.0 WEED CONTROL**

---

Where weed control is necessary, PCGP's first priority will be to employ hand and mechanical methods (pulling, mowing, biological, disking, etc.) applicable to the species to prevent the spread of potential weed infestations, where feasible. To determine if an herbicide is to be used over other control methods, PCGP will base the decision on weed characteristics and integrated weed management principles (USDA, 2005 and USDI 2010b). Decisions will be made based on whether other methods or combinations of methods are known to be effective on the species in similar habitats. If herbicides are selected as the weed control method, the choice of herbicides will be based on the invasive species, how it reproduces, its seed viability, the size of its population, site conditions (such as proximity to waterbodies), known effectiveness under similar site conditions, and the ability to minimize effects on non-target species.

Weed infestations that will be controlled include all ODA A and T listed weeds. If these weeds are present within the Pipeline's construction work limits, all visible plants will be eliminated and eradication will be initiated prior to seed development. Other priority weeds that will be considered for treatment will include some B listed weeds in areas where they are not significantly established off of the construction right-of-way. On federal lands, treatment of B listed weeds will be made based on consultation with the agency regarding the specific weed and the site conditions. The priority weeds that are subject to control on federal lands are included in Table 1-1 in Appendix 1. This table will be updated as necessary to include additions and changes in ODA or County noxious weed lists. On federal lands, where significant infestations occur off of the construction right-of-way on adjacent lands, where PCGP has no authority to operate or is not responsible for weed control efforts, PCGP would notify the agency of the known infestation and collaborate with the federal agency to develop a cooperative weed control program. This cooperative weed control program may include PCGP contributing funds to the BLM, Forest Service or Reclamation to implement a broader weed

control program that would treat both the construction right-of-way and adjacent weed infestation off of the construction right-of-way. Where noxious weed infestations occur off of the construction right-of-way on private lands, PCGP may also fund the local county weed control boards, soil and water conservation districts, Cooperative Weed Management Area, or watershed associations that are authorized to control weeds in the specific county.

In most cases, if an herbicide is used for control, it would be used in combination with other methods. For example, initial treatment of an invasive species may be done using a manual or mechanical method followed by an herbicide treatment, and then manual or mechanical methods may be implemented as maintenance treatments over the long-term. If herbicides are used to control noxious weed infestations, they would be used when they are the most appropriate treatment method. Spot treatments and the use of selective herbicides would be utilized to minimize impact to native or non-target species. Where applicable, seeding may be necessary to revegetate the site promptly and prevent the opportunity for weeds to become reestablished. PCGP will employ a state or federally-licensed herbicide applicator to ensure that the appropriate herbicides are utilized for the targeted weed species during its proper phenological period and at the specified rate. The applicator will ensure that the herbicides and any adjuvants are used according to the labeling restrictions, and warnings, following all applicable laws and conforming to the appropriate land managing agency decision documents (see Tables 2-1 and 2-2 in Appendix 2 and USDI 2010b). The applicator will also ensure that the herbicides that are used are registered for their intended use. Permits or approvals for the use of herbicides and adjuvants on federal lands would be obtained prior to use/treatment (see Section 2.2 and Appendix 3 for requirements for Pesticide – Use Proposal on federal lands). On federal lands PCGP would utilize the appropriate Standard Operating Procedures and Mitigation Measures when applying herbicides on the right-of-way, as outlined in the USDI 2010a Attachment A.

The applicator will confirm that the herbicides are applied according to their labels to ensure effectiveness and to minimize drift to non-targeted areas. Herbicides will not be applied during precipitation events or when precipitation is forecast within 24 hours or as specified on the label, whichever is more restrictive. The licensed applicator will complete a Herbicide or Pesticide Application Record (PAR) within 24 hours (see Appendix 6) when herbicides are applied on federal lands. Copies of all PARs will be provided to the land management agency within a month of application. PCGP will maintain these records for a minimum of three years. PCGP will not utilize herbicides on the construction right-of-way without landowner consent/approval and will use wicking, wiping, injection, or spot spraying as permitted by product labels. PCGP will not use aerial herbicide applications and will not use herbicides for general brush/tree control within the 30-foot maintained easement.

**Weed Control near Sensitive Areas and Habitats.** Table 7-1 in Appendix 7 was developed from the Pipeline's biological and wetland/waterbody surveys and includes sensitive species proposed and/or listed under the Endangered Species Act and federal (BLM and Forest Service) and state sensitive species (i.e., botanical species, marbled murrelet [MAMU], northern spotted owl [NSO], waterbodies and wetlands, big game winter range, etc.). If noxious weed infestations occur in the vicinity of sensitive sites, the proper treatment buffers will be applied to avoid potential adverse impacts to non-targeted species, and recommended seasonal timing stipulations will be considered, where feasible, to minimize disturbance to species or weed treatments during the more critical periods for each species. In these areas, site-specific controls will be designed (e.g., application rate and method, timing, wind speed and direction, nozzle type and size, buffers, etc.) to mitigate the potential for adverse disturbance and/or contaminant exposure. PCGP would also implement the appropriate Conservation Measures,

as outlined in Attachment B to the BLM's 2010 Record of Decision for Vegetation Treatments Using Herbicides on BLM Lands in Oregon (USDI 2010a) to protect Special Status Species.

Herbicides will not be used within 100 feet of a wetland or waterbody, unless allowed by the appropriate agency. PCGP and its licensed applicators will follow prescribed mitigation measures within at least 30 meters (98 feet) of sensitive botanical species known to occur in the construction right-of-way or adjacent areas identified during biological surveys to ensure sensitive botanical species/habitats are not adversely impacted by the Pipeline's weed control activities (Table 7-1 in Appendix 7 provides the various sensitive species and milepost range where the Pipeline would cross within 30 meters of documented plants, and it will be updated prior to construction).

Table 7-1 in Appendix 7 will also assist PCGP and/or its licensed applicator in applying applicable buffers or timing restrictions where feasible for the specific species and activity. As an example, PCGP would apply daily timing restrictions (DTRs) during weed control activities within ¼-mile buffers of MAMU stands. However, seasonal timing restrictions for MAMU (and NSO and other raptor species) would likely not be applied because the seasonal timing restrictions (i.e., March 15 - July 15 for NSO and April 1 - August 5 for MAMU) would prohibit successful weed control efforts since the active plant growing season, when most weeds should be treated, would be missed. Furthermore, disturbance to MAMU and NSO, or other raptor species from weed control activities are expected to be inconsequential because they are short-term activities lasting only a few hours, are only conducted periodically at specific spot locations along the construction right-of-way, and are implemented by only one or two individuals.

#### 4.0 SOIL PESTS

---

In the Klamath Basin there are two organisms of regulatory concern. These include *Verticillium* (fungus), which is a concern in mint and potato fields, and *Meloidogyne chitwoodii* (nematode), which is a concern in potatoes. Both of these organisms inhabit the soil and can be easily spread on tires, boots, or other soil-moving mechanisms. To minimize the potential spread of these organisms, PCGP will wash all equipment and vehicles before entering or leaving any mint or potato field crossed by the proposed Pipeline. Further, contractor personnel and inspectors will wash boots of soil or mud prior to entering and leaving mint and potato fields.

#### 5.0 FOREST PATHOGENS AND INSECTS

---

As stated in Section 2.1 (and repeated here), during timber cruises for timber appraisals and landowner agreements prior to construction; surveys will be conducted to identify potential forest pathogens within the construction footprint (i.e., right-of-way or TEWAs). These forest pathogen surveys will help assess silvicultural treatments that may be required during clearing operations to minimize the potential spread of forest pathogens. Current on-line forest pathogen data provided by the Oregon Department of Forestry would be reviewed prior to timber cruises/surveys to assist in assessing forest pathogens in the vicinity of the Pipeline. Table 1-2 in Appendix 1 provides the existing tree insects and disease infestations that are documented in the vicinity of the Pipeline from the Oregon Department of Forestry survey data.

**BMPs to Minimize the Spread of Forest Pathogens and Insects.** To minimize or prevent the spread of Port-Orford-cedar root disease (*Phytophthora lateralis*) within the Pipeline area, PCGP will implement the following in areas with Port-Orford-cedar (POC) whether stands are infested or not (adapted from BLM, 1994 and USDA, 2004): 1) pressure wash equipment, vehicles and boots with non-infested water prior to entering uninfested POC areas and prior to

departure of infested POC areas; 2) limit ground-disturbing construction and maintenance activities to the dry season, if feasible; 3) designate access and egress routes and parking areas in POC infested areas; 4) where possible, schedule clearing/grading activities in uninfested areas prior to infested areas; and 5) prevent use of right-of-way in POC areas from OHV recreationists by blocking access. Additionally, within areas of POC infestations impacted by the Pipeline, PCGP would ensure that excavated materials from trenching or any necessary grading activities are confined to the local area of the POC infection and not spread down the construction right-of-way or moved to other areas. Stumps or other large woody debris from any POC infected areas would be left onsite within the infected area and not moved to other areas along the construction right-of-way or offsite such as for use in OHV barriers or habitat structures to minimize the potential spread of *P. lateralis* infection. PCGP will also revegetate using POC-resistant strains of seedlings if recommended and available for the seed zone affected by the Pipeline. PCGP's Hydrostatic Test Plan, included as Appendix M to the POD, also describes the BMPs that would be implemented to minimize the potential spread of forest pathogens, including Port Orford cedar root disease and Sudden Oak Death (*Phytophthora ramorum*) from the Pipeline's hydrostatic testing operations. The BMPs described in the Hydrostatic Test Plan are not included or repeated in this document since they are specific to the testing operations and the potential transfer of aquatic invasives from hydrostatic test water sources.

During timber cruising prior to Year One construction, sites infected with annosus root and butt disease will be documented. Management to reduce tree loss from the annosus root rot pathogen (*Heterobasidion annosum*) varies depending on tree species affected. To reduce the spread of annosus root rot in the project area overall, dry borax could be applied, if directed by land-managing agencies to freshly cut stumps and wounds on trees adjacent to the construction right-of-way in areas identified with infestations of annosus root rot, especially when true firs are the tree species present.

A naturally occurring beetle repellent, methylcyclohexenone (MCH), can be applied to downed logs or standing green trees to prevent Douglas-fir beetle attacks (EPA, 1999). In areas within the Pipeline right-of-way where Douglas-fir beetle infestations have been documented, PCGP could apply MCH capsules, if directed by the land-managing agencies, to Douglas-fir trees on the edges of the construction right-of-way and any Douglas-fir down logs within that area before beetle flight in April to preserve the remaining standing trees from infestation and prevent an increase in beetle infestation.

When clearing the construction right-of-way within true fir stands, PCGP will utilize the standard logging practices that directionally fall timber into the construction right-of-way, as well as store logs away from trees adjacent to the construction right-of-way to minimize or prevent damage to standing trees by fir engraver, western pine beetles, flatheaded borer, and mountain pine beetle. Additionally, fresh slash greater than 4 inches provides breeding material for the beetles and can contribute to outbreaks. PCGP will utilize the BLM and Forest Service fuel loading specifications outlined in Section 10.2 of the ECRP to minimize slash accumulations.

Thinning overstocked ponderosa pine stands and removing trees infested with western pine beetles will help reduce the hazard of additional attacks. As recommended by the Forest Service, timber shall be removed from infested stands along the right-of-way as listed below:

- 4 weeks from felling from March 1<sup>st</sup> to June 30<sup>th</sup>;
- 6 weeks from felling from July 1<sup>st</sup> to Sept 30<sup>th</sup>;
- 8 weeks from felling from October 1<sup>st</sup> to December 31<sup>st</sup>.

Excess slash treatment would also be treated within the same timeframes, unless a waiver is requested and granted by the Forest Service. Timber felling and removal activities will be subject to seasonal constraints associated with avian species provided in Attachment C of the Right-of-Way Clearing Plan. If a mature ponderosa pine tree is identified with western pine beetle infestation within, but on the immediate edge of the construction right-of-way and will not pose a safety or construction hazard, it will be retained for future snag recruitment to benefit wildlife.

Flatheaded borer outbreaks are usually associated with dead or severely damaged trees, especially after disturbance events such as drought, storm damage, or fire. PCGP will take standard precaution to minimize damage to adjacent trees when clearing and maintaining the construction right-of-way, including felling trees within the construction right-of-way away from adjacent, standing trees, reducing risk of infection by flatheaded borer.

The most effective method for managing dwarf mistletoe is harvesting, burning, and/or girdling infected trees, because this parasite needs a live host. Roads, treeless ridgetops, and openings can serve as potential barriers to dwarf mistletoe spread. All branches with witches' brooms should be cut and nearby branches pruned because they most likely would be infected. If mistletoe is identified within the Pipeline Project area, PCGP will implement recommended BMPs following consultation and recommendation by agency staff.

**Aboveground Facility Interiors.** Rodent populations inside facilities such as the Klamath Compressor/Meter Stations (MP 228.13), and the Jordan Cove Meter Station at MP 0.00, which are all located on private lands, can pose a human health risk and may damage components of the facilities (control panels, wiring, etc.). Therefore, rodent control may be required in these aboveground facilities. If necessary, PCGP would implement rodent control in facility interiors using non-restricted rodenticides and trapping (e.g., snap traps).

## 6.0 REFERENCES

---

- Butler, Tim 2017. Oregon Department of Agriculture, Plant Division, Noxious Weed Control Manager. Personal communication with Edge Environmental, Inc.
- Oregon Department of Agriculture. 2017. Noxious Weed Policy and Classification System. Oregon Department of Agriculture, Noxious Weed Control Program, Salem, OR.
- Riley, Steve. 2009. Personal Communications with Edge Environmental, Inc. September 2, 2009.
- USDA, 2004. Management of Port-Orford-Cedar in Southeast West Oregon. Final Supplemental Environmental Impact Statement. Coos Bay, Medford, and Roseburg Bureau of Land Management Districts and the Siskiyou National Forest - U.S. Department of Agriculture. Forest Service and U.S. Department of Interior Bureau of Land Management. Portland, OR. January.
- USDA, 2005. Pacific Northwest Region, Invasive Plant Program, Preventing and Managing Invasive Plants, Record of Decision, Forest Service, Pacific Northwest Region. States of Oregon and Washington, Including Portions of Del Norte and Siskiyou Counties in California, and Portions of Nez Perce, Salmon, Idaho and Adams Counties in Idaho. October, 2005. Portland, Oregon.

USDI, 2010a. Record of Decision, Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in Oregon. October, 2010.

USDI, 2010b. Final Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in Oregon. Oregon State Office. , 2010.

**Other Resource links:**

CDMS Applied Intelligence Agro-chemical database product search, allow search of registrant company specific product labels (<http://www.cdms.net/Label-Database>).

Extension Toxicology Network (EXTOXNET) Pesticide Information Profiles. Cooperative effort of University of California-Davis, Oregon State University, Michigan State University, Cornell University and University of Idaho through Oregon State University, Corvallis, Oregon. (<http://extoxnet.orst.edu/pips/ghindex.html>).

Pesticide Fact Sheets. National Pesticide Information Center. (<http://npic.orst.edu/npicfact.htm>).

## **Appendix 1**

**Table 1-1  
Oregon State Listed Noxious Weeds that Could Occur or  
Are Documented in the Vicinity of the Pipeline Project**

**Table 1-2  
Tree Insect and Disease Infestation  
Documented within 0.5 Mile of the Pipeline Project**

**Table 1-1  
Oregon State Listed Noxious Weeds<sup>1</sup> that Could Occur or Are Documented within the Vicinity of the Pipeline Project**

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
<b>Oregon A-Listed Weeds</b>							
Plumeless thistle <i>Carduus acanthoides</i>	Found in pastures, valleys, fields, roadsides, and open native habitats.	Douglas <sup>6</sup> Klamath (L)		RO-D LV-D	A	Yes	
Woolly distaff thistle <i>Carthamus lanatus</i>	Invades pasture and range; difficult to eliminate because of persistent seedbank.	Douglas (L) Jackson <sup>6</sup>		RO-D MD-D	A	Yes	Three locations documented in 2004 near MP 66.9 in ROW and within 30 feet of ROW/TEWA; Six sites identified N/S of ROW near MP 71.6 in 2004
Squarrose knapweed <i>Centaurea virgata</i>	A rangeland and pasture invader, rendering these areas unsuitable for productive grazing. Spreads fastest in sheep rangeland	Klamath <sup>6</sup>		MD-D LV	A	Yes	
Paterson's curse <i>Echium plantagineum</i>	Invades oak woodland, native prairie, dry upland slopes; spreads rapidly; seeds spread by vehicles, humans, animal, water, wind, contaminated commercial seed.	Douglas (L)			A	Yes	
Orange hawkweed <i>Hieracium (Piolsella) aurantiaca</i>	Occurs in native meadows, gravel pits, forest openings, permanent pastures, roadsides, and hayfields.	Coos (L) Klamath (L)			A	Yes	
Matgrass <i>Nardus stricta</i>	Occurs in damp areas near swamps, estuaries, and watercourses; found in seasonally saturated mountain meadows.	Klamath (L)		CB	A	Yes	
Yellow floating heart <i>Nymphoides peltata</i>	Aquatic plant that grows on slow-moving rivers, lakes, reservoirs, and ponds.	Douglas (L) Jackson (L)	UMP-D RRS-D		A	Yes	
Taurian thistle <i>Onopordium tauricum</i>	Most often occurs in rangeland and openings in ponderosa pine forests; reproduces from seed.	Klamath (L)			A	Yes	
Smooth cordgrass <i>Spartina alterniflora</i>	Perennial aquatic grass; ≤ 5 ft.; grows on intertidal mud or sand flats with minimal wave action	Coos (H)			A	Yes	

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Dense-flowered cordgrass <i>Spartina densiflora</i>	Well adapted to lower to middle salt marsh areas where it aggressively out competes native grasses, sedges and Salicornia stands	Coos (L)			A	Yes	
<b>Oregon B-Listed Weeds</b>							
Velvetleaf <i>Abutilon theophrasti</i>	Commonly found in cultivated fields, gardens, fencerows, and waste areas; spread by seed.	Coos (L) Douglas (L) Jackson (L)		CB-D LV-D	B	No	Crosses ROW at MP 18.4BR
Biddy-biddy <i>Acaena novae-zelandiae</i>	Prefers open, disturbed, well-drained sites, including stable dunes, open scrub, grassy areas, and trampled sites in coastal habitats.	Coos (L)	RRS-NF	CB-D	B	No	Along EARs 31.51, 32.10, 31.69-31.81; ROW MP 31.68-31.82
Russian knapweed <i>Acroptilon repens</i>	Infests native range and irrigated croplands; spread by rootstocks and seed.	Douglas (L) Jackson (L) Klamath (L)	FW-D	MD-D LV-D	B	No	
Pheasant's eye <i>Adonis aestivalis</i>	Prefers moist, well-drained soils but is adapted to seasonally dry soils.	Klamath (L)		LV-D	B	No	
Jointed goatgrass <i>Aegilops cylindrical</i>	Grows in cultivated fields; invades grasslands; introduced as contaminant in equipment and seed.	Jackson (L) Klamath (L)	–	MD-D	B	No	
Tree-of-heaven <i>Ailanthus altissima</i>	Creates problems in natural systems by forming large thickets via root suckering. Riparian areas are especially affected.	Douglas (L) Jackson (L)		RO-D MD-D	B	No	
Garlic mustard <i>Alliaria petiolata</i>	Displaces native forest under story species; frequently invades forest opening edges, roads, streamsides, trails, and agricultural land. Thrives in partial shade of oak savanna.	Jackson (L)		MD-D	B	Yes	
Ragweed <i>Ambrosia artemisiifolia</i>	Found along ditches and waste areas.	Coos (L) Douglas (L) Jackson (W)		MD-D	B	No	
False brome <i>Brachypodium sylvaticum</i>	Grows in a variety of habitats and competes for early season moisture; threat to natural areas and commercial timber production.	Coos (L) Douglas (L) Jackson <sup>6</sup>	UMP-D RRS-D	CB-D RO-D MD-D	B	No	Along EAR 24.36; ROW at MP 24.37
Butterfly bush <i>Buddleja davidii</i>	Pioneering species that dominates open habitats, such as meadows, open slopes and dunes, and	Coos (W) Douglas (L) Jackson (L)		CB-D	B	No	Adjacent to Menasha and K-2 Pipeyards; Along

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
	reforested sites.						EARs 31.51, 32.10, 31.69-31.81; ROW MP 31.68-31.82
Lens-podded whitetop <i>Cardaria chalapensis</i>	Very invasive weed forms dense patches that can completely dominate meadows and fields, restricting the growth of other species and degrading pastures.	Coos (L) Jackson (L) Klamath (L)		LV-D	B	No	
Musk thistle <i>Carduus nutans</i>	Found in pasture, range and timberlands; spreads by seeds, taking advantage of human disturbance; prolific in moist condition; commonly infests ditch banks, roadsides, and cereal fields.	Jackson (L) Klamath (W)	Yes FW-D	MD-D LV-D	B	No	Near MP 174.28; in ROW near MP 204.65; EAR 209.00, 221.92 near ROW
Italian thistle <i>Carduus pycnocephalus</i>	Infests roadsides and waste areas; spreads rapidly; replaces desirable forage species.	Coos (W) Douglas (W) Jackson (L)	UMP-D RRS-D	RO-D MD-D	B	No	MP 70.79
Slender-flowered thistle <i>Carduus tenuiflorus</i>	Infests roadsides and waste areas; outcompetes more desirable forage vegetation.	Coos (W) Douglas (W) Jackson			B	No	
Diffuse knapweed <i>Centaurea diffusa</i>	Grow in dense stands in a variety of open land, excluding more desirable forage species.	Douglas (L) Jackson (L) Klamath (L)	Yes UMP-D RRS-D FW-D	RO-D MD-D LV-D	B	No	
Spotted knapweed <i>Centaurea maculosa</i>	Form dense stands on any open ground, eliminating more desirable forage.	Coos (L) Douglas (L) Jackson (L) Klamath (W)	Yes UMP-D RRS-D	MD-D LV-D	B	Yes	MP 39.78; EAR 39.60-39.72; MP 89.97; EAR 23.42BR-23.53BR; MPs 23.51-23.54BR; EAR to Starveout Creek comm site; MP 157.88; near MP 187.44/PAR 187.46; adjacent to K-Falls Memorial Drive 2 Pipe Yard

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Meadow knapweed <i>Centaurea pratensis</i>	In moist roadsides, sand or gravel bars, river banks, irrigated pastures, moist meadows, forest openings.	Coos (L) Douglas (W) Jackson (W) Klamath (H)	UMP-D RRS-D FW-D	CB-D RO-D MD-D	B	No	54.3, ≈56.3, 56.75, 56.8-57.4, 57.6, 57.7-57.9, 119.25; TEWA 160.54-W (RRS); ROW MP 23.52BR and along EAR 23.42BR-23.53BR; along EARs 31.51, 32.10, 31.69-31.81; ROW MP 31.68-31.82; EAR to Starveout Creek comm site
Yellow starthistle <i>Centaurea solstitialis</i>	In dry slopes, grasslands, overgrazed rangelands, pastures, edges of cropland, roadsides, and disturbed areas; toxic to horses.	Coos (L) Douglas (W) Jackson (W) Klamath (L)	Yes UMP-D RRS-D FW-D	MD-D LV-D	B	No	MPs 67.17-67.28, 67.85, 67.95-68.03, 68.25, 68.5, 68.55, 69, ≈69.1, 70.8, 80.43, 80.5, 80.6-80.82, 121.99, 126.3-126.5, 128.5-128.7, 141.65-141.9, 142.1-144, 150.16, 160.7, 224.78, 224.87, 224.94; LTM, Inc. Pipe Yard; Winchester Pipe Yard; Umpqua River; Access Roads; MP 150.82-150.9; TEWA 142.02-W; EAR 141.80; MP 126.47; EAR 126.27-126.59; near MP 151.3; EARs 89.50, 19.89-80.42; UCSA 79.17-W.

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Rush skeletonweed <i>Chondrilla juncea</i>	In rangeland and cropland.	Douglas (W) Jackson (W) Klamath (L)	UMP-D RRS-D FW-D	RO-D MD-D LV	B	Yes	63.55-63.8, 64.1-64.2, 67.17-67.28, 67.95, 69, ≈69.1, 70.23-70.3, 76.36, 94.7, 98.3-98.4, 102.2, MP 104.2/EAR 104.24; EAR 138.63; EAR to Starveout Creek comm site
Canada thistle <i>Cirsium arvense</i>	Found in cultivated fields, riparian areas, pastures, rangeland, forests, lawns, gardens, roadsides, and waste areas; most commonly spread by root tillage.	Widespread throughout Oregon	Yes FW-D	CB-D RO MD-D LV-D	B	No	MPs 37.65-38.9, 47-47, 48.27-48.4, 55.1, 78.4, 91.1-91.6, 93.4-93.4, 96.7-96.9, 105.7, 109.8, 109.9, 199.57, 203.95; EARs 24.37BR, 23.32BR, 24.10, 24.36, 24.55, 26.95; EARs 150.43-150.65, Starveout Ceeek Rd; EARs 46.51, 91.19-91.74, 206.50; TEWA 152.85-N; near MP 91.54; near MP 191.47, 200.37, 201.0 (in ROW); near TEWA 201.01-W; along State Highway 39
Bull thistle <i>Cirsium vulgare</i>	Found in pastures, rangelands, and newly logged sites; replaces native grasses and forbs.	Widespread throughout Oregon	Yes UMP-D RRS-D	CB-D	B	No	Numerous EARs along BR route; EAR 24.10; EAR 24.55; EAR 115.36; near MP 149, 195.56

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Old man's beard <i>Clematis vitalba</i>	A "creeper" found along roadsides, river banks, gardens, hedges, shelter belts, disturbed forest, and forest edges.	Coos (L) Douglas (L)	RRS-D	CB-D MD-D	B	No	
Poison hemlock <i>Conium maculatum</i>	Grows in pastures, streams, and irrigation ditches; extremely poisonous.	Widespread throughout Oregon	FW-D	MD-D LV-D	B	No	Near MP 195.56; adjacent to K-Falls Memorial Drive 2 Pipe Yard
Field bindweed <i>Convolvulus arvensis</i>	Competitive crop weed.	Coos (W) Douglas (W) Jackson (W) Klamath (W)	FW-D	CB-D RO-D MD-D LV-D	B	Yes	
Jubata grass <i>Cortaderia jubata</i>	Found within coastal regions in forests.	Coos (L) Douglas (L)	RRS-D(?)	CB-D	B	No	
Dodder <i>Cuscuta spp.</i>	Parasite on agricultural crops; drastically reduces yield.	Douglas (L) Jackson (L)	FW-D	MD-D	B	No	
Houndstongue <i>Cynoglossum officinale</i>	Highly invasive; significantly reduce forage; toxic to cattle and horses.	Jackson (L) Klamath (L)	Yes RRS-D FW-D	CB-D MD-D LV-D	B	No	FW: MP 171.4-171.6; near MP 171.38
Yellow nutsedge <i>Cyperus esculentus</i>	Invades cultivated agricultural lands.	Coos (W) Douglas (W) Jackson (W)			B	No	
Scotch broom <i>Cytisus scoparius</i>	Pioneer species which invades disturbed sites, natural areas, dunes, forestlands; prolific seed producer; costly to control.	Coos (W) Douglas (W) Jackson (W) Klamath (L)	Yes UMP-D RRS-D	CB-D RO MD	B	No	47.3-47.3, 52.15-52.15, 53.65, 55.1, 56.1, 63.65, 82.94, 90.35, 94.7, 95.54; LTM, Inc. Pipe yard; Access Roads; MPs 36.2, 37.02, 38.64, 39.5; TEWA 38.86-W; TEWA 40.24-N; MP 44.84; along numerous EARs in CB, RO, and MD BLM; near MP 54.24; MP 64.25; MP 78.4; TEWA 79.85-N; MP

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
							80.13; MP 91.55; adjacent to K-Falls Memorial Drive 2 Pipe Yard
Portuguese [Striated] broom <i>Cytisus striatus</i>	Prolific in savannahs, scrubs, and open forests; highly competitive in commercial timberlands with canopies up to 20 feet across.	Douglas (L)	UMP-D	RO-D MD-D	B	Yes	
Spurge laurel <i>Daphne laureola</i>	Prefers better-drained clay loams and forest loams with neutral to acidic soils. Escaped populations form dense stands mostly under tree canopies.	Douglas (L)		RO-D MD-D	B	No	
Cutleaf teasel <i>Dipsacus laciniatus</i>	Invasive in grasslands, savannahs, and waste areas.	Jackson (L) Klamath (L)	RRS-D	CB-D MD-D	B	No	EAR 23.32BR; EAR 24.36; EAR 26.95; EAR 20.05BR
South American waterweed <i>Egeria (Elodea) densa</i>	Aquatic herb that grows under water; invades new aquatic environments, impedes waterways, increases flooding.	Coos (W) Douglas (W) Jackson (L)			B	No	
Spanish heath <i>Erica lusitanica</i>	Found along utility rights-of-ways, riparian areas, and roadsides; spread rapidly by seed.	Coos (L)			B	No	
Leafy spurge <i>Euphorbia esula</i>	Invades disturbed sites, including roadsides, prairies, savannahs, pastures, and abandoned fields; difficult to control.	Coos <sup>5</sup> Jackson (L) Klamath (L)	FW-D	CB-D MD-D LV-D	B	Yes	
Myrtle spurge <i>Euphorbia nyrsinites</i>	Displaces desirable native species; caustic to human skin.	Jackson (L) Klamath (L)			B	No	
French broom <i>Genista monspesslana</i>	Aggressive pioneer species of land disturbances; costly to control because of persistence.	Coos (W) Douglas (W)	UMP-D RRS-D	CB-D RO-D MD-D	B	No	Multiple EARs in CB BLM (23.42BR- 23.53BR, 28.50; 24.36); MP 23.48; MP 23.52; EARs 51.54 (SH 42), 79.89-80.42; MP 98.13

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Herb Robert <i>Geranium robertianum</i>	Habitats that have been opened up through weed control activities	Douglas (L)	RRS-D	CB-D RO-D MD-D	B	No	
English ivy <i>Hedera helix</i>	Very invasive west of cascades; displaces native vegetation on forest floors.	Coos (W) Douglas (W) Jackson (W)	UMP-D RRS-D	CB-D RO-D MD-D	B	No	≈69.1; EAR 24.37BR; EAR 16.97BR-18.14BR; MP 16.97BR-17.02BR
St. Johnswort <i>Hypericum perforatum</i>	Invades rangelands to open timber; rapidly spreads on well-drained, disturbed sites; poisonous to livestock.	Widespread throughout Oregon	Yes UMP-D RRS-D FW-D	CB-D RO-D MD-D LV-D	B	No	102.3, 104.2, 106.8, 108.1-108.4, 108.9, 168.3, 168.5-168.8, near MP 170.56, 170.7, 174.6, 174.85, 180.55, 180.87, 186.26, 186.47, 186.96; TEWA 168.85; TEWA 168.59/MP 168.69; along EAR 168.84; near TEWA 174.52-W; EAR 119.03; MP 176.56; EAR 209.00
Policeman's helmet <i>Impatiens glandulifera</i>	Forms dense stands in riparian areas and moist lowlands, excluding native forbs.	Coos (L)			B	No	
Yellow flag iris <i>Iris pseudacorus</i>	Invades riparian, open water features, irrigation ditches; can reduce the carrying-capacity of wetlands for waterfowl and disrupt other ecological relationships; can restrict flow in waterways; difficult and expensive to control.	Coos (L) Douglas (W) Klamath (L)	FW-D	CB-D RO-D MD-D	B	No	
Dyers woad <i>Isatis tinctoria</i>	Occurs in rangeland, grain fields, pastures, waste areas, roadsides, and fencerows. Also found in orchards and cultivated crops.	Douglas (L) Jackson (L) Klamath (L)	RRS-D FW-D	MD-D LV-D	B	No	

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Kochia <i>Kochia scoparia</i>	Invades a wide variety of dry habitats; resistant to many herbicides.	Jackson (W) Klamath (W)			B	No	
Perennial peavine <i>Lathyrus latifolius</i>	Occurs on rights-of-ways, forested regions, and other natural areas.	Coos (L) Douglas (W) Jackson (L) Klamath (L)	UMP-D RRS-D	CB-D RO-D MD-D	B	No	MP 16.98BR; EARs 20.05BR, 24.37BR, 16.97BR-18.14BR; EAR 49.76
Whitetop (hoary cress) <i>Lepidium draba</i>	Common weed species on alkaline soils, but is not restricted to them.	Coos (L) Jackson (L) Klamath (L)	Yes	MD-D	B	No	
Perennial pepperweed <i>Lepidium latifolium</i>	Found in disturbed areas or bare soil (i.e., agriculture, rangeland, roadside ditches; degrades nesting habitat for wildlife; colonizes rapidly.	Jackson (L) Klamath (W)	FW-D	LV-D	B	Yes	Along State Highway 39 near MP 211.43
Hairy whitetop <i>Lepidium pubescens</i>	Common on alkaline soils, but is not restricted to them. Forms dense patches that can completely dominate sites.	Coos (L) Jackson (L) Klamath (L)			B	No	
Dalmation toadflax <i>Linaria dalmatica (L. genista)</i>	Out-competes desirable forage plants for moisture and nutrients; thrives in arid rangelands, pastures, and railways.	Coos (L) Douglas (L) Jackson (L) Klamath (W)	Yes UMP-D RRS-D FW-D	MD-D LV-D	B	Yes	160.37-160.42; TEWA 160.54-W; near MP 174.28
Yellow toadflax <i>Linaria vulgaris</i>	Aggressive weed in rangeland where it quickly replaces grasses and herbs.	Douglas (L) Jackson (L) Klamath (L)	UMP-D RRS-D FW-D	MD-D LV-D	B	No	
Waterprimrose <i>Ludwigia hexapetala, peploides</i>	Perennial occurring in marshes, swamps, ditches, ponds, and around lake margins, where they form dense floating mats up to 3 feet tall, crowding out native species.	Jackson (L)		MD-D	B	Yes	
Purple loosestrife <i>Lythrum salicaria</i>	Crowds out marsh vegetation required by wildlife for food and shelter; found along shorelines of shallow ponds, streams, and wetlands.	Coos (W) Douglas (W) Jackson (W) Klamath (L)	RRS-D	CB-D RO-D MD-D	B	No	MP 69
Parrot's feather <i>Myriophyllum aquaticum</i>	Aquatic plant found in freshwater lakes, ponds, streams, and canals; generally slower moving water.	Coos (W) Douglas (W) Jackson (L)		RO-D MD-D	B	No	

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Eurasian watermilfoil <i>Myriophyllum spicatum</i>	Adverse impact to fish habitat; expensive to control.	Coos (L) Douglas (L) Jackson (L)			B	No	
Scotch thistle <i>Onopordum acanthium</i>	Inhabits moist sites or drainages in dry locations.	Douglas (L) Jackson (L) Klamath (W)	Yes FW-D	CB-D MD-D LV-D	B	No	Along EAR 206.50, 209.00, 217.67; Along EAR 228.36 adjacent to TEWA 228-01-N (Klamath Compressor Station)
Common reed <i>Phragmites australis</i>	Grows in sites that hold shallow water, including roadside ditches, marshes, swamps, brackish estuaries, and alkaline wetlands.	Klamath (L)			B	No	
Japanese knotweed <i>Polygonum cuspidatum</i>	Grows vigorously along roadsides, waste areas, streams, ditches; rapidly establishes on scoured shoreslines, islands, and adjacent forested areas.	Coos (L) Douglas (W) Jackson (L)	Yes UMP-D RRS-D	CB-D RO-D MD-D	B	No	≈MP 69.1
Himalayan knotweed <i>Polygonum polystachyum</i>	Rapidly colonize scoured shores and islands; threat to riparian areas.	Coos (L) Douglas (L)		CB-B	B	No	
Giant knotweed <i>Polygonum sachalinense</i>	Prevents streamside regeneration in riparian areas.	Coos (L) Douglas (L)	UMP-D	CB-D RO-D MD-D	B	No	
Sulphur cinquefoil <i>Potentilla recta</i>	In disturbed areas (i.e., roadsides, pastures, abandoned fields).	Douglas (L) Jackson (L) Klamath (L)	UMP-D RRS-D FW-D	MD	B	No	MP 160.0/EAR 159.99-160.62
Himalayan [Armenian] blackberry <i>Rubus armeniacus</i> ( <i>R.</i> <i>procerus</i> , <i>R. discolor</i> )	Aggressively displaces native vegetation; dominates most riparian habitat; costly to manage.	Coos (W) Douglas (W) Jackson (W) Klamath (L)	Yes UMP-D RRS-D FW-D	CB-D RO MD	B	No	53.55, 53.65, 54- 54.2, 54.3, 55.1, ≈56.3, ≈56.55, 56.75, 57.6-59.5, 59.6-60.1, 60.5, 62.5-63.9, 63.9- 64.9, 65.5-65.6, 65.8, 70.2-70.45, 78.4, 78.5, 78.6, 79.9, 80, 80.1, 80.2, 80.3, 80.4,

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
							84.2, 89.9-90, 90.22-90.45, 95.54, 102.6- 102.82, 105.9, ≈119.2-119.7, 133.2, 142.1- 145.5, 147.4, 149.6-149.7, 149.8, 150.25- 150.3, 151.6; near 152.5 and 153.03; along numerous access roads in CB, RO, and MD BLM
Mediterranean sage <i>Salvia aethiopsis</i>	In rangeland, alfalfa, and wheat on dry, south-facing slopes.	Jackson (L) Klamath (W)	FW-D	LV-D	B	No	Adjacent to K-Falls Industrial oil Pipe Yard
Tansy ragwort <i>Senecio jacobaea</i>	Prolific in pastures, clearcuts, and disturbed roadside areas; toxic to cattle and horses.	Coos (W) Douglas (W) Jackson (L) Klamath (H)	Yes UMP-D RRS-D FW-D	CB-D MD-D RO-D LV-D	B	Yes	31.58-32.5; 36.5- 38.95; 47.7-47.7, 48.27-48.4, 51.5- 51.5, 75.4, 79.6- 80.70; 90.33, 91.5- 91.7, 93-93, 93.4- 93.5, 97.1-97.7, 98.6-99.3, 102.3/EAR 102.30, 105.7- 105.8, 108.13/EAR 108.32, 109.8, 110.2
Milk thistle <i>Silybum marianum</i>	Infests roadsides, waste and disturbed areas, grazing lands; poisonous to livestock.	Coos (W) Douglas (W) Jackson (L)		RO-D MD-D	B	No	
Buffalobur <i>Solanum rostratum</i>	Drought-resistant; survives in disturbed, dry areas (i.e., meadows, dry rangelands, pastures, roadsides, waste areas).	Coos (H) Douglas (L) Jackson (L) Klamath (L)			B	No	
Johnsongrass <i>Sorghum halepense</i>	Extremely competitive weed of corn.	Douglas (L) Jackson (L)			B	No	

Common Name Scientific Name	Characteristics	Occurrence/Subject to Control			Oregon DOA Class	Oregon DOA Target "T" Weed	Documented Occurrence in Vicinity of Pipeline <sup>5</sup>
		County <sup>2</sup>	Forest Service <sup>3</sup>	BLM Districts <sup>4</sup>			
Spanish broom <i>Spartium junceum</i>	Grows in drier sites; costly to control because of persistent seed bank (> 80 years).	Douglas (L) Jackson (L)	RRS-D	RO-D MD-D	B	No	
Medusahead rye <i>Taeniatherum caput-medusae</i>	Outcompetes other grasses by extracting moisture before native perennial grasses begin to grow.	Coos (L) Douglas (W) Jackson (W) Klamath (L)	Yes UMP-D RRS-D FW-D	RO-D MD-D LV-D	B	No	MP 129.05-129.1 and adjacent
Saltcedar <i>Tamarix ramosissima</i>	Occurs along streams, canals, and reservoirs.	Jackson (L) Klamath (L)		LV-D	B	Yes	
Puncturevine <i>Tribulus terrestris</i>	Infests pastures, ditches, fields, and roadsides; seeds easily spread by animals, humans, and vehicles.	Douglas (L) Jackson (W) Klamath (L)	RRS-D	RO-D MD-D LV-D	B	No	Along State Highway 39 near MP 211.15; adjacent to Merrill Oregon RR Siding Pipe Yard
Gorse <i>Ulex europaeus</i>	Persistent pioneer species adapted to a variety of habitats; plant growth and stand density increase rapidly; persistent seed bank.	Coos (W) Douglas (L)	UMP-D RRS-D	CB-D RO-D MD-D	B	Yes	Adjacent to Coquille Yard; MP 21.4 BR; MP 21.97BR; MP 22.08BR; EAR 20.95BR; near TEWA 25.72-W; several EARs in CB BLM; MP 47.74
Spiny cocklebur <i>Xanthium spinosum</i>	In highly disturbed waste areas and barnyards; surrounds small reservoirs; seeds and seedlings are poisonous.	Coos (L) Douglas (L) Jackson (L) Klamath (L)		MD-D LV-D	B	No	

<sup>1</sup> Sources: ODA, 2017a; Forest Service, 2017c.

<sup>2</sup> Letter in parenthesis indicates distribution within the county (ODA 2017a): L = Limited, W = Widespread, and H = Historic. If there is not a letter, ODA (2017a) did not indicate the species was located in counties crossed by the Proposed Route.

<sup>3</sup> Forest Service Codes ("D"=documented in National Forest, although not always in County crossed by Pipeline; Forest Service 2005 and 2017b): UMP-Umpqua N.F., RRS-Rogue River-Siskiyou N.F., FW- Fremont-Winema N.F. "Yes" indicates that it is documented or suspected to occur in USDA-FS Region 6 but not necessarily within forests crossed by the Pipeline and subject to control if located in the Forest (Forest Service, 2005).

<sup>4</sup> BLM District Codes ("D"=documented in BLM District, although not always in County crossed by Pipeline; BLM 1995a, 1995b, 1995c, 1995d, and 2017b): CB-Coos Bay BLM, RO-Roseburg BLM, MD-Medford BLM, LV- Lakeview BLM.

<sup>5</sup> Documented within 100 feet of Pipeline project during survey efforts for the Pipeline by Siskiyou BioSurvey, LLC from 2007 through 2017, or included in data provided to PCGP (Forest Service, 2017b; BLM, 2017b; ODA 2018).

<sup>6</sup> BLM District (BLM 2017b) indicated that this species is found in the listed county.

**Table 1-2  
Tree Insect and Disease Infestation Documented within 0.5 Mile of the Pipeline**

<b>Milepost (if crossed by Pipeline)</b>	<b>Location Within Vicinity of Pipeline</b>	<b>Identified Insect or Disease</b>	<b>Number of trees, if known</b>	<b>Year</b>	<b>Land Owner</b>
MP 6.7R– MP 22.0	Along ROW. Common throughout entire west coast forest.	Swiss Needle Cast	U	2007-2017	BLM/PV
	0.2 mi S of MP 1.23	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2008	PV
	0.3 mi N of MP 2.3	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2010	PV
	0.1 mi N of MP 2.43	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2009	PV
	near Kentuck Slough; 0.4 mile NE of MP 6.4R	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2014	PV
	0.3 mi W of MP 7.2R	Douglas-fir Beetle	2	2012	PV
	0.04 mi N of MP 9.57R	Douglas-fir Beetle	1	2017	PV
	0.3 mi W of MP 10.19R	Douglas-fir Beetle	1	2017	PV
	0.1 mi S of MP 13.6BR	Douglas-fir Beetle	1	2017	BLM
	0.7 mi W of MP 14.4BR	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	0.9 acre	2017	PV
	0.7 mi W of MP 15.2BR	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	0.99 acre	2011	PV
	0.1 mi W of MP 15.8BR	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2.5 acres	2010	PV
	0.3 mi E of MP 20.9BR	Douglas-fir Beetle	1	2015	BLM
	0.9 mi W of MP 21.7BR	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	0.5 acre	2010	PV
	0.5 mi E of MP 22.8BR	Flatheaded Borer	0.5 acre	2008	BLM
	0.1 mi W of MP 25.2BR	Douglas-fir Beetle	1	2014	BLM
	0.2 to 0.5 mi SW of MP 21.8	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	5	2012, 2015	BLM
	0.3 mi SW of MP 22.3	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2013	PV
	0.2 mi SW of MP 22.45	Flatheaded Borer	1	2007	PV
MP 23.1	Construction ROW	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2013	PV
	0.1 mi SW of MP 23.2	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2015	PV
	0.3 mi SW of MP 23.2	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2014	BLM
	0.05 mi S of MP 23.46; 0.2 mi SE of MP 23.53	Douglas-fir Beetle	2	2006, 2008	BLM
	SW of ROW near MP 23.46	Flatheaded Borer	1	2008	BLM

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	0.13 mi W of MP 23.8	Douglas-fir Beetle	1	2017	BLM
	0.4 mi NE of MP 25.1	Flatheaded Borer	2	2009	BLM
	0.2 mi SW of MP 25.3	Flatheaded Borer	2	2009	PV
	0.3 mi NE of MP 26.9	Douglas-fir Beetle	2	2010	PV
	0.2 mi E of MP 27.0	Douglas-fir Beetle	2	2015	BLM
	0.1 mi E of MP 30.2	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2014	PV
	0.3 mi E of MP 30.5	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2014	BIA
MP 30.44 – MP 30.50	Construction ROW	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	11	2004, 2011	PV
	0.3 mi E of MP 30.5	Flatheaded Borer	1	2016	BIA
MP 30.51 – MP 30.55	Construction ROW	Flatheaded Borer	3	2007	PV
MP 30.84 – MP 30.89; TEWA 30.86	Construction ROW	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2011	PV
	0.3 mi S of MP 31.0	Fir Engraver	1	2007	BLM
MP 32.14 – MP 32.20	Construction ROW	Douglas-fir Beetle	1	2010	BLM
	0.3 mi SW of MP 33.6	Flatheaded Borer	2	2008	BIA
	0.4 mi SW of MP 33.6	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2010	BIA
	0.4 mi SW of MP 33.8	Flatheaded Borer	2	2008	BIA
	0.3 mi SW of MP 34.86	Flatheaded Borer	4	2006	PV
	0.3 mi SW of MP 34.7	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2008	BIA
	0.3 mi N of MP 34.9	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	10	2008, 2009	PV
MP 35.62 – MP 35.67	Construction ROW	Flatheaded Borer	1	2008	BLM
	0.3 mi SE of MP 36.4	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2012	BLM
	0.5 mi S of MP 35.81	Douglas-fir Beetle	5	2006	PV
	0.1 mi S of MP 36.75	Fir Engraver	5	2005	BLM
	0.1 mi NW of MP 37.3	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2012	PV
	0.07 mi S of MP 37.42	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	1	2011	BLM
	0.3 mi SE of MP 37.4	Douglas-fir Beetle	2	2015	BLM
	0.2 mi S of MP 37.5	Flatheaded Borer	2	2016	BLM
	0.2 mi N of MP 37.6	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2011	BLM
	0.4 mi S of MP 39.4	Port-Orford-Cedar Root Disease ( <i>Phytophthora lateralis</i> )	2	2016	PV

<b>Milepost (if crossed by Pipeline)</b>	<b>Location Within Vicinity of Pipeline</b>	<b>Identified Insect or Disease</b>	<b>Number of trees, if known</b>	<b>Year</b>	<b>Land Owner</b>
MP 39.65	Construction ROW	Root disease	10	2016	PV
	0.3 mi NE of MP 40.0	Douglas-fir Beetle	2	2015	BLM
TEWA 40.87-N	TEWA	Flatheaded Borer	1	2007	BLM
	NE of ROW near MP 48.04	Douglas-fir Beetle	1	2010	PV
	0.3 mi NE of MP 42.7	Douglas-fir Beetle	2	2015	BLM
	0.3 mi NE of MP 43.3	Flatheaded Borer	2	2014	BLM
	0.3 to 0.5 mi NE of MP 43.4	Flatheaded Borer	8	2016	BLM
	0.4 mi S of MP 45.2	Douglas-fir Beetle	2	2010	BLM
	0.3 mi S of MP 45.3	Douglas-fir Beetle	2	2010	BLM
	0.1 mi S of MP 45.6	Flatheaded Borer	2	2016	BLM
	0.3 mi S of MP 46.0	Flatheaded Borer	2	2009	PV
	0.4 mi SW of MP 47.1	Mountain Pine beetle, Sugar Pine	2	2015	BLM
	0.4 mi SW of MP 47.2	Flatheaded Borer	2	2015	BLM
	0.02 mi N of MP 48.18	Douglas-fir Beetle	2	2010	PV
	0.02 mi S of MP 48.3	Douglas-fir Beetle	2	2010	PV
	0.04 mi S of MP48.29	Douglas-fir Beetle	1	2010	BLM
MP 48.29 – MP 48.44	Construction ROW	Fir Engraver	20	2005	BLM
	0.04 mi N of MP 48.61	Flatheaded Borer	1	2007	PV
	0.3 mi S of MP 49.77	Flatheaded Borer	10	2005	PV
	0.2 mi N of MP 50.48	Flatheaded Borer	2	2007	PV
	0.3 mi N of MP 50.7	Flatheaded Borer	4	2007	PV
MP 50.88 – MP 51.1	Construction ROW	Flatheaded Borer	6	2007, 2008	BLM
	0.2 mi N of MP 50.9	Flatheaded Borer	2	2016	PV
	0.3 mi N/NE of MP 51.1	Flatheaded Borer	4	2016	PV
	0.2 mi S of MP 51.12	Fir Engraver	5	2005	BLM
	0.2 mi SW of MP 51.4	Flatheaded Borer	2	2007	BLM
	0.02 mi N of MP 51.61	Fir Engraver	10	2005	BLM
	0.4 mi N of MP 52.15	Fir Engraver	5	2005	BLM
	0.4 mi S of MP 52.2	Flatheaded Borer	2	2008	PV
	0.3 mi N of MP 53.3	Flatheaded Borer	2	2015	PV
	0.2 mi SW of MP 53.5	Flatheaded Borer	3	2016	PV
	0.2 mi N of MP 54.3	Flatheaded Borer	34	2016	PV
	0.3 mi NW of MP 54.9	Flatheaded Borer	4	2012	PV
	0.3 mi N of MP 56.6	Flatheaded Borer	8	2016	PV
	0.3 mi S of MP 58.0	Pine Engraver	2	2015	PV
	0.3 mi S of MP 58.3	Pine Engraver	4	2015	BLM
	0.3 mi S of MP 59.0	Flatheaded Borer	2	2012	BLM
	0.05 mi N of MP 59.50	Flatheaded Borer	1	2007	PV
	S of ROW near MP 59.90	Flatheaded Borer	1	2007	PV
	0.4 mi S of MP 60.4	Flatheaded Borer	1	2013	PV
	0.03 mi N of MP 61.14	Flatheaded Borer	2	2010	BLM
	0.2 mi SW of MP 61.4	Douglas-fir Engraver	5	2007	PV
	0.1 mi N of MP 61.9	Western Pine Beetle	5	2014	PV

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	0.4 mi S of MP 62.7	Douglas-fir Beetle	3	2015	PV
	0.2 mi SW of MP 63.6	Flatheaded Borer	10	2016	PV
	0.4 mi NE of MP 63.8	Flatheaded Borer	2	2016	PV
	0.4 mi NE of MP 64.2	Flatheaded Borer	2	2016	BLM
	0.3 mi S of MP64.8	Flatheaded Borer	2	2012	PV
	0.3 mi S of MP 65.07	Douglas-fir Engraver	5	2006	PV
	0.1 mi S of MP 65.7	Flatheaded Borer	2	2012	PV
	0.1 mi S of MP 67.3	Flatheaded Borer	2	2010	PV
	0.1 mi SW of MP 68.6	Flatheaded Borer	1	2017	PV
	0.01 mi N of MP 72.81	Flatheaded Borer	2	2011	PV
	0.4 mi S of MP 73.7	Flatheaded Borer	2	2013	BLM
	0.3 mi E of MP 73.8	Flatheaded Borer	2	2016	BLM
	0.3 mi E of MP 73.9	Flatheaded Borer	2	2010	BLM
	0.4 mi SE of MP 74.5	Flatheaded Borer	2	2011	BLM
MP 74.9-75.2	0.0 to 0.04 mi N of MPs; 0.5 mi S of MPs	Flatheaded Borer	5	2017	BLM
	0.4 mi SW of MP 76.8	Fir Engraver	15	2016	PV
	0.3 mi N of MP 77.0	Flatheaded Borer	24	2016	PV
	0.4 mi NE of MP 77.7	Flatheaded Borer	2	2008	BLM
	0.2 mi NE of MP 78.3	Flatheaded Borer	2	2009	BLM
	0.4 mi NE of MP 78.4	Pine Engraver	3	2016	BLM
	0.6 mi N of MP 79.41	Flathead Borer	1	2009	PV
	0.3 mi NE of MP 79.8	Flatheaded Borer	2	2013	BLM
	0.45 mi W of MP 80.7	Flatheaded Borer	9	2017	BLM
MP 82.00 – MP 82.31	Construction ROW	Fir Engraver	10	2005	BLM
	0.4 mi N of MP 82.5	Flatheaded Borer	2	2017	BLM
	0.4 mi NE of MP 82.9	Flatheaded Borer	2	2016	PV
	0.1 mi NE of MP 83.3	Flatheaded Borer	2	2016	BLM
	0.2 mi NE of MP 84.6	Flatheaded Borer	2	2016	PV
	0.3 mi SE of MP 84.7	Flatheaded Borer	1	2016	BLM
	0.2 mi S of MP 84.9	Flatheaded Borer	1	2016	BLM
MP 84.34 – MP 84.47	Construction ROW	Fir Engraver	5	2005	PV
	0.1 mi SW of MP 85.0	Flatheaded Borer	1	2016	BLM
	0.1 mi N of MP 85.31	Fir Engraver	20	2004	BLM/PV
	0.1 mi N of MP 85.2	Flatheaded Borer	4	2016	PV
	0.1 mi N of MP 85.7	Fir Engraver	3	2015	PV
	0.1 mi N of MP 86.0	Fir Engraver	3	2015	BLM
	0.1 mi NE of MP 86.52	Fir Engraver	20	2004	BLM
	0.2 mi W of MP 86.6	Flatheaded Borer	1	2016	PV
	0.4 mi W of MP 86.7	Flatheaded Borer	1	2016	PV
	W of ROW near MP 86.72	Mountain Pine Beetle, Sugar Pine	1	2009	BLM
	0.1 mi E of MP 86.98	Fir Engraver	30	2004	BLM
	0.5 mi W of MP 86.8	Douglas-fir Beetle	10	2011	PV
	0.1 mi E of MP 86.8	Douglas-fir Beetle	1	2014	PV
	0.1 mi NE of MP 87.6	Flatheaded Borer	1	2015	BLM
	0.06 mi SW of MP 89.08	Flatheaded Borer	1	2010	PV

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	0.4 mi NE of MP 89.0	Flatheaded Borer	4	2017	PV
	0.3 mi W of MP 89.5	Flatheaded Borer	1	2014	PV
	0.4 mi W of MP 89.7	Flatheaded Borer	2	2009	PV
	0.2 mi SW of MP 90.5	Flatheaded Borer	2	2016	BLM
	0.4-0.5 mi NE of MP 93.0	Flatheaded Borer	2	2017	BLM, PV
	0.2 mi W of MP 93.4	Pine Engraver	30	2016	PV
	0.4 mi W of MP 94.7	Flatheaded Borer	10	2010	BLM
	0.2 mi S of MP 94.7	Flatheaded Borer	10	2010	BLM
	0.1 mi E of MP 94.27	Flatheaded Borer	5	2005	PV
	0.3 mi W of MP 94.3	Western Pine Beetle	1	2015	PV
95.2-95.5	0.04-0.2 mi E of MPs	Flatheaded Borer	6	2017	BLM
	0.3 mi W of MP 95.3	Needle Cast in Ponderosa	Medium	2014	PV
	0.4 mi E of MP 95.6	Mountain Pine Beetle, Sugar Pine	1	2007	BLM
	0.04 mi NE of MP 96.07	Flatheaded Borer	1	2009	PV
	0.14 mi S of MP 97.45	Mountain Pine Beetle, Sugar Pine	1	2017	BLM
MP 96.88 to 109.00 below areas:	Stout's Crk bridge at Milo south to 109.000 on FS.	Burned	Majority of vegetation inside and within varying distances of the ROW.	2015	FS, BLM, PV
MP 96.88 – MP 97.04	Construction ROW	Western Pine Beetle	5	2005	PV
	0.3 mi SW of MP 98.1	Douglas-fir Beetle	3	2010	BLM
	0.4 mi NE of MP 98.2	Douglas-fir Beetle	2	2010	BLM
	0.2 mi SW of MP 98.3	Douglas-fir Beetle	3	2010	BLM
	0.4 mi E of MP 98.37	Douglas-fir Beetle	5	2006	FS
	0.2 mi E of MP 98.40	Fir Engraver	10	2004	FS
MP 98.43 – MP 98.50	Construction ROW	Douglas-fir Beetle	3	2010, 2012	BLM
	0.03 mi W of MP 98.62	Douglas-fir Beetle	3	2010	BLM
	0.03 mi E of MP 99.12	Douglas-fir Beetle	5	2010	PV
	0.05 mi W of MP 99.55	Flatheaded Borer	1	2009	FS
	0.3 mi E of MP 99.7	Douglas-fir Beetle	5	2010	FS
	0.2 mi E of MP 100.12	Fir Engraver	no data	2004	FS
	0.3 mi E of MP 100.12	Fir Engraver	10	2005	FS
MP 100.26	Construction ROW	Flatheaded Borer	1	2007	BLM
MP 100.31 – 100.38	Construction ROW	Douglas-fir Beetle	5	2010	BLM
MP 100.52 – MP 100.59	Construction ROW; 0.13 W of MP 100.57; 0.07 E of MP 100.57	Douglas-fir Beetle	15	2010	BLM/FS
	0.2 mi W of MP 100.72	Fir Engraver	5	2005	BLM/PV
	0.4 mi E of MP 101.1	Flatheaded Borer	2 - Fire	2017	FS
	0.2 mi W of MP 101.7	Douglas-fir Beetle	1	2013	BLM
MP 101.84–MP 101.90	Construction ROW	Douglas-fir Beetle	1	2012	FS
	0.2 mi NW of MP 101.9	Douglas-fir Beetle	2	2010	BLM
	0.06 mi SE of 101.92	Flatheaded Borer	2	2009	FS
	NW of ROW near MP	Douglas-fir Beetle	2	2010	BLM

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	102.01				
	0.3 mi W of MP 102.0	Western Pine Beetle	2	2017	BLM
TEWA 102.19-N	TEWA near MP 102.21	Douglas-fir Beetle	5	2010	BLM
	0.4 mi SE of MP 102.25	Douglas-fir Beetle	5	2006	FS
	0.01 mi E of MP 102.47	Douglas-fir Beetle	2	2010	FS
	0.2 mi E of MP 102.6	Flatheaded Borer	1 - Fire	2017	FS
	0.3 mi SW of MP 103.11	Pine Engraver	5	2004	FS/PV
	0.2 mi SW of MP 103.1	Douglas-fir Beetle	1	2015	PV
	0.3 mi SW of MP 103.2	Fir Engraver	1	2015	PV
	0.2 mi SW of MP 103.2	Douglas-fir Beetle	1	2015	PV
	0.2 mi SW of MP 103.4	Fir Engraver	1	2015	PV
	0.1 mi E of MP 103.5	Flatheaded Borer	2	2014	PV
MP 103.92 – MP 104.22	Construction ROW	Fir Engraver	35	2004	FS/PV
MP 104.36 – MP 104.41	Construction ROW	Flatheaded Borer	1	2007	FS
	0.3 mi SW of MP 104.96	Mountain Pine Beetle, Sugar Pine	1	2004	FS
	0.02 mi S of MP 105.07	Douglas-fir Beetle	2	2010	FS
	0.2 mi NE of MP 105.4	Western Pine Beetle	1 - Fire	2017	FS
	0.2 mi E of MP 105.9	Fir Engraver	1	2015	FS
	0.07 mi W of MP 106.10	Douglas-fir Beetle	4	2010	FS
	0.2 mi E of MP 106.2	Fir Engraver	1	2015	FS
	W of MP 106.32	Douglas-fir Beetle	4	2011	FS
	0.4 mi W of MP 103.4	Flatheaded Borer	1	2016	FS
	0.04 mi W of TEWA 106.46; 0.1 mi SW of MP 106.42	Douglas-fir Beetle	4	2010	FS
	0.2 mi W of MP 106.8	Needle Cast in Ponderosa	Medium	2016	FS
MP 107.00 – MP 108.6	Construction ROW / 0.07 mi E of MPs	Flatheaded Borer	1, 5-Fire	2015, 2017	FS
	E of MP 107.79	Mountain Pine Beetle, Sugar Pine	1	2011	FS
	0.5 mi SE of MP 108.6	Flatheaded Borer	2	2017	FS
MP 110.16 – MP 110.69	Construction ROW	Fir Engraver	no data	2004	FS
	0.1 mi W of MP 110.1	Flatheaded Borer	1	2015	FS
	0.04 mi SW of MP 110.21	Flatheaded Borer	1	2007	FS
MP 110.28 – MP 110.34	Construction ROW	Flatheaded Borer	2	2010	FS
	0.4 mi SW of MP 110.3	Flatheaded Borer	1	2013	FS
	0.5 mi SW of MP 110.4	Flatheaded Borer	1	2017	FS
	0.06 mi S of MP 111.14	Flatheaded Borer	2	2010	FS
	0.3 mi N of MP 111.24	Fir Engraver	5	2004	FS
	0.05 mi NE of MP 111.37	Flatheaded Borer	2	2010	FS

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	0.1 mi SW of MP 111.5	Flatheaded Borer	9	2016	FS
	MP 112 to 113	Douglas-fir Beetle	157 acres	2010	FS
MP 112.27 - MP 112.33	Construction ROW	Mountain Pine Beetle, Sugar Pine	1	2005	FS
	0.1 mi SW of MP 112.4	Flatheaded Borer	2	2016	FS
	0.4 mi NE of MP 112.54	Mountain Pine Beetle, Sugar Pine	1	2004	FS
	0.4 mi NE of MP 112.54	Fir Engraver	5	2005	FS
MP 113.40 – MP 113.66	Construction ROW	Fir Engraver	0.25 acres	2010	PV
	0.1 mi NE of MP 113.8	Fir Engraver	8 acres	2016	PV
	0.45 mi NE of MP 114.2	Fir Engraver	10	2017	BLM
MP 116.58 – MP 116.65	Construction ROW	Western Pine Beetle	1	2013	BLM
MP 116.99 – MP 117.12	Construction ROW	Western Pine Beetle	6	2005	BLM
	0.3 mi W of MP 117.4	Western Pine Beetle	1	2015	BLM
	0.4 mi W of MP 117.6	Western Pine Beetle	1	2015	BLM
	0.3 mi W of MP 118.3	Flatheaded Borer	2	2016	BLM
	0.02 mi W of MP 119.1	Western Pine Beetle	2	2017	BLM
MP 119.10 – MP 119.15	Construction ROW	Flatheaded Borer	1	2015	BLM
	0.2 mi E of MP 119.3	Western Pine Beetle	1	2013	PV
	0.2 mi W of MP 119.6	Flatheaded Borer	1	2017	BLM
	0.3 mi SW of MP 119.8	Western Pine Beetle	2	2016	PV
	0.2 mi SW of MP 119.97	Western Pine Beetle	5	2004	BLM
MP 120.25 – MP 120.31	Construction ROW	Western Pine Beetle	2	2008	BLM/PV
	0.2 mi SW of MP 120.5	Flatheaded Borer	1	2015	PV
	0.2 mi E of MP 121.0	Flatheaded Borer	2	2017	PV
	0.1 mi W of MP 121.81	Western Pine Beetle	5	2004	PV
	MP 32.1	Flatheaded Borer	4 acres	2016	PV
	0.05 mi NE of MP 123.2	Flatheaded Borer	6	2016	PV
	0.4 mi SW of MP123.2	Flatheaded Borer	12	2016	PV
	0.05 mi SW of MP 123.0	Flatheaded Borer	6	2016	BLM
	0.14 mi S of MP 123.2	Flatheaded Borer	2 acres	2017	BLM
	0.3 mi SW of MP 123.9	Flatheaded Borer	19 acres	2016	BLM
	0.05 mi SW of MP 124.0	Flatheaded Borer	8 acres	2016	BLM
	0.07 mi NE of MP 124.01	Flathead Borer	5	2011	BLM
MP 124.15 – MP 124.23	Construction ROW	Flatheaded Borer	9 acres	2016	BLM
	0.4 mi NE of MP 124.31	Western Pine Beetle	10	2005	BLM
	0.34-0.45 mi NE/E of MP 124.3	Flatheaded Borer	2 acres	2017	BLM
	0.1 mi NE of MP 124.3	Flatheaded Borer	8 acres	2016	BLM/PV
	0.5 mi SW of MP 125.24	Western Pine Beetle	2	2005	PV

<b>Milepost (if crossed by Pipeline)</b>	<b>Location Within Vicinity of Pipeline</b>	<b>Identified Insect or Disease</b>	<b>Number of trees, if known</b>	<b>Year</b>	<b>Land Owner</b>
	0.4 mi NE of MP 125.41	Western Pine Beetle	10	2005	BLM
	0.1 mi NE of MP 125.42	Pine Engraver	5	2014	BLM
MP 125.4-126.1	0.01-0.3mi N of MPs	Flatheaded Borer	11 acres	2017	BLM
	0.3 mi NE of MP 125.5	Western Pine Beetle	1	2013	BLM
	0.2 mi S of MP 125.72	Flatheaded Borer	1	2017	BLM
MP 125.62 – MP 125.72	Construction ROW	Flatheaded Borer	9 acres	2016	PV
MP 125.71 – MP 125.76	Construction ROW	Western Pine Beetle	3	2008	PV
	0.4 mi NE of MP 125.83	Flathead Borer	5	2004	BLM
MP 125.87 – MP 125.93	Construction ROW	Western Pine Beetle	8	2005	PV
	0.2 mi E of MP 126.54	Western Pine Beetle	10	2005	BLM/PV
	0.2 mi SW of MP 126.1	Flatheaded Borer	6.5 acres	2016	BLM
	0.2 mi NE of MP 126.2	Pine Engraver	3	2014	PV
	0.3 mi NE of MP 126.2	Flatheaded Borer	9 acres	2016	BLM
	0.4 mi NE of MP 126.3	Western Pine Beetle	5	2015	BLM
	0.3 mi NE of MP 126.3	Pine Engraver	3	2014	BLM
	0.3 mi NE of MP 126.4	Flatheaded Borer	25	2016	BLM
MP 126.64 – MP 126.72	Construction ROW	Flatheaded Borer	22 acres	2016	PV
TEWA 126.73-N	near 126.76	Pine Engraver	1	2010	PV
	0.1 mi E of MP 126.8	Flatheaded Borer	1	2016	PV
	0.2 mi E of MP 126.8	Western Pine Beetle	2	2012	PV
	0.3 mi E of MP 126.8	Western Pine Beetle	3	2014	PV
	0.3 mi W of MP 127.0	Flatheaded Borer	2	2016	BLM
MP 127.06 – MP 127.15	Construction ROW	Western Pine Beetle	10	2005	BLM/PV
	0.2 mi SW of MP 127.5	Flatheaded Borer	10	2016	BLM
	0.5 mi SW of MP 127.8	Western Pine Beetle	1	2012	BLM
	0.2 mi SW of MP 127.8	Western Pine Beetle	1	2015	BLM
	0.1 mi NE of MP 127.8	Western Pine Beetle	2	2015	BLM
	0.2 mi NE of MP 127.84	Pine Engraver	5	2005	BLM
	0.2 mi SW of MP 127.84	Western Pine Beetle	5	2005	BLM
	0.1 mi W of MP 128.46	Pine Engraver	15	2004	PV
	0.4 mi W of MP 128.61	Western Pine Beetle	5	2005	PV
MP 128.75 –MP 128.82	Construction ROW	Flatheaded Borer	2	2016	BLM
	0.2 mi SW of MP 128.80	Pine Engraver	10	2005	BLM/PV
	MP 128.9	Western Pine Beetle	1	2013	BLM
	0.1 mi NE of MP 129.0	Flatheaded Borer	2	2016	BLM
MP 129.6 – MP 129.7	Construction ROW	Flatheaded Borer	2	2016	BLM
	0.05 mi N of MP 130.40	Flatheaded Borer	2	2011	PV
MP130.52-MP 130.59	Construction ROW	Flatheaded Borer	2	2011	PV
	0.01 mi N of MP 131.07	Flatheaded Borer	2	2011	PV
	0.2 mi S of MP 131.14	Western Pine Beetle	5	2005	BLM
	0.3 mi NE of MP 131.39	Flatheaded Borer	5	2004	PV
	0.04 mi SW of MP 131.75	Western Pine Beetle	1	2008	BLM/PV

<b>Milepost (if crossed by Pipeline)</b>	<b>Location Within Vicinity of Pipeline</b>	<b>Identified Insect or Disease</b>	<b>Number of trees, if known</b>	<b>Year</b>	<b>Land Owner</b>
MP 131.78 – MP 131.82	Construction ROW	Flatheaded Borer	3	2016	BLM
	0.1 mi E of MP 131.80	Western Pine Beetle	5	2005	BLM/PV
	0.1 mi W of MP 132.9	Western Pine Beetle	1	2015	PV
	0.3 mi W of MP 133.0	Western Pine Beetle	1	2015	PV
	0.3 mi W of MP 134.1	Flatheaded Borer	24.5 a	2016	BLM
	0.3 mi SW of MP 134.1	Western Pine Beetle	1	2015	PV
	0.3 mi W of MP 135.2	Flatheaded Borer	50 acres	2016	PV
	W of MP 135.56	Western Pine Beetle	1	2008	PV
	0.2 mi NE of MP 135.8	Flatheaded Borer	42 acres	2016	BLM
	0.4 mi NE of MP 138.3	Flatheaded Borer	1	2013	BLM
MP 139.32 – MP 139.38	Construction ROW	Flatheaded Borer	3	2014	PV
	0.2 mi NE of MP 139.3	Flatheaded Borer	9 acres	2016	PV/BLM
	0.4 mi NE of MP 139.3	Flatheaded Borer	4	2016	BLM
MP 139.95 – MP 140.10	Construction ROW	Western Pine Beetle	10	2005	BLM
	0.4 mi E of MP 140.7	Flatheaded Borer	1	2015	BLM
MP 140.10 – MP 140.17	Construction ROW	Flatheaded Borer	5	2004	BLM
	0.2 mi E of MP 142.5	Western Pine Beetle	1	2015	PV
	0.03 mi NE of MP 142.93	Flatheaded Borer	2 acres	2017	PV
	0.4 mi NE of MP 143.0	Flatheaded Borer	1	2015	BLM
	0.3 mi NE of MP 143.2	Flatheaded Borer	1 acre	2017	BLM
	0.4 mi NE of MP 143.2	Flatheaded Borer	15 acres	2016	BLM
MP 143.47 – MP 143.51	Construction ROW	Western Pine Beetle	5	2009	PV
	0.1 mi SW of MP 143.5	Flatheaded Borer	1	2015	PV
	0.3 mi NE of MP 143.7	Flatheaded Borer	10 acres	2016	PV
	0.2 mi SW of MP 144.5	Flatheaded Borer	1	2015	PV
	0.3 mi W of MP 145.7	Flatheaded Borer	1	2015	PV
	0.4 mi SE of MP 146.82	Western Pine Beetle	25	2005	PV
MP 147.73 – MP147.78	Construction ROW	Western Pine Beetle	10	2005	PV
MP 148.12 – MP148.38	Construction ROW	Flatheaded Borer	60 acres	2016	BLM/PV
MP 148.42 – MP 148.52	Construction ROW	Flatheaded Borer	0.25 acres	2011	BLM
	Adjacent to MPs 148.6-148.8	Flatheaded Borer	2 acres	2017	BLM
	0.1 mi NE of MP 148.95	Flatheaded Borer	25	2005	BLM/PV
	0.1 mi S of MP 148.81	Western Pine Beetle	5	2006	BLM
	0.06 mi E of MP 149.29	Flatheaded Borer	1	2008	BLM
	0.07 mi N of MP 149.95	Flatheaded Borer	2 acres	2017	BLM
	0.3 mi SW of MP 150.11	Western Pine Beetle	5	2005	BLM
	0.3 mi SW of MP 150.1	Flatheaded Borer	5 acres	2017	BLM
	0.1 mi SW of MP 150.2	Flatheaded Borer	65 acres	2016	BLM/PV
	0.3 mi NE of MP 150.62	Western Pine Beetle	15	2005	BLM
	0.1 mi NE of MP 151.24	Western Pine Beetle	3	2005	BLM

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	0.5 mi NE of MP 151.3	Flatheaded Borer	2	2012	BM
	0.4 mi N of MP 151.5	Flatheaded Borer	0.5 acre	2017	BLM
	0.3 mi SW of MP 151.58	Western Pine Beetle	25	2005	BLM
MP 151.69 – MP 151.77	Construction ROW	Western Pine Beetle	3	2015, 2016	PV
	0.2 mi N of MP 151.9	Fir Engraver	60 acres	2016	BLM/PV
	0.4 mi N of MP 151.9	Fir Engraver	37 acres	2015	BLM/PV
	0.4 mi SW of MP 151.9	Fir Engraver	8 acres	2016	BLM
	0.4 mi N of MP 152.15	Fir Engraver	25	2005	BLM/PV
	0.05 mi N of MP 152.20	Flatheaded Borer	20	2004	BLM
MP152.24 – MP 152.27	Construction ROW	Western Pine Beetle	1	2014	BLM
MP 152.34 – MP 152.55; MP 152.95 – MP 153.22	Construction ROW & north	Fir Engraver	80	2004	BLM
	0.4 mi S of MP 152.37	Fir Engraver	10	2005	BLM
	N of MP 153.35	Flatheaded Borer	0.25 acres	2007	BLM
	0.3 mi NE of MP 153.8	Flatheaded Borer	12 acres	2015	FS
MP 153.86 – MP 153.99	Construction ROW	Flatheaded Borer	10	2010	FS
MP 153.92 – MP 153.98	Construction ROW	Western Pine Beetle	2	2009, 2010	FS
MP 153.92 – MP 153.98	Construction ROW	Fir Engrave	2	2014	FS
	0.4 mi NE of MP 154.0	Fir Engraver	22 acres	2016	FS
MP 154.2–MP 154.26	Construction ROW	Flatheaded Borer	2	2012	FS
MP 154.25 - MP 154.5	Area has perimeter radius of +/- 375 ft of this ROW segment.	Laminated root rot	550-700	2015	FS
Mp 154. 25-154.7	0.03-0.12 mi N and S of MPs	Flatheaded Borer		2017	
	0.3 mi S of MP 154.3	Western Pine Beetle	2	2014	FS
	0.4 mi S of MP 154.3	Fir Engraver	2	2014	FS
MP 154.35 – MP154.47	Adjacent to and within Construction ROW	Fir Engraver	28 acres	2016	FS
	0.03 mi N of MP 154.53	Flatheaded Borer	2	2011	FS
	0.4 mi N of MP 154.5	Flatheaded Borer	5	2015	FS
	0.2 mi N of MP 154.5	Flatheaded Borer	5	2015	FS
	0.3 mi SW of MP 154.7	Flatheaded Borer	1	2015	FS
	0.4 mi SW of MP 154.7	Fir Engraver	2	2014	FS
	0.2 mi S of MP 154.9	Flatheaded Borer	2	2012	FS
MP 154.84 – MP 154.92	Construction ROW	Flatheaded Borer	2	2011	FS
	0.02 mi S of MP 155.30	Fir Engraver	25	2004	FS/PV
	0.3 mi N of MP 155.42	Fir Engraver	15	2004	FS
	0.4 mi SE of MP 155.66	Fir Engraver	5	2006	FS
MP 155.87 – MP 156.3	Construction Row	Fir Engraver	30	2004, 2017	FS
	0.3 mi N of MP 156.2	Flatheaded Borer	2	2012	FS
	0.02 mi N of MP 156.48	Fir Engraver	10	2005	FS

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	0.3 mi S of MP 156.5	Flatheaded Borer	1	2014	FS
	0.1 mi N of MP 156.6	Fir Engraver	6	2016	FS
	0.4 mi S of MP 156.6	Western Pine Beetle	4	2016	FS
MP 156.64 – MP 156.70	Construction ROW	Fir Engraver	0.25 acres	2007	FS
MP 156.65 – MP 156.81	Construction ROW	Flatheaded Borer	25	2010	FS
	0.08 mi N of MP 156.66	Western Pine Beetle	0.25 acres	2007	FS
	0.1 mi N of MP 156.67	Flatheaded Borer	2	2014	FS
	N of MP 157.30	Mountain Pine Beetle, Sugar Pine	1	2007	FS
MP 157.14 – MP 157.27	Construction ROW	Flatheaded Borer	10	2010	FS
MP 157.44 – MP 157.67	Construction ROW	Fir Engraver	no data	2004	FS
	0.02 mi NE of MP 157.78	Flatheaded Borer	10	2010	FS
MP 158.01 – MP 158.07	Construction ROW	Flatheaded Borer	2	2010	FS
	0.2 mi SW of MP 157.99	Mountain Pine Beetle, Sugar Pine	1	2004	FS
	0.1 mi S of MP 158.09	Mountain Pine Beetle, Sugar Pine	1	2005	FS
	0.2 mi N of MP 158.1	Flatheaded Borer	18 acres	2014	FS
	0.3 mi S of MP 158.1	Fir Engraver	2	2013	FS
MP 158.17 – MP 158.31	Construction ROW	Fir Engraver	no data	2004	FS
MP 158.6 – MP 159.35	Construction ROW	Fir Engraver	226 acres	2014, 2017	FS
MP 159.5-160.0	Construction ROW	Mountain Pine Beetle in Ponderosa	5	2017	FS
	0.03 mi N of MP 160.15	Flatheaded Borer	3	2010	FS
	0.1 mi N of MP 160.64	Fir Engraver	5	2004	FS
	0.4 mi S of MP 161.0	Needle Cast in Ponderosa	60 acres	2014	FS
	N of MP 161.07	Flatheaded Borer	1	2009	FS
	0.4 mi N of MP 161.3	Fir Engraver	14 acres	2016	FS
	0.3 mi S of MP 161.53	Fir Engraver	5	2006	FS
MP 161.46 – MP 161.61	Construction ROW	Needle Cast in Ponderosa	18 acres	2016	FS
	0.4 mi N of MP 161.6	Western Pine Beetle	308 acres	2014	FS
	0.3 mi NE of MP 162.3	Needle Cast in Ponderosa	78 acres	2014	FS
	0.3 mi NE of MP 162.3	Needle Cast in Ponderosa	57 acres	2015	FS
	0.4 mi NE of MP 162.6	Needle Cast in Ponderosa	166 acres	2014	FS
	0.2 mi E of MP 162.67	Needle Cast, Lodgepole Pine	no data	2005	FS
	0.3 mi NE of MP 162.7	Fir Engraver	2	2012	FS
	0.2 mi E of MP 163.2	Fir Engraver	2	2012	FS

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
	0.3 mi SW of MP 163.8	Needle Cast in Ponderosa Pine	79 acres	2015	FS
	0.3 mi W of MP 163.9	Needle Cast in Ponderosa Pine	79 acres	2015	FS
	0.3 mi SW of MP 164.12	Mountain Pine Beetle, Sugar Pine	2	2006	FS
MP 164.05 – MP 164.35	Construction ROW	Needle Cast in Ponderosa Pine	74 acres	2014, 2016	FS
	0.04 mi NE of MP 164.6	Fir Engraver	1	2012	FS
MP164.42 – MP165.1	Construction ROW	Needle Cast in Ponderosa Pine	no data	2013, 2016	FS
	0.1-0.3 mi NE of MP 165.1	Fir Engraver	1	2012, 2017	FS
MP165.12 – MP 165.2	Construction ROW	Fir Engraver	no data	2016	FS
	0.1 mi S of MP 165.18	Needle Cast, Lodgepole Pine	no data	2004	FS
	0.3 mi SW of MP 165.3	Fir Engraver	no data	2016	FS
MP 165.8 – MP165.9	Construction ROW	Needle Cast, Lodgepole Pine	11 acres	2016	FS
MP 165.88 – MP 166.06	Construction ROW	Needle Cast in Ponderosa Pine	63 acres	2014	FS
	0.4 mi N of MP 165.94	Fir Engraver	5	2005	FS
MP 166.35-166.8	Construction ROW	Fir Engraver	2	2017	FS
	0.1 mi N of MP 166.63	Fir Engraver	20	2005	FS
	0.1 mi NE of MP 167.2	Needle Cast in Ponderosa Pine	20 acres	2012	FS
	0.07 mi N of MP 167.21	Needle Cast, Lodgepole Pine	Medium	2010	FS
	0.1 mi SW of MP 167.75	Fir Engraver	5	2004	FS
MP 168.43 –168.75	Construction ROW	Needle Cast in Ponderosa Pine	114 acres	2016	FS
MP 168.77 –MP 169.50	Construction ROW	Mountain Pine Beetle, Lodgepole Pine	400 acres	2013-2016	FS
	0.02 mi SW of MP 168.84	Mountain Pine Beetle, Western White Pine	1	2008	FS
MP 170.63 – MP 171.17	Construction ROW	Fir Engraver	0.5 acres	2010-2011	FS
MP 170.68 – MP 171.17	Construction ROW	Mountain Pine Beetle, Lodgepole Pine	194 acres	2012-2017	FS
	S of MP 171.97	Fir Engraver	3 acres	2007-2011	FS
MP 171.7 – MP172.63	Construction ROW	Mountain Pine Beetle, Lodgepole Pine	no data	2012-2017	FS
	0.3 mi NE of MP 172.7	Mountain Pine Beetle, Lodgepole Pine	no data	2014	FS
	0.1 mi S of MP 171.4	Mountain Pine Beetle, Lodgepole Pine	416 acres	2012-2013	FS
MP 173.05 – MP 175.29	Construction ROW	Mountain Pine Beetle, Lodgepole Pine	no data	20012-2017	FS
MP 173.20 – MP 173.80	Construction ROW	Mountain Pine Beetle, Lodgepole Pine	0.5 acres	2007, 2010	FS
	0.1 mi NW of MP 176.5	Mountain Pine Beetle, Ponderosa Pine	2	2016	FS
	0.4 mi NW of MP 176.5	Mountain Pine Beetle, Ponderosa Pine	2	2016	FS
	0.3 mi N of MP 176.5	Mountain Pine Beetle,	2016	FS	

Milepost (if crossed by Pipeline)	Location Within Vicinity of Pipeline	Identified Insect or Disease	Number of trees, if known	Year	Land Owner
		Ponderosa Pine			
MP 177.65 – MP 177.72	Construction ROW	Fir Engraver	5	2011	PV
	0.4 mi NE of MP 178.1	Fir Engraver	102 acres	2016	PV
	0.4 mi NE of MP 179.1	Fir Engraver	29 acres	2015	BLM/PV
	0.2 mi SW of MP 179.4	Fir Engraver	44 acres	2015	BLM/PV
TEWA 179.67-N	MP 179.7	Fir Engraver	2	2012	BLM
	0.3 mi SW of MP 179.8	Fir Engraver	134 acres	2016	BLM
	0.4 mi NE of MP 180.8	Mountain Pine Beetle, Ponderosa Pine	2	2013	PV
	0.4 mi S of MP 182.0	Fir Engraver	2	2016	PV
	0.3 mi S of MP 182.1	Fir Engraver	2	2016	PV
	0.4 mi N of MP 182.3	Fir Engraver	2	2016	PV
	0.4 mi N of MP 182.3	Fir Engraver	6.5 acres	2015, 2017	PV
	0.3 mi SW of MP 183.1	Fir Engraver	2	2016	PV
	0.2 mi SW of MP 185.7	Mountain Pine Beetle, Ponderosa Pine	1	2013	PV
	0.4 mi SW of MP 189.6	Fir Engraver	1	2014	PV
	0.3 mi NE of MP 189.7	Mountain Pine Beetle, Ponderosa Pine	1	2015	PV
	0.2 mi NE of MP 189.9	Mountain Pine Beetle, Ponderosa Pine	1	2015	PV
	0.3 mi SW of MP 190.0	Fir Engraver	1	2014	PV
	0.06 mi NE of MP 190.83	Western Pine Beetle	1	2009	PV
MP 224.25 – MP 224.35	Construction ROW	Mountain Pine Beetle, Ponderosa Pine	37 acres	2011; 2013-2105	BLM/PV
MP 224.69 – MP 224.89	Construction ROW	Mountain Pine Beetle, Ponderosa Pine	15 acres	2013	BLM/PV
Source: ODF, 2018 (ODF 2004 through 2017 aerial GIS data).					

## **Appendix 2**

**Table 2-1  
Herbicides Approved for Use on Public and Private Lands in Oregon**

**Table 2-2  
Herbicide Products Registered in Oregon for Use of Rights-of-Ways**

**Table 2-1  
Herbicides Approved for Use on Public and Private Lands in Oregon**

Herbicide (Active Ingredient) <sup>1, 2</sup>	Herbicide Characteristics and Target Vegetation	BLM & FS Approved <sup>1, 2</sup> Registered in OR (Current 2017) <sup>3</sup>	Areas where Registered Use Is Appropriate <sup>2</sup>				
			Rangeland	Forestland	Riparian and Aquatic	Oil, Gas and Minerals	ROW
<b>2,4-D</b>	Selective; foliar absorbed; postemergent; annual/perennial broadleaf weeds. Key species treated include kochia, mustard species, and Russian thistle.	BLM (W&E) BOR <sup>4</sup> OR	•	•	•	•	•
<b>Bromacil</b>	Non-selective; inhibits photosynthesis; controls wide range of weeds and brush. Key species treated include annual grasses and broadleaf weeds, kochia, and Russian thistle.	BLM (E) OR				•	•
<b>Chlorsulfuron</b>	Selective; inhibits enzyme activity; broadleaf weeds and grasses. Key species treated include biennial thistles and annual and perennial mustards.	BLM (E) FS OR	•			•	•
<b>Clopyralid</b>	Selective; mimics plant hormones; annual and perennial broadleaf weeds. Key species treated include knapweeds, Canada thistle, and starthistle and other thistles.	BLM (W&E) FS OR	•	•		•	•
<b>Dicamba</b>	Growth regulator; annual and perennial broadleaf weeds, brush, and trees. Key species treated include knapweeds, kochia, and Russian thistle and other thistles.	BLM (W&E) OR	•			•	•
<b>Diuron</b>	Preemergent control; annual and perennial broadleaf weeds and grasses. Key species treated include annual grasses and broadleaf weeds, kochia, and Russian thistle. The primary use for diuron would be on communications sites or similar facilities where no vegetation is desired.	BLM (W&E) OR				•	•
<b>Glyphosate</b>	Non-selective; annual and perennial grasses and broadleaf weeds, sedges, shrubs, and trees. Key species treated include annual, biennial, and perennial grasses and broadleaf	BLM (W&E) FS, BOR <sup>4</sup> OR	•	•	•	•	•

Herbicide (Active Ingredient) <sup>1, 2</sup>	Herbicide Characteristics and Target Vegetation	BLM & FS Approved <sup>1, 2</sup> Registered in OR (Current 2017) <sup>3</sup>	Areas where Registered Use Is Appropriate <sup>2</sup>				
			Rangeland	Forestland	Riparian and Aquatic	Oil, Gas and Minerals	ROW
	weeds and woody shrubs.						
<b>Hexazinone</b>	Foliar or soil applied; inhibits photosynthesis; annual and perennial grasses and broadleaf weeds, brush, and trees. Key species treated include African rue.	BLM (W&E) OR	•	•		•	•
<b>Imazapyr</b>	Non-selective; preemergent and postemergent uses; absorbed through foliage and roots; annual and perennial broadleaf weeds, brush, and trees. Key species treated include African rue, Japanese knotweed, and leafy spurge.	BLM (W&E) FS BOR <sup>4</sup> OR	•	•	•	•	•
<b>Metsulfuron methyl</b>	Selective; postemergent; inhibits cell division in roots and shoots; annual and perennial broadleaf weeds, brush, and trees. Key species treated include annual and perennial mustards biennial thistles and blackberries.	BLM (W&E) FS OR	•	•		•	•
<b>Picloram</b>	Selective; foliar and root absorption; mimics plant hormones; certain annual and perennial broadleaf weeds, vines, and shrubs. Key species treated include knapweeds, leafy spurge, and starthistle.	BLM (W&E) FS BOR <sup>4</sup> OR	•	•		•	•
<b>Sulfometuron methyl</b>	Broad-spectrum pre- and post-emergent control; inhibits cell division; grasses and broadleaf weeds. Key species include downy brome, mustards, and medusahead.	BLM (W&E) FS OR		•		•	•
<b>Tebuthiuron</b>	Relatively non-selective soil activated herbicide; pre- and post-emergent control of annual and perennial grasses, broadleaf weeds, and shrubs. Key species treated include oak, Russian olive, and sagebrush (thinning).	BLM (E) OR	•			•	•
<b>Triclopyr</b>	Growth regulator; broadleaf weeds and woody plants. Key species treated include	BLM (W&E) FS	•	•	•	•	•

Herbicide (Active Ingredient) <sup>1, 2</sup>	Herbicide Characteristics and Target Vegetation	BLM & FS Approved <sup>1, 2</sup> Registered in OR (Current 2017) <sup>3</sup>	Areas where Registered Use Is Appropriate <sup>2</sup>				
			Rangeland	Forestland	Riparian and Aquatic	Oil, Gas and Minerals	ROW
	mesquite and tamarisk, Russian olive, blackberries, brooms	OR					
<b>Sethoxydim</b>	Post-emergent control of annual and perennial grass weeds in broadleaf crops.	FS OR					•
<b>Herbicides Proposed for Use on Public Lands</b>							
<b>Dicamba + Diflufenzopyr</b>	Postemergent; inhibits auxin transport; broadleaf weeds. Key species treated include knapweeds, kochia, and Russian thistle and other thistles.	BLM (E&W)	•			•	•
<b>Fluridone</b>	Aquatic herbicide to control submersed aquatic plants. Key species treated include hydrilla and watermilfoils.	BLM (E&W)			•		
<b>Imazapic</b>	Selective postemergent herbicide; inhibits broadleaf weeds and some grasses. Key species treated include downy brome, leafy spurge, medusahead, and mustards.	BLM (E&W) BOR <sup>4</sup> FS OR	•	•		•	•
<p><sup>1</sup> USDA, 2005. Pacific Northwest Region, Invasive Plant Program, Preventing and Managing Invasive Plants, Record of Decision, Forest Service, Pacific Northwest Region. States of Oregon and Washington, Including Portions of Del Norte and Siskiyou Counties in California, and Portions of Nez Perce, Salmon, Idaho and Adams Counties in Idaho. October, 2005. Portland, Oregon.</p> <p><sup>2</sup> USDI, 2010a. Record of Decision, Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in Oregon. The USDI 2010a ROD makes available 14 herbicides west of the Cascades (2,4-D, clopyralid, dicamba, dicamba + diflufenzopyr, diuron, fluridone, glyphosate, hexazinone, imazapic, imazapyr, metsulfuron methyl, picloram, sulfometuron methyl, and triclopyr) and 17 herbicides east of the Cascades (bromacil, chlorsulfuron, tebuthiuron, and the 14 herbicides available west of the Cascades). W = West of the Cascades; E = East of the Cascades.</p> <p><sup>3</sup> <a href="http://cru66.cahe.wsu.edu/LabelTolerance.html">http://cru66.cahe.wsu.edu/LabelTolerance.html</a></p> <p><sup>4</sup> United States Bureau of Reclamation. 2007. Statement of Work-General Specifications for Lost River Weed Control. Bureau of Reclamation Klamath Basin Area Office, Klamath Falls, Oregon.</p> <p>• = Areas where USEPA approved registration exists and the BLM has approval or proposes to use on public lands.</p>							

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
2 4-D	AGRISOLUTIONS RUGGED HERBICIDE [165	1381-247	WINFIELD SOLUTIONS LLC	HERBICIDE	BLM, BOR & OR
2 4-D	AGRISTAR D-638 BROADLEAF HERBICIDE [9	42750-36	ALBAUGH LLC	HERBICIDE	BLM, BOR & OR
2 4-D	BRUSH-RHAP [120	5905-568	HELENA CHEMICAL COMPANY	HERBICIDE	BLM, BOR & OR
2 4-D	DEPTH CHARGE [96	71368-115	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	BLM, BOR & OR
2 4-D	HARDBALL [58	5905-549	HELENA CHEMICAL COMPANY	HERBICIDE	BLM, BOR & OR
2 4-D	NUFARM WEEDONE 638 BROADLEAF HERBICIDE [34	71368-3	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	BLM, BOR & OR
2 4-D	ON DECK HERBICIDE [147	42750-144-5905	HELENA CHEMICAL COMPANY	HERBICIDE	BLM, BOR & OR
2 4-D	TRUMP CARD [124	5905-581	HELENA CHEMICAL COMPANY	HERBICIDE	BLM, BOR & OR
2 4-D BUTOXYETHYL ESTER	AGRISTAR D-638 BROADLEAF HERBICIDE [9	42750-36	ALBAUGH LLC	HERBICIDE	OR
2 4-D BUTOXYETHYL ESTER	CLEAVER 6B HERBICIDE [102	71368-6	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D BUTOXYETHYL ESTER	NUFARM WEEDONE 638 BROADLEAF HERBICIDE [34	71368-3	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D BUTOXYETHYL ESTER	SHREDDER E-99 HERBICIDE [181	1381-195	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
2 4-D CHOLINE SALT	FREELEXX HERBICIDE [297	62719-634	DOW AGROSCIENCES LLC	HERBICIDE	OR
2 4-D CHOLINE SALT	GRASLAN L SPECIALTY HERBICIDE [289	62719-655	DOW AGROSCIENCES LLC	HERBICIDE	OR
2 4-D DIETHANOLAMINE SALT	BROADRANGE 55 HERBICIDE [87	2217-813-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
2 4-D DIETHANOLAMINE SALT	BRUSH KILLER /LARGE PROPERTY [234	2217-950	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIETHANOLAMINE SALT	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
2 4-D DIETHANOLAMINE SALT	GORDONS AG PROD HI DEP BROADLEAF HERBICIDE [37	2217-703	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIETHANOLAMINE SALT	GORDONS PASTURE PRO HERBICIDE [199	2217-703	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIETHANOLAMINE SALT	GORDONS PASTURE PRO WEED & BRUSH KILLER TANKABLES [197	2217-703	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIETHANOLAMINE SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	2 4-D /AMINE 4 HERBICIDE	33270-21	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	2 4-D AMINE 4 HERBICIDE [9	42750-19-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	AGRISOLUTIONS BRASH [113	1381-202	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	AGRISTAR 2 4-D AMINE 4 HERBICIDE [2	42750-19	ALBAUGH LLC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	ALLIGARE 2 4-D AMINE [37	81927-38	ALLIGARE LLC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	ALLIGARE DICAMBA + 2 4-D DMA [42	81927-42	ALLIGARE LLC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	AMINE 4 2 4-D HERBICIDE (N)	71368-1-55467	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	AMINE 4 2 4-D WEED KILLER [17	34704-120	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	AQUASWEEP [170	228-316	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	ARMORTECH THREESOME [4	86064-5	UNITED TURF ALLIANCE	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	BASE CAMP AMINE 4 BROADLEAF HERBICIDE [90	71368-1-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	CHASER 2 AMINE [220	34704-930	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	CLEAN AMINE [167	34704-120	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	COMPARE-N-SAVE 2 4-D AMINE SALT BROADLEAF WEED KILLER [8	228-145-84009	RAGAN & MASSEY INC.	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	DEFY AMINE 4 [146	66222-221	MAKHTESHIM-AGAN NA DBA ADAMA	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	DMA 4 IVM HERBICIDE [46	62719-3	DOW AGROSCIENCES LLC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	DREXEL DE-AMINE 4 [50	19713-650	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	DRI-CLEAN HERBICIDE [153	228-260	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	E-2 HERBICIDE	228-442	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	ENDRUN [72	2217-656-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	GORDONS AG PROD HI DEP BROADLEAF HERBICIDE [37	2217-703	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	GORDONS AMINE 400 2 4-D WEED KILLER [207	2217-2	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	GORDONS FARM BRUSH KILLER [20	2217-543	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PASTURE PRO HERBICIDE [199	2217-703	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PASTURE PRO WEED & BRUSH KILLER TANKABLES [197	2217-703	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	HAVOC AMINE [5	89168-7-89391	INNICTIS CROP CARE LLC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	HI-YIELD 2 4-D AMINE	81927-38-7401	VOLUNTARY PURCHASING GROUPS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	HI-YIELD 2 4-D AMINE NO.4 [17	228-145-7401	VOLUNTARY PURCHASING GROUPS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	LESCO THREE-WAY SELECTIVE HERBICIDE [4	10404-43	LESCO INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	MAGMA [2	42750-55-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	MEC AMINE-D [206	34704-239	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	NUFARM WEEDAR 64 BROADLEAF HERBICIDE [19	71368-1	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	OPTI-AMINE [21	5905-501	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	QUALI-PRO 2DQ HERBICIDE [96	53883-334	CONTROL SOLUTIONS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	QUALI-PRO 3-D HERBICIDE [138	53883-378	CONTROL SOLUTIONS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	RIFLE-D HERBICIDE [123	34704-869	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	SABER HERBICIDE [68	34704-803	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	SAVAGE DRY SOLUBLE HERBICIDE [40	34704-606	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	SHREDDER AMINE 4 HERBICIDE [179	1381-103	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	SOLUTION WATER SOLUBLE [11	228-260	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	SP 3WAY BROADLEAF HERBICIDE [88	42750-272-7001	JR SIMPLOT CO.	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	TOPEKA PLUS HERBICIDE [32	83100-45-83979	ROTAM NORTH AMERICA INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	TRIAD SELECT HERBICIDE [17	89442-22	PRIME SOURCE LLC -WAGNER	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	TRIMEC 992 BROADLEAF HERBICIDE [26	2217-656	PBI/GORDON CORPORATION	HERBICIDE	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
2 4-D DIMETHYLAMINE SALT	TRUPOWER2 SELECTIVE HERBICIDE [95]	228-499	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	UAP TIMBERLAND PLATOON [40]	228-145	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	VETERAN 720 HERBICIDE [15]	228-295	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	WEED RHAP A-4D 2 4-D AMINE HERBICIDE [114]	5905-501	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	WEEDESTROY AM-40 AMINE SALT [2]	228-145	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	WEEDMASTER HERB [67-2]	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	WEEDMASTER HERBICIDE [67]	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D DIMETHYLAMINE SALT	WINFIELD STRIKE 3 [126]	14774-2	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	2 4-D /LV4 HERBICIDE	33270-20	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	2 4-D /LV6 HERBICIDE	33270-22	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	2 4-D LV4 LOW VOLATILE HERBICIDE [99]	42750-15	ALBAUGH LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	AGRSOLUTIONS 2 4-D LV4 [3]	1381-102	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	AGRISTAR 2 4-D LV6 LOW VOLATILE HERBICIDE [3]	42750-20	ALBAUGH LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	ALLIGARE 2 4-D LV 6 [41]	81927-39	ALLIGARE LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	BARRAGE HF LOW VOLATILE HERBICIDE [23]	5905-529	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	BASE CAMP LV6 HERBICIDE [111]	2935-553	WILBUR-ELLIS COMPANY	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	BRUSH KILLER /HARD-TO-KILL BRUSH [235]	2217-952	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	BURN MASTER HERBICIDE [90]	71368-108	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	DEFY LV-4	66222-219	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	DEFY LV-6	66222-220	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	DREXEL DE-ESTER LV4 [60]	19713-345	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	DREXEL DE-ESTER LV6 [54]	19713-655	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	GORDONS AG PROD BRUSHMASTER HERBICIDE [53]	2217-774	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	GORDONS LV400 2 4-D WEED KILLER SOLVENT FREE [214]	2217-936	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	HAVOC LV-FOUR [6]	89168-6-89391	INNICTIS CROP CARE LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	HAVOC LV-SIX HERBICIDE [7]	89168-5-89391	INNICTIS CROP CARE LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	NUFARM WEEDONE LV4 EC BROADLEAF HERBICIDE [8]	228-139-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	NUFARM WEEDONE LV4 SOLVENTLESS BROADLEAF HERBICIDE [22]	71368-14	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	OUTLAW [112]	5905-574	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	PATRON 170 [4]	228-167	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	PYRESTA HERBICIDE [18]	71711-35	NICHINO AMERICA INC.	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	SCORCH [98]	71368-117	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	SHREDDER 2 4-D LV4 HERBICIDE [176]	1381-102	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	SHREDDER 2 4-D LV6 HERBICIDE [177]	1381-250	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	SPITFIRE HERBICIDE [87]	71368-109	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	TENKOZ LO-VOL 4 2 4-D LOW VOLATILE HERBICIDE (N)	228-139-55467	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	TENKOZ LO-VOL 4 2 4-D LOW VOLATILE HERBICIDE [62]	42750-15-55467	TENKOZ INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	WEED RHAP LV-4 [175]	5905-600	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	WEED RHAP LV-6D [177]	5905-508	HELENA CHEMICAL COMPANY	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	WEEDONE 650 HERBICIDE [93]	35935-6-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ETHYLHEXYL ESTER	WHITEOUT 2 4-D [264]	34704-1032	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D ISOCTYL ESTER	AGRISTAR FIVE STAR HERBICIDE [15]	42750-49	ALBAUGH LLC	HERBICIDE	OR
2 4-D ISOCTYL ESTER	LOW VOL 6 ESTER WEED KILLER [19]	34704-125	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D ISOCTYL ESTER	NUFARM WEEDONE LV6 EC BROADLEAF HERBICIDE [20]	71368-11	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ISOCTYL ESTER	SALVO [43]	34704-609	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
2 4-D ISOCTYL ESTER	TENKOZ LO-VOL 6 2 4-D LOW VOLATILE HERBICIDE (N)	71368-11-55467	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ISOCTYL ESTER	TURRET 5.5 LB SOLVENTLESS ESTER HERBICIDE [13]	228-95-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
2 4-D ISOPROPYLAMINE	DREXEL IMITATOR + 2 4-D [66]	19713-635	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
2 4-D METHYLAMINE SALT	PRIMERA ONE PRIME TIME [168]	228-513	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D METHYLAMINE SALT	SPOILER HERBICIDE [85]	228-513	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	ALLIGARE PICLORAM+D [15]	81927-16	ALLIGARE LLC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	GRAZON P+D HERBICIDE [26]	62719-182	DOW AGROSCIENCES LLC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	PATHWAY [56]	62719-31	DOW AGROSCIENCES LLC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	PRIMERA TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [61]	228-409	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	TORDON 101 MIXTURE [137]	62719-5	DOW AGROSCIENCES LLC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	TORDON RTU [57]	62719-31	DOW AGROSCIENCES LLC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [48]	228-409	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-D TRIISOPROPANOLAMINE	TRUPOWER 3 SELECTIVE HERBICIDE [101]	228-551	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-DP-P DIMETHYLAMINE SALT	PRIMERA ONE PRIME TIME [168]	228-513	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-DP-P DIMETHYLAMINE SALT	SPOILER HERBICIDE [85]	228-513	NUFARM AMERICAS INC	HERBICIDE	OR
2 4-DP-P DIMETHYLAMINE SALT	VENGEANCE PLUS SELECTIVE HERBICIDE [75]	228-411-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
2 4-DP-P ISOCTYL ESTER	GORDONS AG PROD BRUSHMASTER HERBICIDE [53]	2217-774	PBI/GORDON CORPORATION	HERBICIDE	OR
2 4-DP-P ISOCTYL ESTER	PATRON 170 [4]	228-167	NUFARM AMERICAS INC	HERBICIDE	OR
ACETIC ACID	NATURES WISDOM 20% VINEGAR HERBICIDE [1]	85208-1-90394	NATURES WISDOM	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	BAYER PERSPECTIVE HERBICIDE [226]	432-1569	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	DuPONT METHOD 50SG HERBICIDE [148]	352-787	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	DuPONT PERSPECTIVE HERBICIDE [152]	352-846	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	DuPONT STREAMLINE HERBICIDE [154]	352-848	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
AMINOCYCLOPYRACHLOR	DuPONT VIEWPOINT HERBICIDE [153	352-847	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	METHOD 240SL HERBICIDE [219	432-1565	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	METHOD 50SG HERBICIDE [220	432-1566	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	STREAMLINE HERBICIDE [221	432-1570	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
AMINOCYCLOPYRACHLOR	VIEWPOINT HERBICIDE [232	432-1580	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
AMINOCYCLOPYRACHLOR POTASSIUM SALT	DuPONT METHOD 240SL HERBICIDE [149	352-786	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	OPENSIGHT [247	62719-597	DOW AGROSCIENCES LLC	HERBICIDE	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	CAPSTONE [269	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	CAPSTONE [269-1	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE SPECIALTY HERBICIDE [206	62719-519	DOW AGROSCIENCES LLC	HERBICIDE	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE VM PLUS [230	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE VM PLUS [230-2	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE VM [207	62719-537	DOW AGROSCIENCES LLC	HERBICIDE	OR
AMMONIUM NONANOATE	AXXE BROAD SPECTRUM HERBICIDE [30	70299-23	BIOSAFE SYSTEMS	HERBICIDE	OR
ASULAM SODIUM SALT	ASULAM HERBICIDE [278	34704-904	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
ASULAM SODIUM SALT	ASULOX HERBICIDE [51	70506-139	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
BENEFIN (BENFLURALIN)	SURFLAN XL 2G [102	70506-45	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
BENEFIN (BENFLURALIN)	XL 2G [2	70506-45-38167	HELENA CHEMICAL CO / SETRE CHEMICAL CO.	HERBICIDE	OR
BENTAZON SODIUM SALT	BASAGRAN T&O HERBICIDE [186	7969-326	BASF CORP	HERBICIDE	OR
BENTAZON SODIUM SALT	BENTAZON 4 [7	85678-22	REDEAGLE INTERNATIONAL LLC	HERBICIDE	OR
BENTAZON SODIUM SALT	BROADLOOM HERBICIDE [151	70506-306	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
BROMACIL	ALLIGARE BROMACIL / DIURON 40/40 [1	81927-3	ALLIGARE LLC	HERBICIDE	OR
BROMACIL	ALLIGARE BROMACIL 80 [2	81927-4	ALLIGARE LLC	HERBICIDE	BLM (E) & OR
BROMACIL	DIBRO 2+2 [8	228-227	NUFARM AMERICAS INC	HERBICIDE	BLM (E) & OR
BROMACIL	DIBRO 4+2 GRANULAR WEED KILLER [132	228-386	NUFARM AMERICAS INC	HERBICIDE	BLM (E) & OR
BROMACIL	DuPONT HYVAR X HERBICIDE [6	352-287	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) & OR
BROMACIL	DuPONT KROVAR I DF HERBICIDE [24	352-505	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) & OR
BROMACIL	ENFORCER FORMULA 777 EC [196	1270-113-40849	ZEP COMMERCIAL SALES & SERVICE	HERBICIDE	BLM (E) & OR
BROMACIL	HYVAR X HERBICIDE [215	432-1546	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (E) & OR
BROMACIL	KROVAR I DF HERBICIDE [217	432-1551	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (E) & OR
BROMACIL LITHIUM SALT	DuPONT HYVAR X-L HERBICIDE [9	352-346	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
BROMACIL LITHIUM SALT	HYVAR X-L HERBICIDE [216	432-1548	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
CARFENTRAZONE-ETHYL	DISMISS NXT HERBICIDE [174	279-3383	FMC CORP - DIV AGRICULTURAL SOLUTIONS	HERBICIDE	OR
CARFENTRAZONE-ETHYL	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	HERBICIDE	OR
CHLORSULFURON	BAYER LANDMARK XP HERBICIDE [225	432-1560	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	BAYER PERSPECTIVE HERBICIDE [226	432-1569	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	BAYER TELAR XP HERBICIDE [227	432-1561	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	DuPONT CIMARRON PLUS HERBICIDE [86	352-670	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	DuPONT CIMARRON X-TRA HERBICIDE [85	352-669	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	DuPONT LANDMARK XP HERBICIDE [75	352-645	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	DuPONT PERSPECTIVE HERBICIDE [152	352-846	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	DuPONT TELAR XP HERBICIDE [78	352-654	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) FS & OR
CHLORSULFURON	DuPONT THROTTLE XP HERBICIDE [115	352-725	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (E) FS & OR
CLETHODIM	AGRSOLUTIONS SECTION 2EC HERBICIDE [153	42750-72-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
CLETHODIM	AGRSOLUTIONS SELECT 2EC HERBICIDE [26	59639-3-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
CLETHODIM	AGRISTAR CLETHODIM 2E [54	42750-72	ALBAUGH LLC	HERBICIDE	OR
CLETHODIM	ARROW 2EC HERBICIDE [24	66222-60	MAKHTESHIM-AGAN NA DBA ADAMA	HERBICIDE	OR
CLETHODIM	CLEANSE 2 EC [11	83222-30	DIRECT AG SOURCE -R3 AG-	HERBICIDE	OR
CLETHODIM	CLEANSE HERBICIDE [3	42750-72-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
CLETHODIM	CLETHODIM 2E [8	85678-23	REDEAGLE INTERNATIONAL LLC	HERBICIDE	OR
CLETHODIM	DAKOTA HERBICIDE [28	83100-38-83979	ROTAM NORTH AMERICA INC	HERBICIDE	OR
CLETHODIM	ENVOY PLUS HERBICIDE [44	59639-132	VALENT USA CORPORATION	HERBICIDE	OR
CLETHODIM	GATLIN [12	42750-72-46661	WEST CENTRAL DISTRIBUTION LLC	HERBICIDE	OR
CLETHODIM	INTENSITY ONE POST-EMERGENCE GRASS HERBICIDE [217	34704-976	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
CLETHODIM	INTENSITY POST-EMERGENCE GRASS HERBICIDE [126	34704-864	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
CLETHODIM	OMNI BRAND CLETHODIM 2 EC [159	38167-39-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
CLETHODIM	SECTION THREE HERBICIDE [193	66330-414-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
CLETHODIM	SELECT MAX HERB	59639-132	VALENT USA CORPORATION	HERBICIDE	OR
CLETHODIM	SELECT MAX HERBICIDE W/INSIDE TECHNOLOGY [39	59639-132	VALENT USA CORPORATION	HERBICIDE	OR
CLETHODIM	SHADOW 3EC HERBICIDE [100	66330-414	ARYSTA LIFESCIENCE NORTH AMERICA	HERBICIDE	OR
CLETHODIM	SHADOW HERBICIDE [50	66330-353	ARYSTA LIFESCIENCE NORTH AMERICA	HERBICIDE	OR
CLETHODIM	SHADOW ULTRA HERBICIDE [91	66330-395	ARYSTA LIFESCIENCE NORTH AMERICA	HERBICIDE	OR
CLETHODIM	TAPOUT SELECTIVE GRASS HERBICIDE [121	5905-578	HELENA CHEMICAL COMPANY	HERBICIDE	OR
CLETHODIM	TIDE CLETHODIM 2EC [5	84229-21	TIDE INTERNATIONAL USA INC	HERBICIDE	OR
CLETHODIM	VALENT SELECT 2EC HERBICIDE [13	59639-3	VALENT USA CORPORATION	HERBICIDE	OR
CLETHODIM	VAQUERO HERBICIDE [137	2935-559	WILBUR-ELLIS COMPANY	HERBICIDE	OR
CLETHODIM	VOLUNTEER HERBICIDE [20	59639-3-55467	TENKOZ INC	HERBICIDE	OR
CLETHODIM	VOLUNTEER HERBICIDE [38	66330-353-55467	TENKOZ INC	HERBICIDE	OR
CLETHODIM	VOLUNTEER HERBICIDE [55	42750-72-55467	TENKOZ INC	HERBICIDE	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
CLETHODIM	WILLOWOOD CLETHODIM 2EC [7	87290-11	WILLOWOOD LLC -USA-	HERBICIDE	OR
CLOPYRALID MONOETHANOLAMINE SALT	ALLIGARE CLOPYRALID 3 [11	81927-14	ALLIGARE LLC	HERBICIDE	OR
CLOPYRALID MONOETHANOLAMINE SALT	CLEAN SLATE [80	228-491	NUFARM AMERICAS INC	HERBICIDE	OR
CLOPYRALID MONOETHANOLAMINE SALT	TRANSLINE SPECIALTY HERBICIDE [37	62719-259	DOW AGROSCIENCES LLC	HERBICIDE	OR
DICAMBA	BRUSH KILLER /HARD-TO-KILL BRUSH [235	2217-952	PBI/GORDON CORPORATION	HERBICIDE	BLM (W& E) & OR
DICAMBA	BRUSH-RHAP [120	5905-568	HELENA CHEMICAL COMPANY	HERBICIDE	BLM (W& E) & OR
DICAMBA	BURN MASTER HERBICIDE [90	71368-108	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	CHANGE UP SELECTIVE HERBICIDE [181	228-445	NUFARM AMERICAS INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	COOL POWER SELECTIVE HERBICIDE [21	228-317	NUFARM AMERICAS INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	E-2 HERBICIDE	228-442	NUFARM AMERICAS INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	GORDONS AG PROD BRUSHMASTER HERBICIDE [53	2217-774	PBI/GORDON CORPORATION	HERBICIDE	BLM (W& E) & OR
DICAMBA	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	HERBICIDE	BLM (W& E) & OR
DICAMBA	ON DECK HERBICIDE [147	42750-144-5905	HELENA CHEMICAL COMPANY	HERBICIDE	BLM (W& E) & OR
DICAMBA	OUTLAW [112	5905-574	HELENA CHEMICAL COMPANY	HERBICIDE	BLM (W& E) & OR
DICAMBA	PRIMERA TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [61	228-409	NUFARM AMERICAS INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	SCORCH [98	71368-117	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	SPITFIRE HERBICIDE [87	71368-109	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	TRUPOWER 3 SELECTIVE HERBICIDE [101	228-551	NUFARM AMERICAS INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	TRUPOWER2 SELECTIVE HERBICIDE [95	228-499	NUFARM AMERICAS INC	HERBICIDE	BLM (W& E) & OR
DICAMBA	VISION [113	5905-576	HELENA CHEMICAL COMPANY	HERBICIDE	BLM (W& E) & OR
DICAMBA DIGLYCOLAMINE SALT	AGRI-STAR DICAMBA HD [62	42750-209	ALBAUGH LLC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	CLARIFIER HERBICIDE	7969-137-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	CLARIFIER [219	42750-209-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	CLARITY HERBICIDE [79	7969-137	BASF CORP	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	CLASH SELECTIVE HERBICIDE [140	228-615	NUFARM AMERICAS INC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	DETONATE HERBICIDE [52	7969-137-55467	TENKOZ INC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	DICAMBA DGA HERBICIDE [69	19713-687	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	DICASH DGA-4 HERBICIDE [18	83529-35	SHARDA USA LLC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	DuPONT FEXAPAN HERBICIDE PLUS VAPORGRIP TECH [192	352-913	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	DuPONT FEXAPAN HERBICIDE [188	352-913	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	HM-1410 HERBICIDE [167	5905-597	HELENA CHEMICAL COMPANY	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	M1691 HERBICIDE [100	524-582	MONSANTO COMPANY	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	OPTI-DGA HERBICIDE [174	5905-597	HELENA CHEMICAL COMPANY	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	RIVERDALE VANQUISH HERBICIDE [39	228-397	NUFARM AMERICAS INC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	STERLING BLUE HERBICIDE [135	7969-137-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	STERLING BLUE [158	42750-209-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
DICAMBA DIGLYCOLAMINE SALT	XTENDIMAX WITH VAPORGRIP TECHNOLOGY [101	524-617	MONSANTO COMPANY	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	AGRSOLUTIONS BRASH [113	1381-202	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE CRUISE CONTROL [16	42750-40-81927	ALLIGARE LLC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE CRUISE CONTROL [16-1	42750-40-81927	ALLIGARE LLC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE DICAMBA + 2 4-D DMA [42	81927-42	ALLIGARE LLC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE DICAMBA 4 [56	81927-55	ALLIGARE LLC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ARMORTECH THREESOME [4	86064-5	UNITED TURF ALLIANCE	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	BANVEL 480 HERBICIDE [107	66330-421	ARYSTA LIFESCIENCE NORTH AMERICA	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	BANVEL HERBICIDE [33	66330-276	ARYSTA LIFESCIENCE NORTH AMERICA	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	BRUSH KILLER /LARGE PROPERTY [234	2217-950	PBI/GORDON CORPORATION	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	DIABLO [30	228-379	NUFARM AMERICAS INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	DICAMBA DMA SALT [11	42750-40	ALBAUGH LLC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	DICAMBA MAX 4 [8	83222-14	WINFIELD SOLUTIONS -UNITED SUPPLIERS	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	DISLAMBA DMA HERBICIDE	87895-5-90306	AG SPECIALTIES LLC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ENDRUN [72	2217-656-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS FARM BRUSH KILLER [20	2217-543	PBI/GORDON CORPORATION	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	LESCO THREE-WAY SELECTIVE HERBICIDE [4	10404-43	LESCO INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	MAGMA [2	42750-55-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	MEC AMINE-D [206	34704-239	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	ORTHO WEED-B-GON PRO SOUTHERN [54	228-262	NUFARM AMERICAS INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	QUALI-PRO 2DQ HERBICIDE [96	53883-334	CONTROL SOLUTIONS INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	QUALI-PRO 3-D HERBICIDE [138	53883-378	CONTROL SOLUTIONS INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	RIFLE HERBICIDE [122	34704-861	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	RIFLE-D HERBICIDE [123	34704-869	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	SP 3WAY BROADLEAF HERBICIDE [88	42750-272-7001	JR SIMPLOT CO.	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	TOPEKA HERBICIDE [27	83100-34-83979	ROTAM NORTH AMERICA INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	TOPEKA PLUS HERBICIDE [32	83100-45-83979	ROTAM NORTH AMERICA INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	TRI-POWER SELECTIVE HERBICIDE [12	228-262	NUFARM AMERICAS INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	TRIAD SELECT HERBICIDE [17	89442-22	PRIME SOURCE LLC -WAGNER	HERBICIDE	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
DICAMBA DIMETHYLAMINE SALT	TRIMEC 992 BROADLEAF HERBICIDE [26	2217-656	PBI/GORDON CORPORATION	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [48	228-409	NUFARM AMERICAS INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	VETERAN 720 HERBICIDE [15	228-295	NUFARM AMERICAS INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	WEEDMASTER HERB [67-2	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	WEEDMASTER HERBICIDE [67	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
DICAMBA DIMETHYLAMINE SALT	WINFIELD STRIKE 3 [126	14774-2	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
DICAMBA N N-BIS-(3-AMINOPROPYL) METHYLAMINE SALT	ENGENIA HERBICIDE [293	7969-345	BASF CORP	HERBICIDE	OR
DICAMBA SODIUM SALT	DuPONT BL1 HERBICIDE [183	42750-271-352	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
DICAMBA SODIUM SALT	DuPONT DICAMBA XP HERBICIDE [180	7969-140-352	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
DICAMBA SODIUM SALT	OVERDRIVE HERBICIDE [82	7969-150	BASF CORP	HERBICIDE	OR
DIFLUFENZOPYR AND ITS METABOLITES	OVERDRIVE HERBICIDE [82	7969-150	BASF CORP	HERBICIDE	OR
DIMETHENAMID-P	FREEHAND 1.75G HERBICIDE [154	7969-273	BASF CORP	HERBICIDE	OR
DIMETHENAMID-P	TOWER HERBICIDE [146	7969-239	BASF CORP	HERBICIDE	OR
DIQUAT DIBROMIDE	ACETO DIQUAT 2L AG HERBICIDE [9	2749-530	ACETO AGRICULTURAL CHEMICALS CORP	HERBICIDE	OR
DIQUAT DIBROMIDE	ALLIGARE DIQUAT HERBICIDE [33	81927-35	ALLIGARE LLC	HERBICIDE	OR
DIQUAT DIBROMIDE	DESSICASH L&A LANDSCAPE & AQUATIC HERBICIDE [22	83529-12	SHARDA USA LLC	HERBICIDE	OR
DIQUAT DIBROMIDE	DIBROX HERBICIDE [2	83529-12-84868	LAKE RESTORATION INC	HERBICIDE	OR
DIQUAT DIBROMIDE	DIQUASH AG DESICCANT AND HERBICIDE [5	83529-13	SHARDA USA LLC	HERBICIDE	OR
DIQUAT DIBROMIDE	DIQUASH LANDSCAPE & AQUATIC HERBICIDE [4	83529-12	SHARDA USA LLC	HERBICIDE	OR
DIQUAT DIBROMIDE	HARVESTER LANDSCAPE & AQUATIC HERBICIDE [24	100-1091-8959	APPLIED BIOCHEMISTS INC	HERBICIDE	OR
DIQUAT DIBROMIDE	LITTORA LANDSCAPE & AQUATIC HERBICIDE [61	67690-53	SEPRO CORPORATION	HERBICIDE	OR
DIQUAT DIBROMIDE	QUIKPRO HERBICIDE [58	524-535	MONSANTO COMPANY	HERBICIDE	OR
DIQUAT DIBROMIDE	REWARD LANDSCAPE & AQUATIC HERBICIDE [27	100-1091	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
DIQUAT DIBROMIDE	ROWRUNNER ATO HERBICIDE [21	82542-14-83979	ROTAM NORTH AMERICA INC	HERBICIDE	OR
DIQUAT DIBROMIDE	SHARE CORP QUICK KILL	10088-13-11547	SHARE CORPORATION	HERBICIDE	OR
DIQUAT DIBROMIDE	SOLERA DIQUAT LANDSCAPE & AQUATIC HERBICIDE [9	82542-14-84237	SOLERA ATO LLC	HERBICIDE	OR
DIQUAT DIBROMIDE	TRIBUNE HERBICIDE [80.2	100-1390	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
DIQUAT DIBROMIDE	VERDURE-X-HERBICIDE [20	74530-61	HELM AGRO US INC.	HERBICIDE	OR
DITHIOPYR	ARMORTECH CGC 40 WSP [14	53883-374-86064	UNITED TURF ALLIANCE	HERBICIDE	OR
DITHIOPYR	DIMENSION 2EW SPECIALTY HERBICIDE [216	62719-542	DOW AGROSCIENCES LLC	HERBICIDE	OR
DITHIOPYR	DIMENSION EC SPECIALTY HERBICIDE [118	62719-426	DOW AGROSCIENCES LLC	HERBICIDE	OR
DITHIOPYR	DIMENSION ULTRA 40WP SPECIALTY HERBICIDE [125	62719-445	DOW AGROSCIENCES LLC	HERBICIDE	OR
DITHIOPYR	DITHIOPYR 2L SPECIALTY HERBICIDE [91	53883-311	CONTROL SOLUTIONS INC	HERBICIDE	OR
DITHIOPYR	QUALI-PRO DITHIOPYR 40 WSB SPECIALTY HERBICIDE	66222-213	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
DITHIOPYR	QUALI-PRO DITHIOPYR 40WSB [145	53883-374	CONTROL SOLUTIONS INC	HERBICIDE	OR
DITHIOPYR	QUALI-PRO DITHIOPYR L [140	53883-399	CONTROL SOLUTIONS INC	HERBICIDE	OR
DIURON	ALLIGARE BROMACIL / DIURON 40/40 [1	81927-3	ALLIGARE LLC	HERBICIDE	BLM (W & E) & OR
DIURON	ALLIGARE DIURON 4L [51	81927-44	ALLIGARE LLC	HERBICIDE	BLM (W & E) & OR
DIURON	ALLIGARE MOJAVE 70 EG [28	81927-25	ALLIGARE LLC	HERBICIDE	BLM (W & E) & OR
DIURON	CLEANSHOT 4L HERBICIDE [13	83222-39	DIRECT AG SOURCE -R3 AG-	HERBICIDE	BLM (W & E) & OR
DIURON	CLEANSHOT DF HERBICIDE [14	83222-38	DIRECT AG SOURCE -R3 AG-	HERBICIDE	BLM (W & E) & OR
DIURON	DIBRO 2+2 [8	228-227	NUFARM AMERICAS INC	HERBICIDE	BLM (W & E) & OR
DIURON	DIBRO 4+2 GRANULAR WEED KILLER [132	228-386	NUFARM AMERICAS INC	HERBICIDE	BLM (W & E) & OR
DIURON	DIREX 4L LIQUID FLOWABLE HERBICIDE [147	66222-54	MAKHTESHIM-AGAN NA DBA ADAMA	HERBICIDE	BLM (W & E) & OR
DIURON	DIURON 4L HERBICIDE [146	34704-854	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	BLM (W & E) & OR
DIURON	DIURON 4L HERBICIDE [39	9779-329	WINFIELD SOLUTIONS LLC	HERBICIDE	BLM (W & E) & OR
DIURON	DIURON 80 WDG WEED KILLER [50	34704-648	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	BLM (W & E) & OR
DIURON	DREXEL DIURON 4L HERBICIDE [15	19713-36	DREXEL CHEMICAL COMPANY	HERBICIDE	BLM (W & E) & OR
DIURON	DREXEL DIURON 80 HERBICIDE [12	19713-274	DREXEL CHEMICAL COMPANY	HERBICIDE	BLM (W & E) & OR
DIURON	DuPONT KROVAR I DF HERBICIDE [24	352-505	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W & E) & OR
DIURON	KARMEX DF HERBICIDE [150	66222-51	MAKHTESHIM-AGAN NA DBA ADAMA	HERBICIDE	BLM (W & E) & OR
DIURON	KROVAR I DF HERBICIDE [217	432-1551	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W & E) & OR
DIURON	NuFARM IMAZURON HERBICIDE [167	228-654	NUFARM AMERICAS INC	HERBICIDE	BLM (W & E) & OR
DIURON	SAHARA DG HERBICIDE-BAREGROUND VEGETATION CONTROL [33	241-372	BASF CORP	HERBICIDE	BLM (W & E) & OR
FENOXAPROP-P-ETHYL	ACCLAIM EXTRA HERBICIDE [89	432-950	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
FLUAZIFOP-P-BUTYL	FUSILADE II TURF AND ORNAMENTAL HERBICIDE [25	100-1084	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
FLUMIOXAZIN	DEPTH CHARGE [96	71368-115	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
FLUMIOXAZIN	LOCK DOWN HERBICIDE [84	71368-103	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
FLUMIOXAZIN	PIPER HERB [78-	59639-193	VALENT USA CORPORATION	HERBICIDE	OR
FLUMIOXAZIN	PIPER HERBICIDE [78	59639-193	VALENT USA CORPORATION	HERBICIDE	OR
FLUMIOXAZIN	REDEAGLE FLUMIOXAZIN 51% IVM	85678-35	REDEAGLE INTERNATIONAL LLC	HERBICIDE	OR
FLUMIOXAZIN	VALENT PAYLOAD HERBICIDE [3	59639-120	VALENT USA CORPORATION	HERBICIDE	OR
FLUROXYPYR	TAILSPIN HERBICIDE [201	34704-958	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	ALLIGARE FLUROXYPYR HERBICIDE [45	66330-385-81927	ALLIGARE LLC	HERBICIDE	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	CHANGE UP SELECTIVE HERBICIDE [181	228-445	NUFARM AMERICAS INC	HERBICIDE	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	COMET SELECTIVE HERBICIDE [72	71368-87	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	E-2 HERBICIDE	228-442	NUFARM AMERICAS INC	HERBICIDE	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	SCORCH [98	71368-117	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	TRUMP CARD [124	5905-581	HELENA CHEMICAL COMPANY	HERBICIDE	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
FLUROXYPYR 1-METHYLHEPTYL ESTER	VISTA XRT SPECIALTY HERBICIDE [240	62719-586	DOW AGROSCIENCES LLC	HERBICIDE	OR
FORAMSULFURON	DERIGO HERBICIDE [211	432-1533	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
FOSAMINE AMMONIUM	KRENITE S BRUSH CONTROL AGENT [73	42750-247	ALBAUGH LLC	HERBICIDE	OR
GLUFOSINATE-AMMONIUM	CHEETAH HERBICIDE [88	71368-112	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
GLUFOSINATE-AMMONIUM	FINALE VU HERBICIDE [233	432-1228	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
GLYPHOSATE	REFUGE HERBICIDE [72.2	100-1362	SYNGENTA CROP PROTECTION INC.	HERBICIDE	BLM (W&E), FS, BOR & OR
GLYPHOSATE	TOUCHDOWN TOTAL	100-1169	SYNGENTA CROP PROTECTION INC.	HERBICIDE	BLM (W&E), FS, BOR & OR
GLYPHOSATE	TRAXION HERB	100-1169	SYNGENTA CROP PROTECTION INC.	HERBICIDE	BLM (W&E), FS, BOR & OR
GLYPHOSATE	TRAXION HERB [226-2	100-1169	SYNGENTA CROP PROTECTION INC.	HERBICIDE	BLM (W&E), FS, BOR & OR
GLYPHOSATE DIAMMONIUM SALT	DREXEL IMITATOR DA [58	19713-586	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
GLYPHOSATE DIMETHYLAMMONIUM SALT	ACCORD XRT II HERBICIDE [232	62719-556	DOW AGROSCIENCES LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AGRSOLUTIONS CORNERSTONE HERBICIDE [108	1381-191	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ALECTO 41-S	83772-8-90436	ARGUSTOLI HC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ALLIGARE GLYPHOSATE 4 [32	81927-34	ALLIGARE LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ALLIGARE GLYPHOSATE 5.4 [8	81927-8	ALLIGARE LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AQUA STAR [19	42750-59	ALBAUGH LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AQUANEAT AQUATIC HERBICIDE [127	228-365	NUFARM AMERICAS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AQUAPRO HERBICIDE [5	62719-324-67690	SEPRO CORPORATION	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	BUCCANEER 5 GLYPHOSATE HERBICIDE [34	71368-43-55467	TENKOZ INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	BUCCANEER PLUS GLYPHOSATE HERBICIDE [28	55467-9	TENKOZ INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CINCO [182	34704-929	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CORNERSTONE PLUS HERBICIDE [173	74530-43-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CORNERSTONE PLUS HERBICIDE [25	524-454-1381	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CREDIT 41 EXTRA NON-SELECTIVE HERBICIDE [79	71368-20	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CREDIT 41 NON-SELECTIVE HERBICIDE [78	71368-20	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41 PLUS	72693-1-85945	CROPSMART LLC / S & W	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41 PLUS [1	72693-1-85945	CROPSMART LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41% EXTRA	85945-1	CROPSMART LLC / S & W	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41% EXTRA [2	85945-1	CROPSMART LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	DREXEL IMITATOR + 2 4-D [66	19713-635	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	DREXEL IMITATOR AQUATIC HERBICIDE [49	19713-623	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	DREXEL IMITATOR PLUS HERBICIDE [42	19713-526	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ENFORCER WEED DEFEAT CONC [181	2217-847-40849	ZEP COMMERCIAL SALES & SERVICE	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ENVY HERBICIDE [2	89168-17-89391	INNICTIS CROP CARE LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ENVY INTENSE [9	89168-17-89391	INNICTIS CROP CARE LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	FARMWORKS 41% GLYPHOSATE GRASS & WEED KILLER CONC [10	84009-12	RAGAN & MASSEY INC.	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	FARMWORKS 41% GLYPHOSATE PLUS CONC. W/SURFACTANT GRASS & WEED KILLER [5	86068-4-84009	RAGAN & MASSEY INC.	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	FOUR POWER PLUS HERBICIDE [253	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLY STAR 5 EXTRA [36	42750-59	ALBAUGH LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLY STAR ORIGINAL [20	42750-60	ALBAUGH LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYFINE 5 PLUS HERBICIDE [13	2749-552	ACETO AGRICULTURAL CHEMICALS CORP	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYFOS AQUATIC HERBICIDE [1	4787-34	CHEMINOVA AS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYFOS HERBICIDE [9	4787-31	CHEMINOVA AS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYFOS X-TRA HERBICIDE [8	4787-23	CHEMINOVA AS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYPHO 41 HERBICIDE [101	70506-226	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYPHOGAN HERBICIDE	66222-105	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYPHOSATE PRO 4 HERBICIDE [12	72112-4	PROKOZ INC.	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYPRO PLUS [63	62719-322	DOW AGROSCIENCES LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PONDMASTER SURFACE & SHORELINE HERBICIDE [194	2217-850	PBI/GORDON CORPORATION	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PRO T&O GLYPHOMATE 41 WEED&GRASS KILLER +AQUATIC [74	2217-847	PBI/GORDON CORPORATION	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PRO T&O PROD PRONTO VEGETATION KILLER [190	2217-923	PBI/GORDON CORPORATION	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PRONTO BIG N TUF 41% GLYPHOSATE W&G KILLER [215	42750-61-2217	PBI/GORDON CORPORATION	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GROUNDWORK CONC 50% SUPER WEED & GRASS KILLER [184	2217-845	PBI/GORDON CORPORATION	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HELM HELOSATE PLUS ADVANCED HERBICIDE [11	74530-43	HELM AGRO US INC.	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HELOSATE 5 HERBICIDE [19	74530-56	HELM AGRO US INC.	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD KILL-ZALL AQUATIC HERBICIDE [102	7401-459	VOLUNTARY PURCHASING GROUPS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD SUPER CONC KILL-ZALL II HERBICIDE [145	19713-526-7401	VOLUNTARY PURCHASING GROUPS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD SUPER CONC KILL-ZALL II [146	42750-61-7401	VOLUNTARY PURCHASING GROUPS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD SUPER CONC. KILL-ZALL III [234	74530-43-7401	VOLUNTARY PURCHASING GROUPS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HONCHO HERBICIDE [18	524-445	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HONCHO PLUS HERBICIDE [23	524-454	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	IAP GLYPHOSATE-4DS DUAL SALT HERBICIDE [1	71368-25-71089	GS LONG COMPANY INC. -DBA GENESIS AGRI PRODUCTS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	KLEENUP PRO [213	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	LESCO PROSECUTOR PRO (069286) [40	524-536-10404	LESCO INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	LESCO PROSECUTOR PRO HERBICIDE (702343) [155	10404-117	LESCO INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAD DOG 5.4# [340	34704-929	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAD DOG PLUS [232	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAD DOG [231	34704-889	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAKAZE HERBICIDE [177	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
GLYPHOSATE ISOPROPYLAMINE SALT	POND OASIS SHORELINE PLANT CONTROL [320]	228-367-1258	ARCH CHEMICALS INC.	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	PRIMERA RAZOR PRO [59]	228-366	NUFARM AMERICAS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	QUALI-PRO GLYPHOSATE PLUS HERBICIDE	66222-176	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RANGER PRO HERBICIDE [54]	524-517	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RATTLER HERBICIDE [11]	524-445-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR HERB [125-1]	228-366	NUFARM AMERICAS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR HERBICIDE [125]	228-366	NUFARM AMERICAS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR PRO HERB [118-1]	228-366	NUFARM AMERICAS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR PRO HERBICIDE [118]	228-366	NUFARM AMERICAS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RODEO HERBICIDE [67]	62719-324	DOW AGROSCIENCES LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP CUSTOM /AQUATIC & TERRESTRIAL USE [95]	524-343	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP PRO CONC [56-6]	524-529	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP PRO CONCENTRATE HERBICIDE [56]	524-529	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP PRO HERBICIDE [32]	524-475	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SePRO TOTAL POND EMERGE	62719-324-67690	SEPRO CORPORATION	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHORE-KLEAR AQUATIC HERBICIDE [16]	228-365-8959	APPLIED BIOCHEMISTS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHOREKLEAR-PLUS AQUATIC HERBICIDE [22]	228-367-8959	APPLIED BIOCHEMISTS INC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHORELINE DEFENSE	42750-59-83742	POND GUY -KELLY REG	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHOWDOWN HERBICIDE [109]	71368-25-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SLAM PLUS GLYPHOSATE HERBICIDE [1]	80967-1-90306	AG SPECIALTIES LLC	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	TOMAHAWK 4 HERBICIDE	33270-18	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	TOMAHAWK 5 HERBICIDE	33270-15	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	HERBICIDE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	WYNCA USA SUNPHOSATE 41% HERBICIDE [1]	87659-3	CINMAX INTERNATIONAL	HERBICIDE	OR
GLYPHOSATE MONOAMMONIUM SALT	ALLIGARE DRYPHOSATE 75SG HERBICIDE	81927-60	ALLIGARE LLC	HERBICIDE	OR
GLYPHOSATE MONOAMMONIUM SALT	HELM HELOSATE 75SG HERBICIDE [16]	74530-52	HELM AGRO US INC.	HERBICIDE	OR
GLYPHOSATE MONOAMMONIUM SALT	IAP GLYPHOSATE-4DS DUAL SALT HERBICIDE [1]	71368-25-71089	GS LONG COMPANY INC. -DBA GENESIS AGRI PRODUCTS	HERBICIDE	OR
GLYPHOSATE MONOAMMONIUM SALT	QUIKPRO HERBICIDE [58]	524-535	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE MONOAMMONIUM SALT	ROUNDUP PRODRY HERBICIDE [48]	524-505	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE MONOAMMONIUM SALT	SHOWDOWN HERBICIDE [109]	71368-25-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	DEPARTURE HERBICIDE [68.2]	100-1355	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	GLY STAR K-PLUS [86]	42750-122	ALBAUGH LLC	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	ROUNDUP PROMAX HERB [69-2]	524-579	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	ROUNDUP PROMAX HERBICIDE [69]	524-579	MONSANTO COMPANY	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN CT2 HERBICIDE [292]	100-1169	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN HITECH	100-1182	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN HITECH HERBICIDE [53]	100-1182	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN TOTAL HERBICIDE [50]	100-1169	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
GLYPHOSATE POTASSIUM SALT	TRAXION HERBICIDE [226]	100-1169	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
HALOSULFURON-METHYL	NuFARM PROSEDGE SELECTIVE HERBICIDE [174]	228-711	NUFARM AMERICAS INC	HERBICIDE	OR
HALOSULFURON-METHYL	PROFINE 75 HERBICIDE [12]	2749-528	ACETO AGRICULTURAL CHEMICALS CORP	HERBICIDE	OR
HALOSULFURON-METHYL	SEDGEHAMMER TURF HERBICIDE [54]	81880-1-10163	GOWAN CO.	HERBICIDE	OR
HALOSULFURON-METHYL	SEDGEHAMMER+ TURF HERBICIDE [81]	81880-24-10163	GOWAN CO.	HERBICIDE	OR
HEXAZINONE	BAYER VELPAR L VU HERBICIDE [229]	432-1573	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	BAYER WESTAR HERBICIDE [224]	432-1558	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	DuPONT VELPAR DF HERBICIDE [41]	352-581	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	DuPONT VELPAR L HERBICIDE [12]	352-392	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	DuPONT VELPAR ULW HERBICIDE [23]	352-450	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	DuPONT WESTAR HERBICIDE [63]	352-626	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	TIDE HEXAR 2SL [7]	84229-35	TIDE INTERNATIONAL USA INC	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	TIDE HEXAZINONE 75 WDG [10]	84229-32	TIDE INTERNATIONAL USA INC	HERBICIDE	BLM (W & E) & OR
HEXAZINONE	VELPAR DF VU HERBICIDE [230]	432-1576	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W & E) & OR
IMAZAMOX	CLEARCAST HERB [54-3]	241-437-67690	SEPRO CORPORATION	HERBICIDE	OR
IMAZAMOX	CLEARCAST HERBICIDE [149]	241-437	BASF CORP	HERBICIDE	OR
IMAZAMOX	CLEARCAST HERBICIDE [54]	241-437-67690	SEPRO CORPORATION	HERBICIDE	OR
IMAZAPIC AMMONIUM SALT	ALLIGARE PANORAMIC 2SL HERBICIDE [10]	66222-141-81927	ALLIGARE LLC	HERBICIDE	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	NuFARM IMAZAPIC 2SL HERBICIDE [82]	71368-99	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	NUFARM IMAZAPIC 2SL IVM HERBICIDE [97]	71368-118	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	OPEN RANGE G [127]	2935-557	WILBUR-ELLIS COMPANY	HERBICIDE	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	PLATEAU HERBICIDE [30]	241-365	BASF CORP	HERBICIDE	BLM (W&E), BOR & OR
IMAZAPYR	ALLIGARE MOJAVE 70 EG [28]	81927-25	ALLIGARE LLC	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT IMAZAPYR II 75XP HERBICIDE [158]	352-855	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT LINEAGE CLEARSTAND HERBICIDE [129]	352-766	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT LINEAGE HWC HERBICIDE [128]	352-765	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT LINEAGE PREP HERBICIDE [130]	352-767	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT VIEWPOINT HERBICIDE [153]	352-847	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	LINEAGE CLEARSTAND HERBICIDE [231]	432-1578	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	NuFARM IMAZURON HERBICIDE [167]	228-654	NUFARM AMERICAS INC	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	SAHARA DG HERBICIDE-BAREGROUND VEGETATION CONTROL [33]	241-372	BASF CORP	HERBICIDE	BLM (W&E), FS, BOR & OR
IMAZAPYR	VIEWPOINT HERBICIDE [232]	432-1580	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W&E), FS, BOR & OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
IMAZAPYR ISOPROPYLAMINE SALT	ALLIGARE ECOMAZAPYR 2 SL [24	81927-22	ALLIGARE LLC	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	ALLIGARE IMAZAPYR 2 SL [25	81927-23	ALLIGARE LLC	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	ALLIGARE IMAZAPYR 4 SL [27	81927-24	ALLIGARE LLC	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	ARSENAL HERBICIDE APPLICATORS CONCENTRATE [12	241-299	BASF CORP	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	ARSENAL HERBICIDE [26	241-346	BASF CORP	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	ARSENAL POWERLINE HERBICIDE [141	241-431	BASF CORP	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	GORDONS PRO T&O PROD PRONTO VEGETATION KILLER [190	2217-923	PBI/GORDON CORPORATION	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	MARTINS TVC TOTAL VEGETATION CONTROL [69	81927-23-53883	CONTROL SOLUTIONS INC	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	NUFARM POLARIS AC COMPLETE HERBICIDE [169	228-570	NUFARM AMERICAS INC	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	NUFARM POLARIS HERBICIDE [104	228-534	NUFARM AMERICAS INC	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	NUFARM POLARIS SP HERBICIDE [102	228-536	NUFARM AMERICAS INC	HERBICIDE	OR
IMAZAPYR ISOPROPYLAMINE SALT	STALKER HERBICIDE [44	241-398	BASF CORP	HERBICIDE	OR
INDAZIFLAM	ESPLANADE 200 SC [187	432-1516	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
INDAZIFLAM	SPECT(i)CLE / SPECTICLE 20WSP HERBICIDE [184	432-1499	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
IODOSULFURON-METHYL-SODIUM	DERIGO HERBICIDE [211	432-1533	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
IRON HEDTA -FEHEDTA-	FIESTA TURF WEED KILLER [1	67702-26-87865	ENGAGE AGRO USA	HERBICIDE	OR
IRON HEDTA -FEHEDTA-	FIESTA TURF WEED KILLER [1-1	67702-26-87865	ENGAGE AGRO USA	HERBICIDE	OR
ISOXABEN	GALLERY 75 DRY FLOWABLE [19	62719-145	DOW AGROSCIENCES LLC	HERBICIDE	OR
ISOXABEN	GALLERY SC SPECIALTY HERBICIDE [284	62719-658	DOW AGROSCIENCES LLC	HERBICIDE	OR
ISOXABEN	QUALI-PRO ISOXABEN 75 WG HERBICIDE	66222-218	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
ISOXABEN	QUALI-PRO T/I 2.5 G HERBICIDE	66222-224	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
ISOXABEN	SHOWCASE SPECIALTY HERBICIDE [204	62719-516	DOW AGROSCIENCES LLC	HERBICIDE	OR
ISOXABEN	SNAPSHOT 2.5TG SPECIALTY HERBICIDE [24	62719-175	DOW AGROSCIENCES LLC	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	AGRISTAR SOLVE MCPA ESTER HERBICIDE [7	42750-25	ALBAUGH LLC	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	BASE CAMP MCP ESTER [112	2935-554	WILBUR-ELLIS COMPANY	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	COOL POWER SELECTIVE HERBICIDE [21	228-317	NUFARM AMERICAS INC	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	DAGGER 5.2LB MCPA ESTER HERBICIDE [11	228-267-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	NUFARM RHONOX MCPA ESTER HERBICIDE [5	11685-21-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	RIVERDALE MCPA L.V.4 ESTER [3	228-156	NUFARM AMERICAS INC	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	SHREDDER MCPE HERBICIDE [178	1381-98	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
MCPA 2-ETHYLHEXYL ESTER	WILDCARD HERBICIDE [22	5905-506	HELENA CHEMICAL COMPANY	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	AGRISOLUTIONS MCPA AMINE [5	1381-104	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	CHANGE UP SELECTIVE HERBICIDE [181	228-445	NUFARM AMERICAS INC	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	MCP AMINE 4 [20	34704-130	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	MCPA AMINE 4 HERBICIDE [1	42750-14	ALBAUGH LLC	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	ORTHO WEED-B-GON PRO SOUTHERN [54	228-262	NUFARM AMERICAS INC	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	SHREDDER MCPA AMINE HERBICIDE [180	1381-104	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	SP 3WAY BROADLEAF HERBICIDE [88	42750-272-7001	JR SIMPLOT CO.	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	TRI-POWER SELECTIVE HERBICIDE [12	228-262	NUFARM AMERICAS INC	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	TRIAD SELECT HERBICIDE [17	89442-22	PRIME SOURCE LLC -WAGNER	HERBICIDE	OR
MCPA DIMETHYLAMINE SALT	VENGEANCE PLUS SELECTIVE HERBICIDE [75	228-411-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
MCPA ISOOCTYL ESTER	SWORD SELECTIVE HERBICIDE [5	228-267-34704	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
MCPP-P	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	HERBICIDE	OR
MCPP-P	QUALI-PRO 3-D HERBICIDE [138	53883-378	CONTROL SOLUTIONS INC	HERBICIDE	OR
MCPP-P	TRUPOWER2 SELECTIVE HERBICIDE [95	228-499	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	HERBICIDE	OR
MCPP-P DMA SALT	ARMORTECH THREESOME [4	86064-5	UNITED TURF ALLIANCE	HERBICIDE	OR
MCPP-P DMA SALT	ENDRUN [72	2217-656-5905	HELENA CHEMICAL COMPANY	HERBICIDE	OR
MCPP-P DMA SALT	GORDONS FARM BRUSH KILLER [20	2217-543	PBI/GORDON CORPORATION	HERBICIDE	OR
MCPP-P DMA SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	HERBICIDE	OR
MCPP-P DMA SALT	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	HERBICIDE	OR
MCPP-P DMA SALT	LESCO THREE-WAY SELECTIVE HERBICIDE [4	10404-43	LESCO INC	HERBICIDE	OR
MCPP-P DMA SALT	MEC AMINE-D [206	34704-239	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
MCPP-P DMA SALT	ORTHO WEED-B-GON PRO SOUTHERN [54	228-262	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	PRIMERA ONE PRIME TIME [168	228-513	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	PRIMERA TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [61	228-409	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	SPOILER HERBICIDE [85	228-513	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	TRI-POWER SELECTIVE HERBICIDE [12	228-262	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	TRIMEC 992 BROADLEAF HERBICIDE [26	2217-656	PBI/GORDON CORPORATION	HERBICIDE	OR
MCPP-P DMA SALT	TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [48	228-409	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	TRUPOWER 3 SELECTIVE HERBICIDE [101	228-551	NUFARM AMERICAS INC	HERBICIDE	OR
MCPP-P DMA SALT	WINFIELD STRIKE 3 [126	14774-2	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
METSULFURON METHYL	ACCURATE HERBICIDE [27	67760-68	CHEMINOVA INC.	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	ALLIGARE MSM 60 [7	81927-7	ALLIGARE LLC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	ALLIGARE SFM EXTRA [6	81927-5	ALLIGARE LLC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	BAYER OUST EXTRA HERBICIDE [228	432-1557	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT CIMARRON MAX PART A HERBICIDE (TANK MIX W/PART B) [162	352-870	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT CIMARRON PLUS HERBICIDE [86	352-670	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT CIMARRON X-TRA HERBICIDE [85	352-669	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
METSULFURON METHYL	DuPONT ESCORT XP HERB [18-2	352-439	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT ESCORT XP HERBICIDE [18	352-439	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT LINEAGE CLEARSTAND HERBICIDE [129	352-766	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT LINEAGE HWC HERBICIDE [128	352-765	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT LINEAGE PREP HERBICIDE [130	352-767	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT OUST EXTRA HERBICIDE [62	352-622	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT STREAMLINE HERBICIDE [154	352-848	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT VIEWPOINT HERBICIDE [153	352-847	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	ESCORT XP HERBICIDE [218	432-1549	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	LINEAGE CLEARSTAND HERBICIDE [231	432-1578	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	METCEL VMF HERBICIDE [3	352-439-85588	AGSURF CORPORATION	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	MSM 60DF [3	81927-7-86291	PRECISION CONTROL TECHNOLOGY INC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	OMNI MSM 60 DF HERBICIDE [170	84229-42-5905	HELENA CHEMICAL COMPANY	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	OPENSIGHT [247	62719-597	DOW AGROSCIENCES LLC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	PATRIOT SELECTIVE HERBICIDE [35	228-391	NUFARM AMERICAS INC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	ROMETSOL HERBICIDE [9	83100-2-83979	ROTAM NORTH AMERICA INC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	SFM PLUS [5	81927-5-86291	PRECISION CONTROL TECHNOLOGY INC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	SPYDER EXTRA SELECTIVE HERBICIDE [128	228-690	NUFARM AMERICAS INC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	STREAMLINE HERBICIDE [221	432-1570	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	SULFOMET EXTRA HERBICIDE [5	352-622-85588	AGSURF CORPORATION	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	TIDE MSM 60 DF HERBICIDE [8	84229-8	TIDE INTERNATIONAL USA INC	HERBICIDE	BLM (W&E), FS & OR
METSULFURON METHYL	VIEWPOINT HERBICIDE [232	432-1580	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W&E), FS & OR
ORYZALIN	ALLIGARE ORYZALIN 4 [44	81927-46	ALLIGARE LLC	HERBICIDE	OR
ORYZALIN	COMPARE-N-SAVE CRABGRASS & SANDBUR PREVENTER [13	70506-44-84009	RAGAN & MASSEY INC.	HERBICIDE	OR
ORYZALIN	LESCO SURFLAN AS SPECIALTY HERBICIDE [102	70506-44-10404	LESCO INC	HERBICIDE	OR
ORYZALIN	ORYZALIN COATED GRANULES [221	34704-823	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
ORYZALIN	PROKOZ SURFLAN AS SPECIALTY HERBICIDE [100	70506-44	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
ORYZALIN	QUALI-PRO ORYZALIN 4 HERBICIDE [130	53883-369	CONTROL SOLUTIONS INC	HERBICIDE	OR
ORYZALIN	SURFLAN XL 2G [102	70506-45	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
ORYZALIN	XL 2G [2	70506-45-38167	HELENA CHEMICAL CO / SETRE CHEMICAL CO.	HERBICIDE	OR
OXYFLUORFEN	AGRISTAR OXYSTAR 2E [53	42750-136	ALBAUGH LLC	HERBICIDE	OR
OXYFLUORFEN	BIATHLON ORNAMENTAL HERBICIDE [49	59807-12	OHP INC.	HERBICIDE	OR
OXYFLUORFEN	CLEANTRAXX HERBICIDE [298	62719-702	DOW AGROSCIENCES LLC	HERBICIDE	OR
OXYFLUORFEN	COLLIDE HERBICIDE [120	70506-295	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
OXYFLUORFEN	GALIGAN 2E HERBICIDE	66222-28	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
OXYFLUORFEN	GALIGAN 2E HERBICIDE [10	66222-28	MAKHTESHIM-AGAN NA DBA ADAMA	HERBICIDE	OR
OXYFLUORFEN	GOAL 2XL HERBICIDE [116	62719-424	DOW AGROSCIENCES LLC	HERBICIDE	OR
OXYFLUORFEN	GOALTENDER HERBICIDE [197	62719-447	DOW AGROSCIENCES LLC	HERBICIDE	OR
OXYFLUORFEN	OZYFLUORFEN 2E HERBICIDE [12	70506-295-84237	SOLERA ATO LLC	HERBICIDE	OR
OXYFLUORFEN	PINDAR GT	62719-611	DOW AGROSCIENCES LLC	HERBICIDE	OR
OXYFLUORFEN	PINDAR GT HERBICIDE [270	62719-611	DOW AGROSCIENCES LLC	HERBICIDE	OR
OXYFLUORFEN	SHOWCASE SPECIALTY HERBICIDE [204	62719-516	DOW AGROSCIENCES LLC	HERBICIDE	OR
OXYFLUORFEN	WILLOWOOD OXYFLO 2EC [5	87290-8	WILLOWOOD LLC -USA-	HERBICIDE	OR
OXYFLUORFEN	WILLOWOOD OXYFLO 4SC [4	87290-10	WILLOWOOD LLC -USA-	HERBICIDE	OR
PARAQUAT DICHLORIDE	BONEDRY [1	82557-1	SINON USA	HERBICIDE	OR
PARAQUAT DICHLORIDE	DEVOUR [4	89167-24-89391	INNVICTIS CROP CARE LLC	HERBICIDE	OR
PARAQUAT DICHLORIDE	FIRESTORM	82557-1-400	CHEMTURA CORPORATION	HERBICIDE	OR
PARAQUAT DICHLORIDE	FIRESTORM HERBICIDE [51	82557-1-400	MACDERMID AG SOLUTIONS INC	HERBICIDE	OR
PARAQUAT DICHLORIDE	GRAMOXONE SL 2.0 HERBICIDE [93.2	100-1431	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
PARAQUAT DICHLORIDE	GRAMOXONE SL HERBICIDE [7.2	100-1217	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
PARAQUAT DICHLORIDE	PARAZONE 3SL HERBICIDE	66222-130	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
PARAQUAT DICHLORIDE	PARAZONE 3SL HERBICIDE [55	66222-130	MAKHTESHIM-AGAN NA DBA ADAMA	HERBICIDE	OR
PARAQUAT DICHLORIDE	SOLERA PARAQUAT CONC. [1	82542-3	SOURCE DYNAMICS	HERBICIDE	OR
PARAQUAT DICHLORIDE	WILLOWOOD PARAQUAT 3SL [16	87290-35	WILLOWOOD LLC -USA-	HERBICIDE	OR
PELARGONIC ACID (NONANOIC ACID)	SCYTHE HERBICIDE [83	10163-325	GOWAN CO.	HERBICIDE	OR
PENDIMETHALIN	DREXEL PIN-DEE 3.3 T&O HERBICIDE	19713-590	DREXEL CHEMICAL COMPANY	HERBICIDE	OR
PENDIMETHALIN	FREEHAND 1.75G HERBICIDE [154	7969-273	BASF CORP	HERBICIDE	OR
PENDIMETHALIN	HAMMERKOP HYDROCAP [123	70506-230	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
PENDIMETHALIN	LESCO PRE-M AQUA CAP HERBICIDE [70	241-416-10404	LESCO INC	HERBICIDE	OR
PENDIMETHALIN	PENDULUM 2G GRANULE HERBICIDE [34	241-375	BASF CORP	HERBICIDE	OR
PENDIMETHALIN	PENDULUM 3.3 EC HERBICIDE [23	241-341	BASF CORP	HERBICIDE	OR
PENDIMETHALIN	PENDULUM AQUA CAP HERBICIDE [50	241-416	BASF CORP	HERBICIDE	OR
PENDIMETHALIN	UP-END 3.3 HERBICIDE [181	70506-318	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
PENDIMETHALIN	UP-END HYDROCAP HERBICIDE [124	70506-230	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
PENOX SULAM	CLEANTRAXX HERBICIDE [298	62719-702	DOW AGROSCIENCES LLC	HERBICIDE	OR
PENOX SULAM	PINDAR GT	62719-611	DOW AGROSCIENCES LLC	HERBICIDE	OR
PENOX SULAM	PINDAR GT HERBICIDE [270	62719-611	DOW AGROSCIENCES LLC	HERBICIDE	OR
PENOX SULAM	TANGENT HERB	62719-603	DOW AGROSCIENCES LLC	HERBICIDE	OR
PICLORAM	GRASLAN L SPECIALTY HERBICIDE [289	62719-655	DOW AGROSCIENCES LLC	HERBICIDE	BLM (W&E) FS, BOR & OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
PICLORAM POTASSIUM SALT	OUTPOST 22K HERBICIDE [224	62719-6	DOW AGROSCIENCES LLC	HERBICIDE	OR
PICLORAM POTASSIUM SALT	TORDON 22K SPECIALTY HERBICIDE [138	62719-6	DOW AGROSCIENCES LLC	HERBICIDE	OR
PICLORAM POTASSIUM SALT	TORDON K SPECIALTY HERBICIDE [22	62719-17	DOW AGROSCIENCES LLC	HERBICIDE	OR
PICLORAM POTASSIUM SALT	TROOPER 22K HERBICIDE [100	228-535	NUFARM AMERICAS INC	HERBICIDE	OR
PICLORAM TRIISOPROPANOLAMINE	ALLIGARE PICLORAM+D [15	81927-16	ALLIGARE LLC	HERBICIDE	OR
PICLORAM TRIISOPROPANOLAMINE	GRAZON P+D HERBICIDE [26	62719-182	DOW AGROSCIENCES LLC	HERBICIDE	OR
PICLORAM TRIISOPROPANOLAMINE	PATHWAY [56	62719-31	DOW AGROSCIENCES LLC	HERBICIDE	OR
PICLORAM TRIISOPROPANOLAMINE	TORDON 101 MIXTURE [137	62719-5	DOW AGROSCIENCES LLC	HERBICIDE	OR
PICLORAM TRIISOPROPANOLAMINE	TORDON RTU [57	62719-31	DOW AGROSCIENCES LLC	HERBICIDE	OR
PRODIAMINE	ALLIGARE PRODIAMINE 65 WG HERBICIDE [34	81927-36	ALLIGARE LLC	HERBICIDE	OR
PRODIAMINE	BARRICADE 65WG HERBICIDE [104	100-834	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
PRODIAMINE	BIATHLON ORNAMENTAL HERBICIDE [49	59807-12	OHP INC.	HERBICIDE	OR
PRODIAMINE	CAVALCADE 65WDG [13	60063-26	SIPCAM AGRO USA INC.	HERBICIDE	OR
PRODIAMINE	ECHOLON 4SC HERBICIDE [74	279-3323	FMC CORP - DIV AGRICULTURAL SOLUTIONS	HERBICIDE	OR
PRODIAMINE	EVADE 4FL [255	34704-915	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
PRODIAMINE	HALTS PRO	66222-89	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
PRODIAMINE	KNIGHTHAWK HERBICIDE [160	70506-266	UNITED PHOSPHORUS INC -UPI-	HERBICIDE	OR
PRODIAMINE	PRIMERAONE PRODIAMINE 65WDG HERBICIDE [32	60063-26	SIPCAM AGRO USA INC.	HERBICIDE	OR
PRODIAMINE	PROCLIPSE 65 WDG [63	228-434	NUFARM AMERICAS INC	HERBICIDE	OR
PRODIAMINE	PRODIAMINE 4SC SELECT [15	89442-26	PRIME SOURCE LLC -WAGNER	HERBICIDE	OR
PRODIAMINE	RESOLUTE 65WG HERBICIDE [172	100-834	SYNGENTA CROP PROTECTION INC.	HERBICIDE	OR
PROMETON	PRAMITOL 25E HERBICIDE	66222-22	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
PROMETON	PRAMITOL 25E HERBICIDE [81	66222-22-34704	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
PROMETON	PRAMITOL 25E HERBICIDE [28	66222-22-9779	WINFIELD SOLUTIONS LLC	HERBICIDE	OR
PROMETON	PRAMITOL 5PS PELLETTED HERBICIDE	66222-23	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
PROMETON	PRAMITOL 5PS PELLETTED HERBICIDE [82	66222-23-34704	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
PYRAFLUFEN-ETHYL	EDICT 2SC IVM HERBICIDE [10	71711-25	NICHINO AMERICA INC.	HERBICIDE	OR
PYRAFLUFEN-ETHYL	PYRESTA HERBICIDE [18	71711-35	NICHINO AMERICA INC.	HERBICIDE	OR
PYRAFLUFEN-ETHYL	VENUE HERBICIDE [11	71711-25	NICHINO AMERICA INC.	HERBICIDE	OR
PYROXASULFONE	PIPER HERB [78-	59639-193	VALENT USA CORPORATION	HERBICIDE	OR
PYROXASULFONE	PIPER HERBICIDE [78	59639-193	VALENT USA CORPORATION	HERBICIDE	OR
QUINCLORAC	AGRISTAR QUINSTAR 4L HERBICIDE [66	42750-169	ALBAUGH LLC	HERBICIDE	OR
QUINCLORAC	QUALI-PRO 2DQ HERBICIDE [96	53883-334	CONTROL SOLUTIONS INC	HERBICIDE	OR
QUINCLORAC	QUALI-PRO QUINCLORAC 75 DF	66222-160	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
QUINCLORAC DIMETHYLAMINE SALT	FACET L HERBICIDE [203	7969-315	BASF CORP	HERBICIDE	OR
QUIZALOFOP-P ETHYL	DuPONT ASSURE II HERBICIDE [32	352-541	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	ALLIGARE LARAMIE 25DF [61	81927-57	ALLIGARE LLC	HERBICIDE	OR
RIMSULFURON	DuPONT MATRIX FNV HERB [119-1	352-671	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	DuPONT MATRIX FNV HERB [119-3	352-671	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	DuPONT MATRIX HERB [33-6	352-556	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	DuPONT MATRIX HERB [33-8	352-556	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	DuPONT MATRIX SG HERB [135-1	352-768	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	DuPONT MATRIX SG HERB [135-2	352-768	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	DuPONT MATRIX SG HERBICIDE [135	352-768	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
RIMSULFURON	HINGE HERBICIDE [30	83100-40-83979	ROTAM NORTH AMERICA INC	HERBICIDE	OR
RIMSULFURON	PRUVIN HERBICIDE [77	66222-184	MAKHTESHIM-AGAN NA DBA ADAMA	HERBICIDE	OR
RIMSULFURON	RIMGRO HERB [9-1	352-768-85588	AGSURF CORPORATION	HERBICIDE	OR
RIMSULFURON	RIMGRO HERB [9-2	352-768-85588	AGSURF CORPORATION	HERBICIDE	OR
RIMSULFURON	RIMGRO HERBICIDE [9	352-768-85588	AGSURF CORPORATION	HERBICIDE	OR
RIMSULFURON	SOLIDA HERBICIDE [168	279-3576	FMC CORP - DIV AGRICULTURAL SOLUTIONS	HERBICIDE	OR
RIMSULFURON	SOLIDA HERBICIDE [44	67760-105	CHEMINOVA INC.	HERBICIDE	OR
SAFLUFENACIL	DETAIL POWERED BY KIXOR HERBICIDE [189	7969-297	BASF CORP	HERBICIDE	OR
SETHOXYDIM	BONIDE GRASS BEATER OVER-THE-TOP GRASS KILLER CONC. [186	7969-88-4	BONIDE PRODUCTS INC	HERBICIDE	FS & OR
SETHOXYDIM	NUFARM SETHOXYDIM SPC HERBICIDE [160	228-619	NUFARM AMERICAS INC	HERBICIDE	FS & OR
SETHOXYDIM	POAST HERBICIDE [101	7969-58	BASF CORP	HERBICIDE	FS & OR
SETHOXYDIM	SEGMENT HERBICIDE [179	7969-317	BASF CORP	HERBICIDE	FS & OR
SETHOXYDIM	SEGMENT II HERBICIDE [296	7969-398	BASF CORP	HERBICIDE	FS & OR
SODIUM CHLORATE	PRAMITOL 5PS PELLETTED HERBICIDE	66222-23	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
SODIUM CHLORATE	PRAMITOL 5PS PELLETTED HERBICIDE [82	66222-23-34704	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
SODIUM METABORATE	PRAMITOL 5PS PELLETTED HERBICIDE	66222-23	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
SODIUM METABORATE	PRAMITOL 5PS PELLETTED HERBICIDE [82	66222-23-34704	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
SULFENTRAZONE	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	HERBICIDE	OR
SULFENTRAZONE	DISMISS NXT HERBICIDE [174	279-3383	FMC CORP - DIV AGRICULTURAL SOLUTIONS	HERBICIDE	OR
SULFENTRAZONE	DuPONT SULFENTRAZONE XP HERBICIDE [90	352-713	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
SULFENTRAZONE	DuPONT THROTTLE XP HERBICIDE [115	352-725	E I DUPONT DE NEMOURS & CO	HERBICIDE	OR
SULFENTRAZONE	ECHOLON 4SC HERBICIDE [74	279-3323	FMC CORP - DIV AGRICULTURAL SOLUTIONS	HERBICIDE	OR
SULFENTRAZONE	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
SULFENTRAZONE	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	HERBICIDE	OR
SULFENTRAZONE	PORTFOLIO 4F HERBICIDE [79	279-3295-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Utility Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	LABEL TYPE	Approval
SULFOMETURON-METHYL	ALLIGARE SFM 75 [19	81927-26	ALLIGARE LLC	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	ALLIGARE SFM EXTRA [6	81927-5	ALLIGARE LLC	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER LANDMARK XP HERBICIDE [225	432-1560	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER OUST EXTRA HERBICIDE [228	432-1557	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER OUST XP HERBICIDE [223	432-1552	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER WESTAR HERBICIDE [224	432-1558	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT LANDMARK XP HERBICIDE [75	352-645	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT LINEAGE HWC HERBICIDE [128	352-765	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT LINEAGE PREP HERBICIDE [130	352-767	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT OUST EXTRA HERBICIDE [62	352-622	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT OUST XP HERBICIDE [47	352-601	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT THROTTLE XP HERBICIDE [115	352-725	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT WESTAR HERBICIDE [63	352-626	E I DUPONT DE NEMOURS & CO	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SFM 75 [4	81927-26-86291	PRECISION CONTROL TECHNOLOGY INC	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SFM PLUS [5	81927-5-86291	PRECISION CONTROL TECHNOLOGY INC	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SPYDER EXTRA SELECTIVE HERBICIDE [128	228-690	NUFARM AMERICAS INC	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SPYDER SELECTIVE HERBICIDE [126	228-408	NUFARM AMERICAS INC	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SULFOMET EXTRA HERBICIDE [5	352-622-85588	AGSURF CORPORATION	HERBICIDE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SULFOMET XP HERBICIDE [6	352-601-85588	AGSURF CORPORATION	HERBICIDE	BLM (W &E) FS & OR
SULFOSULFURON	OUTRIDER HERBICIDE [45	524-500	MONSANTO COMPANY	HERBICIDE	OR
SULFOSULFURON	OUTRIDER HERBICIDE [93	59639-223	VALENT USA CORPORATION	HERBICIDE	OR
TEBUTHIURON	ALLIGARE TEBUTHIURON 20 P [35	81927-41	ALLIGARE LLC	HERBICIDE	BLM ( E ) & OR
TEBUTHIURON	ALLIGARE TEBUTHIURON 80 WG [36	81927-37	ALLIGARE LLC	HERBICIDE	BLM ( E ) & OR
TEBUTHIURON	SPIKE 20P SPECIALTY HERBICIDE [13	62719-121	DOW AGROSCIENCES LLC	HERBICIDE	BLM ( E ) & OR
TEBUTHIURON	SPIKE 80DF SPECIALTY HERBICIDE [8	62719-107	DOW AGROSCIENCES LLC	HERBICIDE	BLM ( E ) & OR
THIENCARBAZONE-METHYL	DERIGO HERBICIDE [211	432-1533	BAYER ENVIRONMENTAL SCIENCE	HERBICIDE	OR
TOPRAMEZONE	FREQUENCY HERB [165-1	7969-281	BASF CORP	HERBICIDE	OR
TOPRAMEZONE	FREQUENCY HERBICIDE [165	7969-281	BASF CORP	HERBICIDE	OR
TRICLOPYR	TRYCERA SELECTIVE BROADLEAF HERBICIDE [118	5905-580	HELENA CHEMICAL COMPANY	HERBICIDE	BLM (W&E) FS & OR
TRICLOPYR BUTOXYETHYL ESTER	AGRISTAR TRICLOPYR 4E [51	42750-126	ALBAUGH LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	ALLIGARE BOULDER 6.3 [55	81927-54	ALLIGARE LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	ALLIGARE TRICLOPYR 4 [22	81927-11	ALLIGARE LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	BRUSH KILLER /HARD-TO-KILL BRUSH [235	2217-952	PBI/GORDON CORPORATION	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	BRUSHTOX W/ TRICLOPYR CONC [9	42750-126-84009	RAGAN & MASSEY INC.	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	COOL POWER SELECTIVE HERBICIDE [21	228-317	NUFARM AMERICAS INC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	ELEMENT 4 SPECIALTY HERBICIDE [223	62719-40	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	GARLON 4 SPECIALTY HERBICIDE [102	62719-40	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	GARLON 4 ULTRA SPECIALTY HERBICIDE [215	62719-527	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	GARLON XRT SPECIALTY HERBICIDE [214	62719-553	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	LESCO TRICLOPYR 4 ESTER HERBICIDE (702035) [154	10404-119	LESCO INC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	PATHFINDER II [25	62719-176	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR BUTOXYETHYL ESTER	SIGHTLINE HERBICIDE	74779-8	RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS INC.	HERBICIDE	OR
TRICLOPYR CHOLINE SALT	VASTLAN SPECIALTY HERBICIDE [296	62719-687	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	AGRISTAR TRICLOPYR 3A [52	42750-127	ALBAUGH LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	ALLIGARE TRICLOPYR 3 [21	81927-13	ALLIGARE LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	AQUASWEEP [170	228-316	NUFARM AMERICAS INC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	BRUSH KILLER /LARGE PROPERTY [234	2217-950	PBI/GORDON CORPORATION	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	CAPSTONE [269	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	CAPSTONE [269-1	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	CHASER 2 AMINE [220	34704-930	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	ELEMENT 3A SPECIALTY HERBICIDE [222	62719-37	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	GARLON 3A SPECIALTY HERBICIDE [87	62719-37	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	GARLON 3A [87-2	62719-37	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	MILESTONE VM PLUS [230	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	MILESTONE VM PLUS [230-2	62719-572	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	NAVITROL LANDSCAPE & AQUATIC HERBICIDE [27	8959-56	APPLIED BIOCHEMISTS INC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	RENOVATE 3 AQUATIC HERBICIDE [6	62719-37-67690	SEPRO CORPORATION	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	TAHOE 3A HERBICIDE [97	228-520	NUFARM AMERICAS INC	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	TAILSPIN HERBICIDE [201	34704-958	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR
TRICLOPYR TRIETHYLAMINE SALT	VENGEANCE PLUS SELECTIVE HERBICIDE [75	228-411-2935	WILBUR-ELLIS COMPANY	HERBICIDE	OR
TRIFLURALIN	LEBANON TREFLAN 5-G	961-405	LEBANON SEABOARD CORPORATION	HERBICIDE	OR
TRIFLURALIN	QUALI-PRO T/I 2.5 G HERBICIDE	66222-224	MAKHTESHIM AGAN NORTH AMERICA	HERBICIDE	OR
TRIFLURALIN	SHAWS TREFLAN 500 GRANULES	62719-98-8378	KNOX FERTILIZER COMPANY INC	HERBICIDE	OR
TRIFLURALIN	SHOWCASE SPECIALTY HERBICIDE [204	62719-516	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRIFLURALIN	SNAPSHOT 2.5TG SPECIALTY HERBICIDE [24	62719-175	DOW AGROSCIENCES LLC	HERBICIDE	OR
TRIFLURALIN	TRIFLURALIN 10G [219	34704-790	LOVELAND PROD./CROP PRODUCTION SVCS	HERBICIDE	OR

<http://cru66.cahe.wsu.edu/LabelTolerance.html>

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
2 4-D	AGRSOLUTIONS RUGGED HERBICIDE [165	1381-247	WINFIELD SOLUTIONS LLC	BLM, BOR & OR
2 4-D	AGRISTAR D-638 BROADLEAF HERBICIDE [9	42750-36	ALBAUGH LLC	BLM, BOR & OR
2 4-D	BRUSH-RHAP [120	5905-568	HELENA CHEMICAL COMPANY	BLM, BOR & OR
2 4-D	DEPTH CHARGE [96	71368-115	NUFARM AMERICAS INC. -DIV NUFARM INC	BLM, BOR & OR
2 4-D	HARDBALL [58	5905-549	HELENA CHEMICAL COMPANY	BLM, BOR & OR
2 4-D	NUFARM WEEDONE 638 BROADLEAF HERBICIDE [34	71368-3	NUFARM AMERICAS INC. -DIV NUFARM INC	BLM, BOR & OR
2 4-D	ON DECK HERBICIDE [147	42750-144-5905	HELENA CHEMICAL COMPANY	BLM, BOR & OR
2 4-D	TRIMEC DMB NO.2 S.I. [77	2217-851	PBI/GORDON CORPORATION	BLM, BOR & OR
2 4-D	TRUMP CARD [124	5905-581	HELENA CHEMICAL COMPANY	BLM, BOR & OR
2 4-D BUTOXYETHYL ESTER	AGRISTAR CROSSROAD [49	42750-124	ALBAUGH LLC	OR
2 4-D BUTOXYETHYL ESTER	AGRISTAR D-638 BROADLEAF HERBICIDE [9	42750-36	ALBAUGH LLC	OR
2 4-D BUTOXYETHYL ESTER	ALLIGARE EVERETT HERBICIDE [26	81927-29	ALLIGARE LLC	OR
2 4-D BUTOXYETHYL ESTER	CANDOR HERBICIDE [114	228-565	NUFARM AMERICAS INC	OR
2 4-D BUTOXYETHYL ESTER	CLEAVER 6B HERBICIDE [102	71368-6	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D BUTOXYETHYL ESTER	CROSSBOW HERBICIDE [195	62719-260-1381	WINFIELD SOLUTIONS LLC	OR
2 4-D BUTOXYETHYL ESTER	CROSSBOW HERBICIDE [39	62719-260-55467	TENKOZ INC	OR
2 4-D BUTOXYETHYL ESTER	CROSSBOW L [103	62719-260-34704	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D BUTOXYETHYL ESTER	CROSSBOW SPECIALTY HERBICIDE [3	62719-260-829	SOUTHERN AGRICULTURAL INSECTICIDES INC	OR
2 4-D BUTOXYETHYL ESTER	CROSSBOW [38	62719-260	DOW AGROSCIENCES LLC	OR
2 4-D BUTOXYETHYL ESTER	CROSSBOW [65	62719-260-5905	HELENA CHEMICAL COMPANY	OR
2 4-D BUTOXYETHYL ESTER	NUFARM WEEDONE 638 BROADLEAF HERBICIDE [34	71368-3	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D BUTOXYETHYL ESTER	SHREDDER E-99 HERBICIDE [181	1381-195	WINFIELD SOLUTIONS LLC	OR
2 4-D CHOLINE SALT	FREELEXX HERBICIDE [297	62719-634	DOW AGROSCIENCES LLC	OR
2 4-D CHOLINE SALT	GRASLAN L SPECIALTY HERBICIDE [289	62719-655	DOW AGROSCIENCES LLC	OR
2 4-D DIETHANOLAMINE SALT	BROADRANGE 55 HERBICIDE [87	2217-813-2935	WILBUR-ELLIS COMPANY	OR
2 4-D DIETHANOLAMINE SALT	BRUSH KILLER /LARGE PROPERTY [234	2217-950	PBI/GORDON CORPORATION	OR
2 4-D DIETHANOLAMINE SALT	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	OR
2 4-D DIETHANOLAMINE SALT	GORDONS AG PROD HI DEP BROADLEAF HERBICIDE [37	2217-703	PBI/GORDON CORPORATION	OR
2 4-D DIETHANOLAMINE SALT	GORDONS PASTURE PRO HERBICIDE [199	2217-703	PBI/GORDON CORPORATION	OR
2 4-D DIETHANOLAMINE SALT	GORDONS PASTURE PRO WEED & BRUSH KILLER TANKABLES [197	2217-703	PBI/GORDON CORPORATION	OR
2 4-D DIETHANOLAMINE SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	2 4-D /AMINE 4 HERBICIDE	33270-21	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
2 4-D DIMETHYLAMINE SALT	2 4-D AMINE 4 HERBICIDE [9	42750-19-5905	HELENA CHEMICAL COMPANY	OR
2 4-D DIMETHYLAMINE SALT	AGRSOLUTIONS BRASH [113	1381-202	WINFIELD SOLUTIONS LLC	OR
2 4-D DIMETHYLAMINE SALT	AGRISTAR 2 4-D AMINE 4 HERBICIDE [2	42750-19	ALBAUGH LLC	OR
2 4-D DIMETHYLAMINE SALT	ALLIGARE 2 4-D AMINE [37	81927-38	ALLIGARE LLC	OR
2 4-D DIMETHYLAMINE SALT	ALLIGARE DICAMBA + 2 4-D DMA [42	81927-42	ALLIGARE LLC	OR
2 4-D DIMETHYLAMINE SALT	AMINE 4 2 4-D HERBICIDE (N)	71368-1-55467	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D DIMETHYLAMINE SALT	AMINE 4 2 4-D WEED KILLER [17	34704-120	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D DIMETHYLAMINE SALT	AQUASWEEP [170	228-316	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	OR
2 4-D DIMETHYLAMINE SALT	ARMORTECH THREESOME [4	86064-5	UNITED TURF ALLIANCE	OR
2 4-D DIMETHYLAMINE SALT	BASE CAMP AMINE 4 BROADLEAF HERBICIDE [90	71368-1-2935	WILBUR-ELLIS COMPANY	OR
2 4-D DIMETHYLAMINE SALT	CHASER 2 AMINE [220	34704-930	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D DIMETHYLAMINE SALT	CLEAN AMINE [167	34704-120	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D DIMETHYLAMINE SALT	COMPARE-N-SAVE 2 4-D AMINE SALT BROADLEAF WEED KILLER [8	228-145-84009	RAGAN & MASSEY INC.	OR
2 4-D DIMETHYLAMINE SALT	DEFY AMINE 4 [146	66222-221	MAKHTESHIM-AGAN NA DBA ADAMA	OR
2 4-D DIMETHYLAMINE SALT	DMA 4 IVM HERBICIDE [46	62719-3	DOW AGROSCIENCES LLC	OR
2 4-D DIMETHYLAMINE SALT	DREXEL DE-AMINE 4 [50	19713-650	DREXEL CHEMICAL COMPANY	OR
2 4-D DIMETHYLAMINE SALT	DRI-CLEAN HERBICIDE [153	228-260	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	E-2 HERBICIDE	228-442	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	ENDRUN [72	2217-656-5905	HELENA CHEMICAL COMPANY	OR
2 4-D DIMETHYLAMINE SALT	ESCALADE 2 HERBICIDE [64	228-442	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	FORMULA 40 [24	228-357	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	GORDONS ACREAGE PRO LARGE PROPERTY LAWN WEED KILLER [217	2217-694	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS AG PROD HI DEP BROADLEAF HERBICIDE [37	2217-703	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS AMINE 400 2 4-D WEED KILLER [207	2217-2	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS FARM BRUSH KILLER [20	2217-543	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PASTURE PRO HERBICIDE [199	2217-703	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PASTURE PRO WEED & BRUSH KILLER TANKABLES [197	2217-703	PBI/GORDON CORPORATION	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
2 4-D DIMETHYLAMINE SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PROFORM Q4 PLUS TURF HERBICIDE /GRASS & BROADLEAF [162	2217-930	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	GORDONS TRIMEC WEED KILLER TANKABLES [196	2217-694	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	HAVOC AMINE [5	89168-7-89391	INNVICTIS CROP CARE LLC	OR
2 4-D DIMETHYLAMINE SALT	HI-YIELD 2 4-D AMINE	81927-38-7401	VOLUNTARY PURCHASING GROUPS	OR
2 4-D DIMETHYLAMINE SALT	HI-YIELD 2 4-D AMINE NO.4 [17	228-145-7401	VOLUNTARY PURCHASING GROUPS	OR
2 4-D DIMETHYLAMINE SALT	HI-YIELD 2 4-D SELECTIVE WEED KILLER [194	228-238-7401	VOLUNTARY PURCHASING GROUPS	OR
2 4-D DIMETHYLAMINE SALT	LESCO MOMENTUM Q HERBICIDE [108	228-531	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	LESCO THREE-WAY SELECTIVE HERBICIDE [4	10404-43	LESCO INC	OR
2 4-D DIMETHYLAMINE SALT	MAGMA [2	42750-55-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
2 4-D DIMETHYLAMINE SALT	MEC AMINE-D [206	34704-239	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D DIMETHYLAMINE SALT	MILLENNIUM ULTRA 2 [56	228-332	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	NUFARM WEEDAR 64 BROADLEAF HERBICIDE [19	71368-1	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D DIMETHYLAMINE SALT	OPTI-AMINE [21	5905-501	HELENA CHEMICAL COMPANY	OR
2 4-D DIMETHYLAMINE SALT	PRIMERA MILLENNIUM ULTRA 2 SELECTIVE HERBICIDE [58	228-332	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	PRIMERAONE PRIMERA TRIPLET SF SELECTIVE HERBICIDE [57	228-312	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	Q4 PLUS TURF HERBICIDE [228	2217-930	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	QUALI-PRO 2DQ HERBICIDE [96	53883-334	CONTROL SOLUTIONS INC	OR
2 4-D DIMETHYLAMINE SALT	QUALI-PRO 3-D HERBICIDE	66222-225	MAKHTESHIM AGAN NORTH AMERICA	OR
2 4-D DIMETHYLAMINE SALT	QUALI-PRO 3-D HERBICIDE [138	53883-378	CONTROL SOLUTIONS INC	OR
2 4-D DIMETHYLAMINE SALT	QUINCEPT HERBICIDE [91	228-531	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	RIFLE-D HERBICIDE [123	34704-869	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D DIMETHYLAMINE SALT	RIVERDALE SOLUTION WATER SOL. IVM [9	228-260	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	RIVERDALE TRIAMINE [5	228-178	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	SABER HERBICIDE [68	34704-803	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D DIMETHYLAMINE SALT	SAVAGE DRY SOLUBLE HERBICIDE [40	34704-606	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D DIMETHYLAMINE SALT	SHREDDER AMINE 4 HERBICIDE [179	1381-103	WINFIELD SOLUTIONS LLC	OR
2 4-D DIMETHYLAMINE SALT	SOLUTION WATER SOLUBLE [11	228-260	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	SP 3WAY BROADLEAF HERBICIDE [88	42750-272-7001	JR SIMPLOT CO.	OR
2 4-D DIMETHYLAMINE SALT	TOPEKA PLUS HERBICIDE [32	83100-45-83979	ROTAM NORTH AMERICA INC	OR
2 4-D DIMETHYLAMINE SALT	TRIAD SELECT HERBICIDE [17	89442-22	PRIME SOURCE LLC -WAGNER	OR
2 4-D DIMETHYLAMINE SALT	TRIMEC 992 BROADLEAF HERBICIDE [26	2217-656	PBI/GORDON CORPORATION	OR
2 4-D DIMETHYLAMINE SALT	TRIPLET SF [18	228-312	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	TRUPOWER2 SELECTIVE HERBICIDE [95	228-499	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	UAP TIMBERLAND PLATOON [40	228-145	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	VETERAN 720 HERBICIDE [15	228-295	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	WEED RHAP A-4D 2 4-D AMINE HERBICIDE [114	5905-501	HELENA CHEMICAL COMPANY	OR
2 4-D DIMETHYLAMINE SALT	WEDESTROY AM-40 AMINE SALT [2	228-145	NUFARM AMERICAS INC	OR
2 4-D DIMETHYLAMINE SALT	WEEDMASTER HERB [67-2	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D DIMETHYLAMINE SALT	WEEDMASTER HERBICIDE [67	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D DIMETHYLAMINE SALT	WINFIELD STRIKE 3 [126	14774-2	WINFIELD SOLUTIONS LLC	OR
2 4-D ETHYLHEXYL ESTER	2 4-D /LV4 HERBICIDE	33270-20	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
2 4-D ETHYLHEXYL ESTER	2 4-D /LV6 HERBICIDE	33270-22	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
2 4-D ETHYLHEXYL ESTER	2 4-D LV 4 [8	42750-15-5905	HELENA CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	2 4-D LV 6 [10	42750-20-5905	HELENA CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	2 4-D LV4 LOW VOLATILE HERBICIDE [99	42750-15	ALBAUGH LLC	OR
2 4-D ETHYLHEXYL ESTER	AGRSOLUTIONS 2 4-D LV4 [3	1381-102	WINFIELD SOLUTIONS LLC	OR
2 4-D ETHYLHEXYL ESTER	AGRISTAR 2 4-D LV6 LOW VOLATILE HERBICIDE [3	42750-20	ALBAUGH LLC	OR
2 4-D ETHYLHEXYL ESTER	ALLIGARE 2 4-D LV 6 [41	81927-39	ALLIGARE LLC	OR
2 4-D ETHYLHEXYL ESTER	BARRAGE HF LOW VOLATILE HERBICIDE [23	5905-529	HELENA CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	BASE CAMP LV6 HERBICIDE [111	2935-553	WILBUR-ELLIS COMPANY	OR
2 4-D ETHYLHEXYL ESTER	BRUSH KILLER /HARD-TO-KILL BRUSH [235	2217-952	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	BURN MASTER HERBICIDE [90	71368-108	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	DEFY LV-4	66222-219	MAKHTESHIM AGAN NORTH AMERICA	OR
2 4-D ETHYLHEXYL ESTER	DEFY LV-6	66222-220	MAKHTESHIM AGAN NORTH AMERICA	OR
2 4-D ETHYLHEXYL ESTER	DREXEL DE-ESTER LV4 [60	19713-345	DREXEL CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	DREXEL DE-ESTER LV6 [54	19713-655	DREXEL CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	GORDONS AG PROD BRUSHMASTER HERBICIDE [53	2217-774	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	GORDONS ALL-SEASON BRUSH-NO-MORE [55	2217-775-33955	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	GORDONS LV400 2 4-D WEED KILLER SOLVENT FREE [214	2217-936	PBI/GORDON CORPORATION	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
2 4-D ETHYLHEXYL ESTER	GORDONS PASTURE PRO BRUSH KILLER /HARD-TO-KILL BRUSH [202	2217-952	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	GORDONS PROFORM SPEEDZONE BROADLEAF HERBICIDE/TURF [66	2217-833	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	GORDONS PROFORM TZONE BROADLEAF HERBICIDE [154	2217-920	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	GORDONS PROFORM TZONE SE BROADLEAF HERBICIDE /TOUGH WEEDS [195	2217-976	PBI/GORDON CORPORATION	OR
2 4-D ETHYLHEXYL ESTER	HAVOC LV-FOUR [6	89168-6-89391	INNVICTIS CROP CARE LLC	OR
2 4-D ETHYLHEXYL ESTER	HAVOC LV-SIX HERBICIDE [7	89168-5-89391	INNVICTIS CROP CARE LLC	OR
2 4-D ETHYLHEXYL ESTER	NUFARM WEEDONE 650 SOLVENTLESS HERBICIDE [91	35935-6-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	NUFARM WEEDONE LV4 EC BROADLEAF HERBICIDE [8	228-139-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	NUFARM WEEDONE LV4 SOLVENTLESS BROADLEAF HERBICIDE [22	71368-14	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	OUTLAW [112	5905-574	HELENA CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	PATRON 170 [4	228-167	NUFARM AMERICAS INC	OR
2 4-D ETHYLHEXYL ESTER	PYRESTA HERBICIDE [18	71711-35	NICHINO AMERICA INC.	OR
2 4-D ETHYLHEXYL ESTER	SCORCH [98	71368-117	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	SHREDDER 2 4-D LV4 HERBICIDE [176	1381-102	WINFIELD SOLUTIONS LLC	OR
2 4-D ETHYLHEXYL ESTER	SHREDDER 2 4-D LV6 HERBICIDE [177	1381-250	WINFIELD SOLUTIONS LLC	OR
2 4-D ETHYLHEXYL ESTER	SOLVE 2 4-D LOW VOLATILE ESTER HERBICIDE [4	42750-22	ALBAUGH LLC	OR
2 4-D ETHYLHEXYL ESTER	SPITFIRE HERBICIDE [87	71368-109	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	TENKOZ LO-VOL 4 2 4-D LOW VOLATILE HERBICIDE (N)	228-139-55467	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	TENKOZ LO-VOL 4 2 4-D LOW VOLATILE HERBICIDE [62	42750-15-55467	TENKOZ INC	OR
2 4-D ETHYLHEXYL ESTER	WEED RHAP LV-4 [175	5905-600	HELENA CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	WEED RHAP LV-6D [177	5905-508	HELENA CHEMICAL COMPANY	OR
2 4-D ETHYLHEXYL ESTER	WEEDONE 650 HERBICIDE [93	35935-6-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ETHYLHEXYL ESTER	WHITEOUT 2 4-D [264	34704-1032	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D ISOOCTYL ESTER	4-SPEED SELECTIVE HERBICIDE [121	228-589	NUFARM AMERICAS INC	OR
2 4-D ISOOCTYL ESTER	AGRISTAR FIVE STAR HERBICIDE [15	42750-49	ALBAUGH LLC	OR
2 4-D ISOOCTYL ESTER	LESCO REDZONE 2 HERBICIDE [149	228-589	NUFARM AMERICAS INC	OR
2 4-D ISOOCTYL ESTER	LOW VOL 4 ESTER WEED KILLER [18	34704-124	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D ISOOCTYL ESTER	LOW VOL 6 ESTER WEED KILLER [19	34704-125	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D ISOOCTYL ESTER	NUFARM WEEDONE LV6 EC BROADLEAF HERBICIDE [20	71368-11	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ISOOCTYL ESTER	SALVO [43	34704-609	LOVELAND PROD./CROP PRODUCTION SVCS	OR
2 4-D ISOOCTYL ESTER	TENKOZ LO-VOL 6 2 4-D LOW VOLATILE HERBICIDE (N)	71368-11-55467	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ISOOCTYL ESTER	TURRET 5.5 LB SOLVENTLESS ESTER HERBICIDE [13	228-95-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
2 4-D ISOPROPYLAMINE	CAMPAIGN HERBICIDE [12	524-351	MONSANTO COMPANY	OR
2 4-D ISOPROPYLAMINE	DREXEL IMITATOR + 2 4-D [66	19713-635	DREXEL CHEMICAL COMPANY	OR
2 4-D ISOPROPYLAMINE	LANDMASTER BW [24	42750-62	ALBAUGH LLC	OR
2 4-D METHYLAMINE SALT	PRIMERA ONE PRIME TIME [168	228-513	NUFARM AMERICAS INC	OR
2 4-D METHYLAMINE SALT	SPOILER HERBICIDE [85	228-513	NUFARM AMERICAS INC	OR
2 4-D TRIISOPROPANOLAMINE	ALLIGARE PICLORAM+D [15	81927-16	ALLIGARE LLC	OR
2 4-D TRIISOPROPANOLAMINE	FOREFRONT R&P SPECIALTY HERBICIDE [218	62719-524	DOW AGROSCIENCES LLC	OR
2 4-D TRIISOPROPANOLAMINE	FORMULA 40 [24	228-357	NUFARM AMERICAS INC	OR
2 4-D TRIISOPROPANOLAMINE	GRAZON P+D HERBICIDE [26	62719-182	DOW AGROSCIENCES LLC	OR
2 4-D TRIISOPROPANOLAMINE	LESCO MOMENTUM FX2 HERBICIDE (088525) [86	228-447-10404	LESCO INC	OR
2 4-D TRIISOPROPANOLAMINE	PATHWAY [56	62719-31	DOW AGROSCIENCES LLC	OR
2 4-D TRIISOPROPANOLAMINE	PRIMERA TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [61	228-409	NUFARM AMERICAS INC	OR
2 4-D TRIISOPROPANOLAMINE	TORDON 101 MIXTURE [137	62719-5	DOW AGROSCIENCES LLC	OR
2 4-D TRIISOPROPANOLAMINE	TORDON RTU [57	62719-31	DOW AGROSCIENCES LLC	OR
2 4-D TRIISOPROPANOLAMINE	TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [48	228-409	NUFARM AMERICAS INC	OR
2 4-D TRIISOPROPANOLAMINE	TRUPOWER 3 SELECTIVE HERBICIDE [101	228-551	NUFARM AMERICAS INC	OR
2 4-DP-P DIMETHYLAMINE SALT	PRIMERA ONE PRIME TIME [168	228-513	NUFARM AMERICAS INC	OR
2 4-DP-P DIMETHYLAMINE SALT	RIVERDALE TRIAMINE [5	228-178	NUFARM AMERICAS INC	OR
2 4-DP-P DIMETHYLAMINE SALT	SPOILER HERBICIDE [85	228-513	NUFARM AMERICAS INC	OR
2 4-DP-P DIMETHYLAMINE SALT	VENGEANCE PLUS SELECTIVE HERBICIDE [75	228-411-2935	WILBUR-ELLIS COMPANY	OR
2 4-DP-P ISOOCTYL ESTER	GORDONS AG PROD BRUSHMASTER HERBICIDE [53	2217-774	PBI/GORDON CORPORATION	OR
2 4-DP-P ISOOCTYL ESTER	GORDONS ALL-SEASON BRUSH-NO-MORE [55	2217-775-33955	PBI/GORDON CORPORATION	OR
2 4-DP-P ISOOCTYL ESTER	PATRON 170 [4	228-167	NUFARM AMERICAS INC	OR
AMINOCYCLOPYRACHLOR	BAYER PERSPECTIVE HERBICIDE [226	432-1569	BAYER ENVIRONMENTAL SCIENCE	OR
AMINOCYCLOPYRACHLOR	DuPONT METHOD 50SG HERBICIDE [148	352-787	E I DUPONT DE NEMOURS & CO	OR
AMINOCYCLOPYRACHLOR	DuPONT PERSPECTIVE HERBICIDE [152	352-846	E I DUPONT DE NEMOURS & CO	OR
AMINOCYCLOPYRACHLOR	DuPONT STREAMLINE HERBICIDE [154	352-848	E I DUPONT DE NEMOURS & CO	OR
AMINOCYCLOPYRACHLOR	DuPONT VIEWPOINT HERBICIDE [153	352-847	E I DUPONT DE NEMOURS & CO	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
AMINOCYCLOPYRACHLOR	METHOD 240SL HERBICIDE [219	432-1565	BAYER ENVIRONMENTAL SCIENCE	OR
AMINOCYCLOPYRACHLOR	METHOD 50SG HERBICIDE [220	432-1566	BAYER ENVIRONMENTAL SCIENCE	OR
AMINOCYCLOPYRACHLOR	STREAMLINE HERBICIDE [221	432-1570	BAYER ENVIRONMENTAL SCIENCE	OR
AMINOCYCLOPYRACHLOR	VIEWPOINT HERBICIDE [232	432-1580	BAYER ENVIRONMENTAL SCIENCE	OR
AMINOCYCLOPYRACHLOR POTASSIUM SALT	DuPONT METHOD 240SL HERBICIDE [149	352-786	E I DUPONT DE NEMOURS & CO	OR
AMINOPYRALID POTASSIUM SALT	OPENSIGHT [247	62719-597	DOW AGROSCIENCES LLC	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	CAPSTONE [269	62719-572	DOW AGROSCIENCES LLC	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	CAPSTONE [269-1	62719-572	DOW AGROSCIENCES LLC	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	FOREFRONT R&P SPECIALTY HERBICIDE [218	62719-524	DOW AGROSCIENCES LLC	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE SPECIALTY HERBICIDE [206	62719-519	DOW AGROSCIENCES LLC	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE VM PLUS [230	62719-572	DOW AGROSCIENCES LLC	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE VM PLUS [230-2	62719-572	DOW AGROSCIENCES LLC	OR
AMINOPYRALID TRIISOPROPANOLAMINE SALT	MILESTONE VM [207	62719-537	DOW AGROSCIENCES LLC	OR
AMMONIUM NONANOATE	AXXE BROAD SPECTRUM HERBICIDE [30	70299-23	BIOSAFE SYSTEMS	OR
ASULAM SODIUM SALT	ASULAM HERBICIDE [278	34704-904	LOVELAND PROD./CROP PRODUCTION SVCS	OR
ASULAM SODIUM SALT	ASULOX HERBICIDE [51	70506-139	UNITED PHOSPHORUS INC -UPI-	OR
ATRAZINE	ATRAZINE 90WSP HERBICIDE	19713-76-5905	HELENA CHEMICAL COMPANY	OR
ATRAZINE	HELENA ATRAZINE 4F HERBICIDE [106	100-497-5905	HELENA CHEMICAL COMPANY	OR
BENEFIN (BENFLURALIN)	SURFLAN XL 2G [102	70506-45	UNITED PHOSPHORUS INC -UPI-	OR
BENEFIN (BENFLURALIN)	XL 2G [2	70506-45-38167	HELENA CHEMICAL CO / SETRE CHEMICAL CO.	OR
BENTAZON SODIUM SALT	BASAGRAN T&O HERBICIDE [186	7969-326	BASF CORP	OR
BENTAZON SODIUM SALT	BENTAZON 4 [7	85678-22	REDEAGLE INTERNATIONAL LLC	OR
BENTAZON SODIUM SALT	BROADLOOM HERBICIDE [151	70506-306	UNITED PHOSPHORUS INC -UPI-	OR
BROMACIL	ALLIGARE BROMACIL / DIURON 40/40 [1	81927-3	ALLIGARE LLC	BLM (E) & OR
BROMACIL	ALLIGARE BROMACIL 80 [2	81927-4	ALLIGARE LLC	BLM (E) & OR
BROMACIL	DIBRO 2+2 [8	228-227	NUFARM AMERICAS INC	BLM (E) & OR
BROMACIL	DIBRO 4+2 GRANULAR WEED KILLER [132	228-386	NUFARM AMERICAS INC	BLM (E) & OR
BROMACIL	DuPONT HYVAR X HERBICIDE [6	352-287	E I DUPONT DE NEMOURS & CO	BLM (E) & OR
BROMACIL	DuPONT KROVAR I DF HERBICIDE [24	352-505	E I DUPONT DE NEMOURS & CO	BLM (E) & OR
BROMACIL	ENFORCER FORMULA 777 EC [196	1270-113-40849	ZEP COMMERCIAL SALES & SERVICE	BLM (E) & OR
BROMACIL	HYVAR X HERBICIDE [215	432-1546	BAYER ENVIRONMENTAL SCIENCE	BLM (E) & OR
BROMACIL	KROVAR I DF HERBICIDE [217	432-1551	BAYER ENVIRONMENTAL SCIENCE	BLM (E) & OR
BROMACIL	WEED BLAST RESIDUAL WEED CONTROL [39	34704-576	LOVELAND PROD./CROP PRODUCTION SVCS	BLM (E) & OR
BROMACIL LITHIUM SALT	DuPONT HYVAR X-L HERBICIDE [9	352-346	E I DUPONT DE NEMOURS & CO	OR
BROMACIL LITHIUM SALT	HYVAR X-L HERBICIDE [216	432-1548	BAYER ENVIRONMENTAL SCIENCE	OR
CARFENTRAZONE-ETHYL	DISMISS NXT HERBICIDE [174	279-3383	FMC CORP - DIV AGRICULTURAL SOLUTIONS	OR
CARFENTRAZONE-ETHYL	GORDONS PROFORM POWER ZONE BROADLEAF HERBICIDE /TURF [67	2217-834	PBI/GORDON CORPORATION	OR
CARFENTRAZONE-ETHYL	GORDONS PROFORM SPEEDZONE BROADLEAF HERBICIDE/TURF [66	2217-833	PBI/GORDON CORPORATION	OR
CARFENTRAZONE-ETHYL	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	OR
CHLORIMURON-ETHYL	CURIO HERBICIDE [81	71368-82	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
CHLORIMURON-ETHYL	SHARDA CHLORIMURON 25 WDG [19	83529-40	SHARDA USA LLC	OR
CHLORSULFURON	BAYER LANDMARK XP HERBICIDE [225	432-1560	BAYER ENVIRONMENTAL SCIENCE	BLM (E) FS & OR
CHLORSULFURON	BAYER PERSPECTIVE HERBICIDE [226	432-1569	BAYER ENVIRONMENTAL SCIENCE	BLM (E) FS & OR
CHLORSULFURON	BAYER TELAR XP HERBICIDE [227	432-1561	BAYER ENVIRONMENTAL SCIENCE	BLM (E) FS & OR
CHLORSULFURON	DuPONT CIMARRON PLUS HERBICIDE [86	352-670	E I DUPONT DE NEMOURS & CO	BLM (E) FS & OR
CHLORSULFURON	DuPONT CIMARRON X-TRA HERBICIDE [85	352-669	E I DUPONT DE NEMOURS & CO	BLM (E) FS & OR
CHLORSULFURON	DuPONT LANDMARK XP HERBICIDE [75	352-645	E I DUPONT DE NEMOURS & CO	BLM (E) FS & OR
CHLORSULFURON	DuPONT PERSPECTIVE HERBICIDE [152	352-846	E I DUPONT DE NEMOURS & CO	BLM (E) FS & OR
CHLORSULFURON	DuPONT TELAR XP HERBICIDE [78	352-654	E I DUPONT DE NEMOURS & CO	BLM (E) FS & OR
CHLORSULFURON	DuPONT THROTTLE XP HERBICIDE [115	352-725	E I DUPONT DE NEMOURS & CO	BLM (E) FS & OR
CLETHODIM	AGRISOLUTIONS SECTION 2EC HERBICIDE [153	42750-72-1381	WINFIELD SOLUTIONS LLC	OR
CLETHODIM	AGRISOLUTIONS SELECT 2EC HERBICIDE [26	59639-3-1381	WINFIELD SOLUTIONS LLC	OR
CLETHODIM	AGRISTAR CLETHODIM 2E [54	42750-72	ALBAUGH LLC	OR
CLETHODIM	ARROW 2EC HERBICIDE [24	66222-60	MAKHTESHIM-AGAN NA DBA ADAMA	OR
CLETHODIM	CLEANSE 2 EC [11	83222-30	DIRECT AG SOURCE -R3 AG-	OR
CLETHODIM	CLEANSE HERBICIDE [3	42750-72-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
CLETHODIM	CLETHODIM 2E [8	85678-23	REDEAGLE INTERNATIONAL LLC	OR
CLETHODIM	DAKOTA HERBICIDE [28	83100-38-83979	ROTAM NORTH AMERICA INC	OR
CLETHODIM	ENVOY PLUS HERBICIDE [44	59639-132	VALENT USA CORPORATION	OR
CLETHODIM	GATLIN [12	42750-72-46661	WEST CENTRAL DISTRIBUTION LLC	OR
CLETHODIM	INTENSITY ONE POST-EMERGENCE GRASS HERBICIDE [217	34704-976	LOVELAND PROD./CROP PRODUCTION SVCS	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
CLETHODIM	INTENSITY POST-EMERGENCE GRASS HERBICIDE [126	34704-864	LOVELAND PROD./CROP PRODUCTION SVCS	OR
CLETHODIM	OMNI BRAND CLETHODIM 2 EC [159	38167-39-5905	HELENA CHEMICAL COMPANY	OR
CLETHODIM	SECTION THREE HERBICIDE [193	66330-414-1381	WINFIELD SOLUTIONS LLC	OR
CLETHODIM	SELECT MAX HERB	59639-132	VALENT USA CORPORATION	OR
CLETHODIM	SELECT MAX HERBICIDE W/INSIDE TECHNOLOGY [39	59639-132	VALENT USA CORPORATION	OR
CLETHODIM	SHADOW 3EC HERBICIDE [100	66330-414	ARYSTA LIFESCIENCE NORTH AMERICA	OR
CLETHODIM	SHADOW HERBICIDE [50	66330-353	ARYSTA LIFESCIENCE NORTH AMERICA	OR
CLETHODIM	SHADOW ULTRA HERBICIDE [91	66330-395	ARYSTA LIFESCIENCE NORTH AMERICA	OR
CLETHODIM	TAPOUT SELECTIVE GRASS HERBICIDE [121	5905-578	HELENA CHEMICAL COMPANY	OR
CLETHODIM	TIDE CLETHODIM 2EC [5	84229-21	TIDE INTERNATIONAL USA INC	OR
CLETHODIM	VALENT SELECT 2EC HERBICIDE [13	59639-3	VALENT USA CORPORATION	OR
CLETHODIM	VAQUERO HERBICIDE [137	2935-559	WILBUR-ELLIS COMPANY	OR
CLETHODIM	VOLUNTEER HERBICIDE [20	59639-3-55467	TENKOZ INC	OR
CLETHODIM	VOLUNTEER HERBICIDE [38	66330-353-55467	TENKOZ INC	OR
CLETHODIM	VOLUNTEER HERBICIDE [55	42750-72-55467	TENKOZ INC	OR
CLETHODIM	WILLOWOOD CLETHODIM 2EC [7	87290-11	WILLOWOOD LLC -USA-	OR
CLETHODIM	WILLOWOOD CLETHODIM 2EC [7	87290-11	WILLOWOOD LLC -USA-	OR
CLOPYRALID	QUALI-PRO 2-D HERBICIDE	66222-222	MAKHTESHIM AGAN NORTH AMERICA	OR
CLOPYRALID MONOETHANOLAMINE SALT	ALLIGARE CLOPYRALID 3 [11	81927-14	ALLIGARE LLC	OR
CLOPYRALID MONOETHANOLAMINE SALT	BRAZEN HERBICIDE [116	228-564	NUFARM AMERICAS INC	OR
CLOPYRALID MONOETHANOLAMINE SALT	CLEAN SLATE [80	228-491	NUFARM AMERICAS INC	OR
CLOPYRALID MONOETHANOLAMINE SALT	MILLENNIUM ULTRA 2 [56	228-332	NUFARM AMERICAS INC	OR
CLOPYRALID MONOETHANOLAMINE SALT	PRIMERA MILLENNIUM ULTRA 2 SELECTIVE HERBICIDE [58	228-332	NUFARM AMERICAS INC	OR
CLOPYRALID MONOETHANOLAMINE SALT	TRANSLINE SPECIALTY HERBICIDE [37	62719-259	DOW AGROSCIENCES LLC	OR
CLOPYRALID TRIETHANOLAMINE SALT	ALLIGARE PRESCOTT HERBICIDE [20	81927-30	ALLIGARE LLC	OR
CLOPYRALID TRIETHANOLAMINE SALT	QUALI-PRO 2-D HERBICIDE [133	53883-377	CONTROL SOLUTIONS INC	OR
DICAMBA	4-SPEED SELECTIVE HERBICIDE [121	228-589	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	BRUSH KILLER /HARD-TO-KILL BRUSH [235	2217-952	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	BRUSH-RHAP [120	5905-568	HELENA CHEMICAL COMPANY	BLM (W& E) & OR
DICAMBA	BURN MASTER HERBICIDE [90	71368-108	NUFARM AMERICAS INC. -DIV NUFARM INC	BLM (W& E) & OR
DICAMBA	CHANGE UP SELECTIVE HERBICIDE [181	228-445	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	COOL POWER SELECTIVE HERBICIDE [21	228-317	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	E-2 HERBICIDE	228-442	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	ESCALADE 2 HERBICIDE [64	228-442	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	GORDONS AG PROD BRUSHMASTER HERBICIDE [53	2217-774	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	GORDONS ALL-SEASON BRUSH-NO-MORE [55	2217-775-33955	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	GORDONS PASTURE PRO BRUSH KILLER /HARD-TO-KILL BRUSH [202	2217-952	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	GORDONS PROFORM POWER ZONE BROADLEAF HERBICIDE /TURF [67	2217-834	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	GORDONS PROFORM SPEEDZONE BROADLEAF HERBICIDE/TURF [66	2217-833	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	GORDONS PROFORM TZONE BROADLEAF HERBICIDE [154	2217-920	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	GORDONS PROFORM TZONE SE BROADLEAF HERBICIDE /TOUGH WEEDS [195	2217-976	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	LESCO MOMENTUM Q HERBICIDE [108	228-531	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	LESCO REDZONE 2 HERBICIDE [149	228-589	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	ON DECK HERBICIDE [147	42750-144-5905	HELENA CHEMICAL COMPANY	BLM (W& E) & OR
DICAMBA	ONETIME HERBICIDE [150	7969-267	BASF CORP	BLM (W& E) & OR
DICAMBA	OUTLAW [112	5905-574	HELENA CHEMICAL COMPANY	BLM (W& E) & OR
DICAMBA	PRIMERA TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [61	228-409	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	PROGENY HERBICIDE [152	228-395	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	QUINCEPT HERBICIDE [91	228-531	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	SCORCH [98	71368-117	NUFARM AMERICAS INC. -DIV NUFARM INC	BLM (W& E) & OR
DICAMBA	SPIRFIRE HERBICIDE [87	71368-109	NUFARM AMERICAS INC. -DIV NUFARM INC	BLM (W& E) & OR
DICAMBA	TRIMEC DMB NO.2 S.I. [77	2217-851	PBI/GORDON CORPORATION	BLM (W& E) & OR
DICAMBA	TRUPOWER 3 SELECTIVE HERBICIDE [101	228-551	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	TRUPOWER2 SELECTIVE HERBICIDE [95	228-499	NUFARM AMERICAS INC	BLM (W& E) & OR
DICAMBA	VISION [113	5905-576	HELENA CHEMICAL COMPANY	BLM (W& E) & OR
DICAMBA DIGLYCOLAMINE SALT	AGRI-STAR DICAMBA HD [62	42750-209	ALBAUGH LLC	OR
DICAMBA DIGLYCOLAMINE SALT	CLARIFIER HERBICIDE	7969-137-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
DICAMBA DIGLYCOLAMINE SALT	CLARIFIER [219	42750-209-1381	WINFIELD SOLUTIONS LLC	OR
DICAMBA DIGLYCOLAMINE SALT	CLARITY HERBICIDE [79	7969-137	BASF CORP	OR
DICAMBA DIGLYCOLAMINE SALT	CLASH SELECTIVE HERBICIDE [140	228-615	NUFARM AMERICAS INC	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
DICAMBA DIGLYCOLAMINE SALT	DETONATE HERBICIDE [52	7969-137-55467	TENKOZ INC	OR
DICAMBA DIGLYCOLAMINE SALT	DICAMBA DGA HERBICIDE [69	19713-687	DREXEL CHEMICAL COMPANY	OR
DICAMBA DIGLYCOLAMINE SALT	DICASH DGA-4 HERBICIDE [18	83529-35	SHARDA USA LLC	OR
DICAMBA DIGLYCOLAMINE SALT	DuPONT FEXAPAN HERBICIDE [188	352-913	E I DUPONT DE NEMOURS & CO	OR
DICAMBA DIGLYCOLAMINE SALT	HM-1410 HERBICIDE [167	5905-597	HELENA CHEMICAL COMPANY	OR
DICAMBA DIGLYCOLAMINE SALT	M1691 HERBICIDE [100	524-582	MONSANTO COMPANY	OR
DICAMBA DIGLYCOLAMINE SALT	OPTI-DGA HERBICIDE [174	5905-597	HELENA CHEMICAL COMPANY	OR
DICAMBA DIGLYCOLAMINE SALT	RIVERDALE VANQUISH HERBICIDE [39	228-397	NUFARM AMERICAS INC	OR
DICAMBA DIGLYCOLAMINE SALT	STERLING BLUE HERBICIDE [135	7969-137-1381	WINFIELD SOLUTIONS LLC	OR
DICAMBA DIGLYCOLAMINE SALT	STERLING BLUE [158	42750-209-1381	WINFIELD SOLUTIONS LLC	OR
DICAMBA DIGLYCOLAMINE SALT	XTENDIMAX WITH VAPORGRIP TECHNOLOGY [101	524-617	MONSANTO COMPANY	OR
DICAMBA DIMETHYLAMINE SALT	AGRISOLUTIONS BRASH [113	1381-202	WINFIELD SOLUTIONS LLC	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE CRUISE CONTROL [16	42750-40-81927	ALLIGARE LLC	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE CRUISE CONTROL [16-1	42750-40-81927	ALLIGARE LLC	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE DICAMBA + 2 4-D DMA [42	81927-42	ALLIGARE LLC	OR
DICAMBA DIMETHYLAMINE SALT	ALLIGARE DICAMBA 4 [56	81927-55	ALLIGARE LLC	OR
DICAMBA DIMETHYLAMINE SALT	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	OR
DICAMBA DIMETHYLAMINE SALT	ARMORTECH THREESOME [4	86064-5	UNITED TURF ALLIANCE	OR
DICAMBA DIMETHYLAMINE SALT	BANVEL 480 HERBICIDE [107	66330-421	ARYSTA LIFESCIENCE NORTH AMERICA	OR
DICAMBA DIMETHYLAMINE SALT	BANVEL HERBICIDE [33	66330-276	ARYSTA LIFESCIENCE NORTH AMERICA	OR
DICAMBA DIMETHYLAMINE SALT	BRUSH KILLER /LARGE PROPERTY [234	2217-950	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	DIABLO [30	228-379	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	DICAMBA DMA SALT [11	42750-40	ALBAUGH LLC	OR
DICAMBA DIMETHYLAMINE SALT	DICAMBA MAX 4 [8	83222-14	WINFIELD SOLUTIONS -UNITED SUPPLIERS	OR
DICAMBA DIMETHYLAMINE SALT	DISLAMBAMA HERBICIDE	87895-5-90306	AG SPECIALTIES LLC	OR
DICAMBA DIMETHYLAMINE SALT	ENDRUN [72	2217-656-5905	HELENA CHEMICAL COMPANY	OR
DICAMBA DIMETHYLAMINE SALT	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS ACREAGE PRO LARGE PROPERTY LAWN WEED KILLER [217	2217-694	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS FARM BRUSH KILLER [20	2217-543	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS PROFORM Q4 PLUS TURF HERBICIDE /GRASS & BROADLEAF [162	2217-930	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	GORDONS TRIMEC WEED KILLER TANKABLES [196	2217-694	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	LESCO THREE-WAY SELECTIVE HERBICIDE [4	10404-43	LESCO INC	OR
DICAMBA DIMETHYLAMINE SALT	MAGMA [2	42750-55-33270	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
DICAMBA DIMETHYLAMINE SALT	MEC AMINE-D [206	34704-239	LOVELAND PROD./CROP PRODUCTION SVCS	OR
DICAMBA DIMETHYLAMINE SALT	MILLENNIUM ULTRA 2 [56	228-332	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	ORTHO WEED-B-GON PRO SOUTHERN [54	228-262	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	PRIMERA MILLENNIUM ULTRA 2 SELECTIVE HERBICIDE [58	228-332	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	PRIMERAONE PRIMERA TRIPLET SF SELECTIVE HERBICIDE [57	228-312	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	Q4 PLUS TURF HERBICIDE [228	2217-930	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	QUALI-PRO 2DQ HERBICIDE [96	53883-334	CONTROL SOLUTIONS INC	OR
DICAMBA DIMETHYLAMINE SALT	QUALI-PRO 3-D HERBICIDE	66222-225	MAKHTESHIM AGAN NORTH AMERICA	OR
DICAMBA DIMETHYLAMINE SALT	QUALI-PRO 3-D HERBICIDE [138	53883-378	CONTROL SOLUTIONS INC	OR
DICAMBA DIMETHYLAMINE SALT	RIFLE HERBICIDE [122	34704-861	LOVELAND PROD./CROP PRODUCTION SVCS	OR
DICAMBA DIMETHYLAMINE SALT	RIFLE-D HERBICIDE [123	34704-869	LOVELAND PROD./CROP PRODUCTION SVCS	OR
DICAMBA DIMETHYLAMINE SALT	SP 3WAY BROADLEAF HERBICIDE [88	42750-272-7001	JR SIMPLOT CO.	OR
DICAMBA DIMETHYLAMINE SALT	TOPEKA HERBICIDE [27	83100-34-83979	ROTAM NORTH AMERICA INC	OR
DICAMBA DIMETHYLAMINE SALT	TOPEKA PLUS HERBICIDE [32	83100-45-83979	ROTAM NORTH AMERICA INC	OR
DICAMBA DIMETHYLAMINE SALT	TRI-POWER SELECTIVE HERBICIDE [12	228-262	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	TRIAD SELECT HERBICIDE [17	89442-22	PRIME SOURCE LLC -WAGNER	OR
DICAMBA DIMETHYLAMINE SALT	TRIMEC 992 BROADLEAF HERBICIDE [26	2217-656	PBI/GORDON CORPORATION	OR
DICAMBA DIMETHYLAMINE SALT	TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [48	228-409	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	TRIPLET SF [18	228-312	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	VETERAN 720 HERBICIDE [15	228-295	NUFARM AMERICAS INC	OR
DICAMBA DIMETHYLAMINE SALT	WEEDMASTER HERB [67-2	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
DICAMBA DIMETHYLAMINE SALT	WEEDMASTER HERBICIDE [67	71368-34	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
DICAMBA DIMETHYLAMINE SALT	WINFIELD STRIKE 3 [126	14774-2	WINFIELD SOLUTIONS LLC	OR
DICAMBA N N-BIS-(3-AMINOPROPYL) METHYLAMINE SALT	ENGENIA HERBICIDE [293	7969-345	BASF CORP	OR
DICAMBA SODIUM SALT	DuPONT BL1 HERBICIDE [183	42750-271-352	E I DUPONT DE NEMOURS & CO	OR
DICAMBA SODIUM SALT	DuPONT DICAMBA XP HERBICIDE [180	7969-140-352	E I DUPONT DE NEMOURS & CO	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
DICAMBA SODIUM SALT	OVERDRIVE HERBICIDE [82	7969-150	BASF CORP	OR
DICHOLOBENIL	CASORON CS -NON-CROP SITES-	400-541	CHEMTURA CORPORATION	OR
DICHOLOBENIL	CASORON CS -NON-CROP SITES-	400-541	MACDERMID AG SOLUTIONS INC	OR
DICHOLOBENIL	GORDONS PRO T&O PROD BARRIER ORNAMENTAL LANDSCAPING HERBICIDE [188	2217-675	PBI/GORDON CORPORATION	OR
DIFLUFENZOPYR AND ITS METABOLITES	OVERDRIVE HERBICIDE [82	7969-150	BASF CORP	OR
DIMETHENAMID-P	FREEHAND 1.75G HERBICIDE [154	7969-273	BASF CORP	OR
DIMETHENAMID-P	TOWER HERBICIDE [146	7969-239	BASF CORP	OR
DIQUAT DIBROMIDE	ALLIGARE DIQUAT HERBICIDE [33	81927-35	ALLIGARE LLC	OR
DIQUAT DIBROMIDE	DESSICASH L&A LANDSCAPE & AQUATIC HERBICIDE [22	83529-12	SHARDA USA LLC	OR
DIQUAT DIBROMIDE	DIBROX HERBICIDE [2	83529-12-84868	LAKE RESTORATION INC	OR
DIQUAT DIBROMIDE	DIQUASH LANDSCAPE & AQUATIC HERBICIDE [4	83529-12	SHARDA USA LLC	OR
DIQUAT DIBROMIDE	HARVESTER LANDSCAPE & AQUATIC HERBICIDE [24	100-1091-8959	APPLIED BIOCHEMISTS INC	OR
DIQUAT DIBROMIDE	LITTORA LANDSCAPE & AQUATIC HERBICIDE [61	67690-53	SEPRO CORPORATION	OR
DIQUAT DIBROMIDE	QUIKPRO HERBICIDE [58	524-535	MONSANTO COMPANY	OR
DIQUAT DIBROMIDE	REWARD LANDSCAPE & AQUATIC HERBICIDE [27	100-1091	SYNGENTA CROP PROTECTION INC.	OR
DIQUAT DIBROMIDE	ROUNDUP QUIK PRO HERBICIDE [83	524-535	MONSANTO COMPANY	OR
DIQUAT DIBROMIDE	ROWRUNNER ATO HERBICIDE [21	82542-14-83979	ROTAM NORTH AMERICA INC	OR
DIQUAT DIBROMIDE	SHARE CORP QUICK KILL	10088-13-11547	SHARE CORPORATION	OR
DIQUAT DIBROMIDE	SOLERA DIQUAT LANDSCAPE & AQUATIC HERBICIDE [9	82542-14-84237	SOLERA ATO LLC	OR
DIQUAT DIBROMIDE	TRIBUNE HERBICIDE [80.2	100-1390	SYNGENTA CROP PROTECTION INC.	OR
DIQUAT DIBROMIDE	ULTRA PONDWEED DEFENSE	82542-14-83742	POND GUY -KELLY REG	OR
DIQUAT DIBROMIDE	VERDURE-X-HERBICIDE [20	74530-61	HELM AGRO US INC.	OR
DITHIOPYR	ARMORTECH CGC 40 WSP [14	53883-374-86064	UNITED TURF ALLIANCE	OR
DITHIOPYR	DIMENSION 270-G TURF & LANDSCAPE ORNAMENTAL [7	7001-375	JR SIMPLOT CO.	OR
DITHIOPYR	DIMENSION 2EW SPECIALTY HERBICIDE [216	62719-542	DOW AGROSCIENCES LLC	OR
DITHIOPYR	DIMENSION EC SPECIALTY HERBICIDE [118	62719-426	DOW AGROSCIENCES LLC	OR
DITHIOPYR	DIMENSION ULTRA 40WP SPECIALTY HERBICIDE [125	62719-445	DOW AGROSCIENCES LLC	OR
DITHIOPYR	DITHIOPYR 2L SPECIALTY HERBICIDE [91	53883-311	CONTROL SOLUTIONS INC	OR
DITHIOPYR	QUALI-PRO DITHIOPYR 40 WSB SPECIALTY HERBICIDE	66222-213	MAKHTESHIM AGAN NORTH AMERICA	OR
DITHIOPYR	QUALI-PRO DITHIOPYR 40WSB [145	53883-374	CONTROL SOLUTIONS INC	OR
DITHIOPYR	QUALI-PRO DITHIOPYR L [140	53883-399	CONTROL SOLUTIONS INC	OR
DIURON	ALLIGARE BROMACIL / DIURON 40/40 [1	81927-3	ALLIGARE LLC	BLM (W & E) & OR
DIURON	ALLIGARE DIURON 4L [51	81927-44	ALLIGARE LLC	BLM (W & E) & OR
DIURON	ALLIGARE MOJAVE 70 EG [28	81927-25	ALLIGARE LLC	BLM (W & E) & OR
DIURON	CLEANSHOT 4L HERBICIDE [13	83222-39	DIRECT AG SOURCE -R3 AG-	BLM (W & E) & OR
DIURON	CLEANSHOT DF HERBICIDE [14	83222-38	DIRECT AG SOURCE -R3 AG-	BLM (W & E) & OR
DIURON	DIBRO 2+2 [8	228-227	NUFARM AMERICAS INC	BLM (W & E) & OR
DIURON	DIBRO 4+2 GRANULAR WEED KILLER [132	228-386	NUFARM AMERICAS INC	BLM (W & E) & OR
DIURON	DIREX 4L LIQUID FLOWABLE HERBICIDE [147	66222-54	MAKHTESHIM-AGAN NA DBA ADAMA	BLM (W & E) & OR
DIURON	DIURON 4L HERBICIDE [146	34704-854	LOVELAND PROD./CROP PRODUCTION SVCS	BLM (W & E) & OR
DIURON	DIURON 4L HERBICIDE [39	9779-329	WINFIELD SOLUTIONS LLC	BLM (W & E) & OR
DIURON	DIURON 80 WDG WEED KILLER [50	34704-648	LOVELAND PROD./CROP PRODUCTION SVCS	BLM (W & E) & OR
DIURON	DREXEL DIURON 4L HERBICIDE [15	19713-36	DREXEL CHEMICAL COMPANY	BLM (W & E) & OR
DIURON	DREXEL DIURON 80 HERBICIDE [12	19713-274	DREXEL CHEMICAL COMPANY	BLM (W & E) & OR
DIURON	DuPONT KROVAR I DF HERBICIDE [24	352-505	E I DUPONT DE NEMOURS & CO	BLM (W & E) & OR
DIURON	KARMEX DF HERBICIDE [150	66222-51	MAKHTESHIM-AGAN NA DBA ADAMA	BLM (W & E) & OR
DIURON	KROVAR I DF HERBICIDE [217	432-1551	BAYER ENVIRONMENTAL SCIENCE	BLM (W & E) & OR
DIURON	NuFARM IMAZURON HERBICIDE [167	228-654	NUFARM AMERICAS INC	BLM (W & E) & OR
DIURON	SAHARA DG HERBICIDE-BAREGROUND VEGETATION CONTROL [33	241-372	BASF CORP	BLM (W & E) & OR
DIURON	WEED BLAST RESIDUAL WEED CONTROL [39	34704-576	LOVELAND PROD./CROP PRODUCTION SVCS	BLM (W & E) & OR
FENOXAPROP-P-ETHYL	ACCLAIM EXTRA HERBICIDE [89	432-950	BAYER ENVIRONMENTAL SCIENCE	OR
FLUAZIFOP-P-BUTYL	FUSILADE II TURF AND ORNAMENTAL HERBICIDE [25	100-1084	SYNGENTA CROP PROTECTION INC.	OR
FLUMIOXAZIN	DEPTH CHARGE [96	71368-115	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
FLUMIOXAZIN	LOCK DOWN HERBICIDE [84	71368-103	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
FLUMIOXAZIN	PIPER HERB [78-	59639-193	VALENT USA CORPORATION	OR
FLUMIOXAZIN	PIPER HERBICIDE [78	59639-193	VALENT USA CORPORATION	OR
FLUMIOXAZIN	REDEAGLE FLUMIOXAZIN 51% IVM	85678-35	REDEAGLE INTERNATIONAL LLC	OR
FLUMIOXAZIN	VALENT PAYLOAD HERBICIDE [3	59639-120	VALENT USA CORPORATION	OR
FLUMIOXAZIN	VALENT SUREGUARD HERBICIDE [4	59639-120	VALENT USA CORPORATION	OR
FLUROXYPYR	TAILSPIN HERBICIDE [201	34704-958	LOVELAND PROD./CROP PRODUCTION SVCS	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	ALLIGARE FLUROXYPYR HERBICIDE [45	66330-385-81927	ALLIGARE LLC	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
FLUROXYPYR 1-METHYLHEPTYL ESTER	BATTLESHIP III HERBICIDE [87	228-453-5905	HELENA CHEMICAL COMPANY	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	CHANGE UP SELECTIVE HERBICIDE [181	228-445	NUFARM AMERICAS INC	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	COMET SELECTIVE HERBICIDE [72	71368-87	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	E-2 HERBICIDE	228-442	NUFARM AMERICAS INC	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	ESCALADE 2 HERBICIDE [64	228-442	NUFARM AMERICAS INC	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	LESCO MOMENTUM FX2 HERBICIDE (088525) [86	228-447-10404	LESCO INC	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	SCORCH [98	71368-117	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	TRUMP CARD [124	5905-581	HELENA CHEMICAL COMPANY	OR
FLUROXYPYR 1-METHYLHEPTYL ESTER	VISTA XRT SPECIALTY HERBICIDE [240	62719-586	DOW AGROSCIENCES LLC	OR
FORAMSULFURON	DERIGO HERBICIDE [211	432-1533	BAYER ENVIRONMENTAL SCIENCE	OR
FORAMSULFURON	REVOLVER HERBICIDE [194	432-1266	BAYER ENVIRONMENTAL SCIENCE	OR
FORAMSULFURON	TRIBUTE TOTAL [195	432-1519	BAYER ENVIRONMENTAL SCIENCE	OR
FOSAMINE AMMONIUM	KRENITE S BRUSH CONTROL AGENT [73	42750-247	ALBAUGH LLC	OR
GLUFOSINATE-AMMONIUM	FINALE VU HERBICIDE [233	432-1228	BAYER ENVIRONMENTAL SCIENCE	OR
GLYPHOSATE	REFUGE HERBICIDE [72.2	100-1362	SYNGENTA CROP PROTECTION INC.	BLM (W&E), FS, BOR & OR
GLYPHOSATE	TOUCHDOWN TOTAL	100-1169	SYNGENTA CROP PROTECTION INC.	BLM (W&E), FS, BOR & OR
GLYPHOSATE	TRAXION HERB	100-1169	SYNGENTA CROP PROTECTION INC.	BLM (W&E), FS, BOR & OR
GLYPHOSATE DIAMMONIUM SALT	DREXEL IMITATOR DA [58	19713-586	DREXEL CHEMICAL COMPANY	OR
GLYPHOSATE DIMETHYLAMMONIUM SALT	ACCORD XRT II HERB [232-2	62719-556	DOW AGROSCIENCES LLC	OR
GLYPHOSATE DIMETHYLAMMONIUM SALT	ACCORD XRT II HERBICIDE [232	62719-556	DOW AGROSCIENCES LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AGRISOLUTIONS CORNERSTONE HERBICIDE [108	1381-191	WINFIELD SOLUTIONS LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ALECTO 41-S	83772-8-90436	ARGUSTOLI HC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ALLIGARE GLYPHOSATE 4 [32	81927-34	ALLIGARE LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ALLIGARE GLYPHOSATE 5.4 [8	81927-8	ALLIGARE LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ALLIGARE REMNANT [63	81927-58	ALLIGARE LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AQUA STAR [19	42750-59	ALBAUGH LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AQUANEAT AQUATIC HERBICIDE [127	228-365	NUFARM AMERICAS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	AQUAPRO HERBICIDE [5	62719-324-67690	SEPRO CORPORATION	OR
GLYPHOSATE ISOPROPYLAMINE SALT	BUCCANEER 5 GLYPHOSATE HERBICIDE [34	71368-43-55467	TENKOZ INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	BUCCANEER GLYPHOSATE HERBICIDE [29	55467-10	TENKOZ INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	BUCCANEER PLUS GLYPHOSATE HERBICIDE [28	55467-9	TENKOZ INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CAMPAIGN HERBICIDE [12	524-351	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CINCO [182	34704-929	LOVELAND PROD./CROP PRODUCTION SVCS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CORNERSTONE PLUS HERBICIDE [173	74530-43-1381	WINFIELD SOLUTIONS LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CORNERSTONE PLUS HERBICIDE [25	524-454-1381	WINFIELD SOLUTIONS LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CREDIT 41 EXTRA NON-SELECTIVE HERBICIDE [79	71368-20	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CREDIT 41 NON-SELECTIVE HERBICIDE [78	71368-20	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41 PLUS	72693-1-85945	CROPSMART LLC / S & W	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41 PLUS [1	72693-1-85945	CROPSMART LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41% EXTRA	85945-1	CROPSMART LLC / S & W	OR
GLYPHOSATE ISOPROPYLAMINE SALT	CROPSMART GLYPHOSATE 41% EXTRA [2	85945-1	CROPSMART LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	DREXEL IMITATOR + 2 4-D [66	19713-635	DREXEL CHEMICAL COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	DREXEL IMITATOR AQUATIC HERBICIDE [49	19713-623	DREXEL CHEMICAL COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	DREXEL IMITATOR PLUS HERBICIDE [42	19713-526	DREXEL CHEMICAL COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ENFORCER WEED DEFEAT CONC [181	2217-847-40849	ZEP COMMERCIAL SALES & SERVICE	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ENVY HERBICIDE [2	89168-17-89391	INNICTIS CROP CARE LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ENVY INTENSE [9	89168-17-89391	INNICTIS CROP CARE LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	FARMWORKS 41% GLYPHOSATE GRASS & WEED KILLER CONC [10	84009-12	RAGAN & MASSEY INC.	OR
GLYPHOSATE ISOPROPYLAMINE SALT	FARMWORKS 41% GLYPHOSATE PLUS CONC. W/SURFACTANT GRASS & WEED KILLER [5	86068-4-84009	RAGAN & MASSEY INC.	OR
GLYPHOSATE ISOPROPYLAMINE SALT	FOUR POWER PLUS HERBICIDE [253	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLY STAR ORIGINAL [20	42750-60	ALBAUGH LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLY STAR PLUS [21	42750-61	ALBAUGH LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLY STAR PRO [22	42750-61	ALBAUGH LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYFOS AQUATIC HERBICIDE [1	4787-34	CHEMINOVA AS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYFOS HERBICIDE [9	4787-31	CHEMINOVA AS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYFOS X-TRA HERBICIDE [8	4787-23	CHEMINOVA AS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYPHO 41 HERBICIDE [101	70506-226	UNITED PHOSPHORUS INC -UPI-	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYPHOGAN HERBICIDE	66222-105	MAKHTESHIM AGAN NORTH AMERICA	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GLYPRO PLUS [63	62719-322	DOW AGROSCIENCES LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PONDMASTER SURFACE & SHORELINE HERBICIDE [194	2217-850	PBI/GORDON CORPORATION	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PRO T&O GLYPHOMATE 41 WEED&GRASS KILLER +AQUATIC [74	2217-847	PBI/GORDON CORPORATION	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PRO T&O PROD PRONTO VEGETATION KILLER [190	2217-923	PBI/GORDON CORPORATION	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GORDONS PRONTO BIG N TUF 41% GLYPHOSATE W&G KILLER [215	42750-61-2217	PBI/GORDON CORPORATION	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GROUNDWORK CONC 50% SUPER WEED & GRASS KILLER [184	2217-845	PBI/GORDON CORPORATION	OR
GLYPHOSATE ISOPROPYLAMINE SALT	GROUNDWORK CONC YEAR-LONG VEGETATION CONTROL [187	2217-960	PBI/GORDON CORPORATION	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HELM HELOSATE PLUS ADVANCED HERBICIDE [11	74530-43	HELM AGRO US INC.	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HELOSATE 5 HERBICIDE [19	74530-56	HELM AGRO US INC.	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD KILL-ZALL AQUATIC HERBICIDE [102	7401-459	VOLUNTARY PURCHASING GROUPS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD KILLZALL 365 TOTAL VEGETATION CONTROL [264	81927-58-7401	VOLUNTARY PURCHASING GROUPS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD SUPER CONC KILL-ZALL II HERBICIDE [145	19713-526-7401	VOLUNTARY PURCHASING GROUPS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD SUPER CONC KILL-ZALL II [146	42750-61-7401	VOLUNTARY PURCHASING GROUPS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HI-YIELD SUPER CONC. KILL-ZALL III [234	74530-43-7401	VOLUNTARY PURCHASING GROUPS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HONCHO HERBICIDE [18	524-445	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	HONCHO PLUS HERBICIDE [23	524-454	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	IAP GLYPHOSATE-4DS DUAL SALT HERBICIDE [1	71368-25-71089	GS LONG COMPANY INC. -DBA GENESIS AGRI PRODUCTS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	KLEENUP PRO [213	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	LANDMASTER BW [24	42750-62	ALBAUGH LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	LESCO PROSECUTOR PRO (069286) [40	524-536-10404	LESCO INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	LESCO PROSECUTOR PRO HERBICIDE (702343) [155	10404-117	LESCO INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	LESCO PROSECUTOR PROLONG (8151127) [159	2217-923-10404	LESCO INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAD DOG 5.4# [340	34704-929	LOVELAND PROD./CROP PRODUCTION SVCS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAD DOG PLUS [232	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAD DOG [231	34704-889	LOVELAND PROD./CROP PRODUCTION SVCS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MAKAZE HERBICIDE [177	34704-890	LOVELAND PROD./CROP PRODUCTION SVCS	OR
GLYPHOSATE ISOPROPYLAMINE SALT	MARTINS ERASER MAX SUPER CONC [117	35935-94-53883	CONTROL SOLUTIONS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	POND OASIS SHORELINE PLANT CONTROL [320	228-367-1258	ARCH CHEMICALS INC.	OR
GLYPHOSATE ISOPROPYLAMINE SALT	PRIMERA RAZOR PRO [59	228-366	NUFARM AMERICAS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	QUALI-PRO GLYPHOSATE PLUS HERBICIDE	66222-176	MAKHTESHIM AGAN NORTH AMERICA	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RANGER PRO HERBICIDE [54	524-517	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RATTLER HERBICIDE [11	524-445-5905	HELENA CHEMICAL COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR HERB [125-1	228-366	NUFARM AMERICAS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR HERBICIDE [125	228-366	NUFARM AMERICAS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR PRO HERB [118-1	228-366	NUFARM AMERICAS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RAZOR PRO HERBICIDE [118	228-366	NUFARM AMERICAS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RM43 43% GLYPHOSATE PLUS WEED PREVENTER [6	35935-94-84009	RAGAN & MASSEY INC.	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RM43 TOTAL VEGETATION CONTROL [12	84009-3	RAGAN & MASSEY INC.	OR
GLYPHOSATE ISOPROPYLAMINE SALT	RODEO HERBICIDE [67	62719-324	DOW AGROSCIENCES LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP CUSTOM /AQUATIC & TERRESTRIAL USE [95	524-343	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP PRO CONC [56-6	524-529	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP PRO CONCENTRATE HERBICIDE [56	524-529	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	ROUNDUP PRO HERBICIDE [32	524-475	MONSANTO COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHORE-KLEAR AQUATIC HERBICIDE [16	228-365-8959	APPLIED BIOCHEMISTS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHOREKLEAR-PLUS AQUATIC HERBICIDE [22	228-367-8959	APPLIED BIOCHEMISTS INC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHORELINE DEFENSE	42750-59-83742	POND GUY -KELLY REG	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SHOWDOWN HERBICIDE [109	71368-25-5905	HELENA CHEMICAL COMPANY	OR
GLYPHOSATE ISOPROPYLAMINE SALT	SLAM PLUS GLYPHOSATE HERBICIDE [1	80967-1-90306	AG SPECIALTIES LLC	OR
GLYPHOSATE ISOPROPYLAMINE SALT	TOMAHAWK 4 HERBICIDE	33270-18	UNITED SUPPLIERS -WINFIELD SOLUTIONS LLC-	OR
GLYPHOSATE ISOPROPYLAMINE SALT	WYNCA USA SUNPHOSATE 41% HERBICIDE [1	87659-3	CINMAX INTERNATIONAL	OR
GLYPHOSATE MONOAMMONIUM SALT	ALLIGARE DRYPHOSATE 75SG HERBICIDE	81927-60	ALLIGARE LLC	OR
GLYPHOSATE MONOAMMONIUM SALT	HELM HELOSATE 75SG HERBICIDE [16	74530-52	HELM AGRO US INC.	OR
GLYPHOSATE MONOAMMONIUM SALT	IAP GLYPHOSATE-4DS DUAL SALT HERBICIDE [1	71368-25-71089	GS LONG COMPANY INC. -DBA GENESIS AGRI PRODUCTS	OR
GLYPHOSATE MONOAMMONIUM SALT	QUIKPRO HERBICIDE [58	524-535	MONSANTO COMPANY	OR
GLYPHOSATE MONOAMMONIUM SALT	ROUNDUP PRODDRY HERBICIDE [48	524-505	MONSANTO COMPANY	OR
GLYPHOSATE MONOAMMONIUM SALT	ROUNDUP QUIK PRO HERBICIDE [83	524-535	MONSANTO COMPANY	OR
GLYPHOSATE MONOAMMONIUM SALT	SHOWDOWN HERBICIDE [109	71368-25-5905	HELENA CHEMICAL COMPANY	OR
GLYPHOSATE POTASSIUM SALT	DEPARTURE HERBICIDE [68.2	100-1355	SYNGENTA CROP PROTECTION INC.	OR
GLYPHOSATE POTASSIUM SALT	GLY STAR K-PLUS [86	42750-122	ALBAUGH LLC	OR
GLYPHOSATE POTASSIUM SALT	ROUNDUP PROMAX HERB [69-2	524-579	MONSANTO COMPANY	OR
GLYPHOSATE POTASSIUM SALT	ROUNDUP PROMAX HERBICIDE [69	524-579	MONSANTO COMPANY	OR
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN CT2 HERBICIDE [292	100-1169	SYNGENTA CROP PROTECTION INC.	OR
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN HiTECH	100-1182	SYNGENTA CROP PROTECTION INC.	OR
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN HiTECH HERBICIDE [53	100-1182	SYNGENTA CROP PROTECTION INC.	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
GLYPHOSATE POTASSIUM SALT	TOUCHDOWN TOTAL HERBICIDE [50]	100-1169	SYNGENTA CROP PROTECTION INC.	OR
GLYPHOSATE POTASSIUM SALT	TRAXION HERBICIDE [226]	100-1169	SYNGENTA CROP PROTECTION INC.	OR
HALOSULFURON-METHYL	NuFARM PROSEEDGE SELECTIVE HERBICIDE [174]	228-711	NUFARM AMERICAS INC	OR
HALOSULFURON-METHYL	PROFINE 75 HERBICIDE [12]	2749-528	ACETO AGRICULTURAL CHEMICALS CORP	OR
HALOSULFURON-METHYL	SEDGEHAMMER TURF HERBICIDE [54]	81880-1-10163	GOWAN CO.	OR
HALOSULFURON-METHYL	SEDGEHAMMER+ TURF HERBICIDE [81]	81880-24-10163	GOWAN CO.	OR
HALOSULFURON-METHYL	TRIBUTE TOTAL [195]	432-1519	BAYER ENVIRONMENTAL SCIENCE	OR
HEXAZINONE	BAYER VELPAR L VU HERBICIDE [229]	432-1573	BAYER ENVIRONMENTAL SCIENCE	BLM (W & E) & OR
HEXAZINONE	BAYER WESTAR HERBICIDE [224]	432-1558	BAYER ENVIRONMENTAL SCIENCE	BLM (W & E) & OR
HEXAZINONE	DuPONT VELPAR DF HERBICIDE [41]	352-581	E I DUPONT DE NEMOURS & CO	BLM (W & E) & OR
HEXAZINONE	DuPONT VELPAR L HERBICIDE [12]	352-392	E I DUPONT DE NEMOURS & CO	BLM (W & E) & OR
HEXAZINONE	DuPONT VELPAR ULW HERBICIDE [23]	352-450	E I DUPONT DE NEMOURS & CO	BLM (W & E) & OR
HEXAZINONE	DuPONT WESTAR HERBICIDE [63]	352-626	E I DUPONT DE NEMOURS & CO	BLM (W & E) & OR
HEXAZINONE	TIDE HEXAR 2SL [7]	84229-35	TIDE INTERNATIONAL USA INC	BLM (W & E) & OR
HEXAZINONE	TIDE HEXAZINONE 75 WDG [10]	84229-32	TIDE INTERNATIONAL USA INC	BLM (W & E) & OR
HEXAZINONE	VELPAR DF VU HERBICIDE [230]	432-1576	BAYER ENVIRONMENTAL SCIENCE	BLM (W & E) & OR
IMAZAMOX	CLEARCAST HERB [54-3]	241-437-67690	SEPRO CORPORATION	OR
IMAZAMOX	CLEARCAST HERBICIDE [149]	241-437	BASF CORP	OR
IMAZAMOX	CLEARCAST HERBICIDE [54]	241-437-67690	SEPRO CORPORATION	OR
IMAZAPIC AMMONIUM SALT	ALLIGARE PANORAMIC 2SL HERBICIDE [10]	66222-141-81927	ALLIGARE LLC	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	NuFARM IMAZAPIC 2SL HERBICIDE [82]	71368-99	NUFARM AMERICAS INC. -DIV NUFARM INC	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	NUFARM IMAZAPIC 2SL IVM HERBICIDE [97]	71368-118	NUFARM AMERICAS INC. -DIV NUFARM INC	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	OPEN RANGE G [127]	2935-557	WILBUR-ELLIS COMPANY	BLM (W&E), BOR & OR
IMAZAPIC AMMONIUM SALT	PLATEAU HERBICIDE [30]	241-365	BASF CORP	BLM (W&E), BOR & OR
IMAZAPYR	ALLIGARE MOJAVE 70 EG [28]	81927-25	ALLIGARE LLC	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT IMAZAPYR II 75XP HERBICIDE [158]	352-855	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT LINEAGE CLEARSTAND HERBICIDE [129]	352-766	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT LINEAGE HWC HERBICIDE [128]	352-765	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT LINEAGE PREP HERBICIDE [130]	352-767	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS, BOR & OR
IMAZAPYR	DuPONT VIEWPOINT HERBICIDE [153]	352-847	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS, BOR & OR
IMAZAPYR	LINEAGE CLEARSTAND HERBICIDE [231]	432-1578	BAYER ENVIRONMENTAL SCIENCE	BLM (W&E), FS, BOR & OR
IMAZAPYR	NuFARM IMAZURON HERBICIDE [167]	228-654	NUFARM AMERICAS INC	BLM (W&E), FS, BOR & OR
IMAZAPYR	SAHARA DG HERBICIDE-BAREGROUND VEGETATION CONTROL [33]	241-372	BASF CORP	BLM (W&E), FS, BOR & OR
IMAZAPYR	VIEWPOINT HERBICIDE [232]	432-1580	BAYER ENVIRONMENTAL SCIENCE	BLM (W&E), FS, BOR & OR
IMAZAPYR ISOPROPYLAMINE SALT	ALLIGARE ECOMAZAPYR 2 SL [24]	81927-22	ALLIGARE LLC	OR
IMAZAPYR ISOPROPYLAMINE SALT	ALLIGARE IMAZAPYR 2 SL [25]	81927-23	ALLIGARE LLC	OR
IMAZAPYR ISOPROPYLAMINE SALT	ALLIGARE IMAZAPYR 4 SL [27]	81927-24	ALLIGARE LLC	OR
IMAZAPYR ISOPROPYLAMINE SALT	ALLIGARE REMNANT [63]	81927-58	ALLIGARE LLC	OR
IMAZAPYR ISOPROPYLAMINE SALT	ARSENAL HERBICIDE APPLICATORS CONCENTRATE [12]	241-299	BASF CORP	OR
IMAZAPYR ISOPROPYLAMINE SALT	ARSENAL HERBICIDE [26]	241-346	BASF CORP	OR
IMAZAPYR ISOPROPYLAMINE SALT	ARSENAL POWERLINE HERBICIDE [141]	241-431	BASF CORP	OR
IMAZAPYR ISOPROPYLAMINE SALT	CHOPPER GEN2 HERBICIDE [140]	241-430	BASF CORP	OR
IMAZAPYR ISOPROPYLAMINE SALT	GORDONS PRO T&O PROD PRONTO VEGETATION KILLER [190]	2217-923	PBI/GORDON CORPORATION	OR
IMAZAPYR ISOPROPYLAMINE SALT	GROUNDWORK CONC YEAR-LONG VEGETATION CONTROL [187]	2217-960	PBI/GORDON CORPORATION	OR
IMAZAPYR ISOPROPYLAMINE SALT	HI-YIELD KILLZALL 365 TOTAL VEGETATION CONTROL [264]	81927-58-7401	VOLUNTARY PURCHASING GROUPS	OR
IMAZAPYR ISOPROPYLAMINE SALT	LESCO PROSECUTOR PROLONG (8151127) [159]	2217-923-10404	LESCO INC	OR
IMAZAPYR ISOPROPYLAMINE SALT	MARTINS ERASER MAX SUPER CONC [117]	35935-94-53883	CONTROL SOLUTIONS INC	OR
IMAZAPYR ISOPROPYLAMINE SALT	MARTINS TVC TOTAL VEGETATION CONTROL [69]	81927-23-53883	CONTROL SOLUTIONS INC	OR
IMAZAPYR ISOPROPYLAMINE SALT	NUFARM POLARIS AC COMPLETE HERBICIDE [169]	228-570	NUFARM AMERICAS INC	OR
IMAZAPYR ISOPROPYLAMINE SALT	NUFARM POLARIS HERBICIDE [104]	228-534	NUFARM AMERICAS INC	OR
IMAZAPYR ISOPROPYLAMINE SALT	NUFARM POLARIS SP HERBICIDE [102]	228-536	NUFARM AMERICAS INC	OR
IMAZAPYR ISOPROPYLAMINE SALT	RM43 43% GLYPHOSATE PLUS WEED PREVENTER [6]	35935-94-84009	RAGAN & MASSEY INC.	OR
IMAZAPYR ISOPROPYLAMINE SALT	RM43 TOTAL VEGETATION CONTROL [12]	84009-3	RAGAN & MASSEY INC.	OR
IMAZAPYR ISOPROPYLAMINE SALT	STALKER HERBICIDE [44]	241-398	BASF CORP	OR
IMAZOSULFURON	CELERO HERBICIDE [68]	59639-155	VALENT USA CORPORATION	OR
INDAZIFLAM	ESPLANADE 200 SC [187]	432-1516	BAYER ENVIRONMENTAL SCIENCE	OR
INDAZIFLAM	ESPLANADE 200 SC [187-1]	432-1516	BAYER ENVIRONMENTAL SCIENCE	OR
INDAZIFLAM	SPECT(i)CLE / SPECTICLE 20WSP HERBICIDE [184]	432-1499	BAYER ENVIRONMENTAL SCIENCE	OR
IODOSULFURON-METHYL-SODIUM	DERIGO HERBICIDE [211]	432-1533	BAYER ENVIRONMENTAL SCIENCE	OR
IRON HEDTA -FEHEDTA-	FIESTA TURF WEED KILLER [1]	67702-26-87865	ENGAGE AGRO USA	OR
IRON HEDTA -FEHEDTA-	FIESTA TURF WEED KILLER [1-1]	67702-26-87865	ENGAGE AGRO USA	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
ISOXABEN	GALLERY 75 DRY FLOWABLE [19	62719-145	DOW AGROSCIENCES LLC	OR
ISOXABEN	GALLERY SC SPECIALTY HERBICIDE [284	62719-658	DOW AGROSCIENCES LLC	OR
ISOXABEN	QUALI-PRO ISOXABEN 75 WG HERBICIDE	66222-218	MAKHTESHIM AGAN NORTH AMERICA	OR
ISOXABEN	QUALI-PRO T/I 2.5 G HERBICIDE	66222-224	MAKHTESHIM AGAN NORTH AMERICA	OR
ISOXABEN	SHOWCASE SPECIALTY HERBICIDE [204	62719-516	DOW AGROSCIENCES LLC	OR
ISOXABEN	SNAPSHOT 2.5TG SPECIALTY HERBICIDE [24	62719-175	DOW AGROSCIENCES LLC	OR
ISOXABEN	SNAPSHOT DG [275	62719-175	DOW AGROSCIENCES LLC	OR
LINURON	NOVASOURCE LOROX DF AGRICULTURAL HERBICIDE [15	61842-23	TESSENDERLO KERLEY INC.	OR
MCPA 2-ETHYLHEXYL ESTER	AGRISTAR MCPA ESTER 4 [5	42750-23	ALBAUGH LLC	OR
MCPA 2-ETHYLHEXYL ESTER	AGRISTAR SOLVE MCPA ESTER HERBICIDE [7	42750-25	ALBAUGH LLC	OR
MCPA 2-ETHYLHEXYL ESTER	BASE CAMP MCP ESTER [112	2935-554	WILBUR-ELLIS COMPANY	OR
MCPA 2-ETHYLHEXYL ESTER	COOL POWER SELECTIVE HERBICIDE [21	228-317	NUFARM AMERICAS INC	OR
MCPA 2-ETHYLHEXYL ESTER	DAGGER 5.2LB MCPA ESTER HERBICIDE [11	228-267-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
MCPA 2-ETHYLHEXYL ESTER	GORDONS PROFORM POWER ZONE BROADLEAF HERBICIDE /TURF [67	2217-834	PBI/GORDON CORPORATION	OR
MCPA 2-ETHYLHEXYL ESTER	NUFARM RHONOX MCPA ESTER HERBICIDE [5	11685-21-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
MCPA 2-ETHYLHEXYL ESTER	PROGENY HERBICIDE [152	228-395	NUFARM AMERICAS INC	OR
MCPA 2-ETHYLHEXYL ESTER	RIVERDALE MCPA L.V.4 ESTER [3	228-156	NUFARM AMERICAS INC	OR
MCPA 2-ETHYLHEXYL ESTER	SHREDDER MCPE HERBICIDE [178	1381-98	WINFIELD SOLUTIONS LLC	OR
MCPA 2-ETHYLHEXYL ESTER	WILDCARD HERBICIDE [22	5905-506	HELENA CHEMICAL COMPANY	OR
MCPA DIMETHYLAMINE SALT	AGRSOLUTIONS MCPA AMINE [5	1381-104	WINFIELD SOLUTIONS LLC	OR
MCPA DIMETHYLAMINE SALT	BATTLESHIP III HERBICIDE [87	228-453-5905	HELENA CHEMICAL COMPANY	OR
MCPA DIMETHYLAMINE SALT	CHANGE UP SELECTIVE HERBICIDE [181	228-445	NUFARM AMERICAS INC	OR
MCPA DIMETHYLAMINE SALT	MCP AMINE 4 [20	34704-130	LOVELAND PROD./CROP PRODUCTION SVCS	OR
MCPA DIMETHYLAMINE SALT	MCPA AMINE 4 HERBICIDE [1	42750-14	ALBAUGH LLC	OR
MCPA DIMETHYLAMINE SALT	MCPA-4 AMINE [147	228-143	NUFARM AMERICAS INC	OR
MCPA DIMETHYLAMINE SALT	NUFARM RHOMENE MCPA BROADLEAF HERBICIDE [10	228-143-71368	NUFARM AMERICAS INC. -DIV NUFARM INC	OR
MCPA DIMETHYLAMINE SALT	ORTHO WEED-B-GON PRO SOUTHERN [54	228-262	NUFARM AMERICAS INC	OR
MCPA DIMETHYLAMINE SALT	SHREDDER MCPA AMINE HERBICIDE [180	1381-104	WINFIELD SOLUTIONS LLC	OR
MCPA DIMETHYLAMINE SALT	SP 3WAY BROADLEAF HERBICIDE [88	42750-272-7001	JR SIMPLOT CO.	OR
MCPA DIMETHYLAMINE SALT	TRI-POWER SELECTIVE HERBICIDE [12	228-262	NUFARM AMERICAS INC	OR
MCPA DIMETHYLAMINE SALT	TRIAD SELECT HERBICIDE [17	89442-22	PRIME SOURCE LLC -WAGNER	OR
MCPA DIMETHYLAMINE SALT	VENGEANCE PLUS SELECTIVE HERBICIDE [75	228-411-2935	WILBUR-ELLIS COMPANY	OR
MCPA ISOOCTYL ESTER	SWORD SELECTIVE HERBICIDE [5	228-267-34704	LOVELAND PROD./CROP PRODUCTION SVCS	OR
MCPP (MECOPROP)	ONETIME HERBICIDE [150	7969-267	BASF CORP	OR
MCPP-P	4-SPEED SELECTIVE HERBICIDE [121	228-589	NUFARM AMERICAS INC	OR
MCPP-P	GORDONS PROFORM POWER ZONE BROADLEAF HERBICIDE /TURF [67	2217-834	PBI/GORDON CORPORATION	OR
MCPP-P	GORDONS PROFORM SPEEDZONE BROADLEAF HERBICIDE/TURF [66	2217-833	PBI/GORDON CORPORATION	OR
MCPP-P	GORDONS PROFORM SPEEDZONE SOUTHERN BROADLEAF HERBICIDE /TURF	2217-835	PBI/GORDON CORPORATION	OR
MCPP-P	LESCO REDZONE 2 HERBICIDE [149	228-589	NUFARM AMERICAS INC	OR
MCPP-P	QUALI-PRO 3-D HERBICIDE [138	53883-378	CONTROL SOLUTIONS INC	OR
MCPP-P	TRIMEC DMB NO.2 S.I. [77	2217-851	PBI/GORDON CORPORATION	OR
MCPP-P	TRUPOWER2 SELECTIVE HERBICIDE [95	228-499	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	OR
MCPP-P DMA SALT	ARMORTECH THREESOME [4	86064-5	UNITED TURF ALLIANCE	OR
MCPP-P DMA SALT	ENDRUN [72	2217-656-5905	HELENA CHEMICAL COMPANY	OR
MCPP-P DMA SALT	GORDONS ACREAGE PRO LARGE PROPERTY LAWN WEED KILLER [217	2217-694	PBI/GORDON CORPORATION	OR
MCPP-P DMA SALT	GORDONS FARM BRUSH KILLER [20	2217-543	PBI/GORDON CORPORATION	OR
MCPP-P DMA SALT	GORDONS PROF T&O PROD TRIMEC 1000 LOW ODOR BROADLEAF HERB [163	2217-931	PBI/GORDON CORPORATION	OR
MCPP-P DMA SALT	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	OR
MCPP-P DMA SALT	GORDONS TRIMEC WEED KILLER TANKABLES [196	2217-694	PBI/GORDON CORPORATION	OR
MCPP-P DMA SALT	LESCO THREE-WAY SELECTIVE HERBICIDE [4	10404-43	LESCO INC	OR
MCPP-P DMA SALT	MEC AMINE-D [206	34704-239	LOVELAND PROD./CROP PRODUCTION SVCS	OR
MCPP-P DMA SALT	ORTHO WEED-B-GON PRO SOUTHERN [54	228-262	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	PRIMERA ONE PRIME TIME [168	228-513	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	PRIMERA TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [61	228-409	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	PRIMERAONE PRIMERA TRIPLET SF SELECTIVE HERBICIDE [57	228-312	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	QUALI-PRO 3-D HERBICIDE	66222-225	MAKHTESHIM AGAN NORTH AMERICA	OR
MCPP-P DMA SALT	RIVERDALE TRIAMINE [5	228-178	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	SPOILER HERBICIDE [85	228-513	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	TRI-POWER SELECTIVE HERBICIDE [12	228-262	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	TRIMEC 992 BROADLEAF HERBICIDE [26	2217-656	PBI/GORDON CORPORATION	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
MCPP-P DMA SALT	TRIPLET LOW ODOR PREMIUM SELECTIVE HERBICIDE [48]	228-409	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	TRIPLET SF [18]	228-312	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	TRUPOWER 3 SELECTIVE HERBICIDE [101]	228-551	NUFARM AMERICAS INC	OR
MCPP-P DMA SALT	WINFIELD STRIKE 3 [126]	14774-2	WINFIELD SOLUTIONS LLC	OR
METSULFURON METHYL	ACCURATE HERBICIDE [27]	67760-68	CHEMINOVA INC.	BLM (W&E), FS & OR
METSULFURON METHYL	ALLIGARE MSM 60 [7]	81927-7	ALLIGARE LLC	BLM (W&E), FS & OR
METSULFURON METHYL	ALLIGARE SFM EXTRA [6]	81927-5	ALLIGARE LLC	BLM (W&E), FS & OR
METSULFURON METHYL	BAYER OUST EXTRA HERBICIDE [228]	432-1557	BAYER ENVIRONMENTAL SCIENCE	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT CIMARRON MAX PART A HERBICIDE (TANK MIX W/PART B) [162]	352-870	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT CIMARRON PLUS HERBICIDE [86]	352-670	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT CIMARRON X-TRA HERBICIDE [85]	352-669	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT ESCORT XP HERB	352-439	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT ESCORT XP HERB [18-1]	352-439	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT ESCORT XP HERBICIDE [18]	352-439	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT LINEAGE CLEARSTAND HERBICIDE [129]	352-766	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT LINEAGE HWC HERBICIDE [128]	352-765	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT LINEAGE PREP HERBICIDE [130]	352-767	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT OUST EXTRA HERBICIDE [62]	352-622	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT STREAMLINE HERBICIDE [154]	352-848	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	DuPONT VIEWPOINT HERBICIDE [153]	352-847	E I DUPONT DE NEMOURS & CO	BLM (W&E), FS & OR
METSULFURON METHYL	ESCORT XP HERBICIDE [218]	432-1549	BAYER ENVIRONMENTAL SCIENCE	BLM (W&E), FS & OR
METSULFURON METHYL	LINEAGE CLEARSTAND HERBICIDE [231]	432-1578	BAYER ENVIRONMENTAL SCIENCE	BLM (W&E), FS & OR
METSULFURON METHYL	METCEL VMF HERB [3-1]	352-439-85588	AGSURF CORPORATION	BLM (W&E), FS & OR
METSULFURON METHYL	METCEL VMF HERBICIDE [3]	352-439-85588	AGSURF CORPORATION	BLM (W&E), FS & OR
METSULFURON METHYL	MSM 60DF [3]	81927-7-86291	PRECISION CONTROL TECHNOLOGY INC	BLM (W&E), FS & OR
METSULFURON METHYL	OMNI MSM 60 DF HERBICIDE [170]	84229-42-5905	HELENA CHEMICAL COMPANY	BLM (W&E), FS & OR
METSULFURON METHYL	OPENSIGHT [247]	62719-597	DOW AGROSCIENCES LLC	BLM (W&E), FS & OR
METSULFURON METHYL	PATRIOT SELECTIVE HERBICIDE [35]	228-391	NUFARM AMERICAS INC	BLM (W&E), FS & OR
METSULFURON METHYL	ROMETSOL HERBICIDE [9]	83100-2-83979	ROTAM NORTH AMERICA INC	BLM (W&E), FS & OR
METSULFURON METHYL	SFM PLUS [5]	81927-5-86291	PRECISION CONTROL TECHNOLOGY INC	BLM (W&E), FS & OR
METSULFURON METHYL	SPYDER EXTRA SELECTIVE HERBICIDE [128]	228-690	NUFARM AMERICAS INC	BLM (W&E), FS & OR
METSULFURON METHYL	STREAMLINE HERBICIDE [221]	432-1570	BAYER ENVIRONMENTAL SCIENCE	BLM (W&E), FS & OR
METSULFURON METHYL	SULFOMET EXTRA HERBICIDE [5]	352-622-85588	AGSURF CORPORATION	BLM (W&E), FS & OR
METSULFURON METHYL	TIDE MSM 60 DF HERBICIDE [8]	84229-8	TIDE INTERNATIONAL USA INC	BLM (W&E), FS & OR
METSULFURON METHYL	VIEWPOINT HERBICIDE [232]	432-1580	BAYER ENVIRONMENTAL SCIENCE	BLM (W&E), FS & OR
ORYZALIN	ALLIGARE ORYZALIN 4 [44]	81927-46	ALLIGARE LLC	OR
ORYZALIN	COMPARE-N-SAVE CRABGRASS & SANDBUR PREVENTER [13]	70506-44-84009	RAGAN & MASSEY INC.	OR
ORYZALIN	LESCO SURFLAN AS SPECIALTY HERBICIDE [102]	70506-44-10404	LESCO INC	OR
ORYZALIN	ORYZALIN COATED GRANULES [221]	34704-823	LOVELAND PROD./CROP PRODUCTION SVCS	OR
ORYZALIN	PROKOZ SURFLAN AS SPECIALTY HERBICIDE [100]	70506-44	UNITED PHOSPHORUS INC -UPI-	OR
ORYZALIN	QUALI-PRO ORYZALIN 4 HERBICIDE	66222-207	MAKHTESHIM AGAN NORTH AMERICA	OR
ORYZALIN	QUALI-PRO ORYZALIN 4 HERBICIDE [130]	53883-369	CONTROL SOLUTIONS INC	OR
ORYZALIN	SURFLAN A S SPECIALTY HERBICIDE [26]	70506-44	UNITED PHOSPHORUS INC -UPI-	OR
ORYZALIN	SURFLAN FLEX T&O HERBICIDE [156]	70506-308	UNITED PHOSPHORUS INC -UPI-	OR
ORYZALIN	SURFLAN XL 2G [102]	70506-45	UNITED PHOSPHORUS INC -UPI-	OR
ORYZALIN	XL 2G [2]	70506-45-38167	HELENA CHEMICAL CO / SETRE CHEMICAL CO.	OR
OXADIAZON	QUALI-PRO OXADIAZON 50 WSB HERBICIDE [131]	53883-370	CONTROL SOLUTIONS INC	OR
OXADIAZON	QUALI-PRO OXADIAZON SC HERBICIDE	66222-188	MAKHTESHIM AGAN NORTH AMERICA	OR
OXADIAZON	QUALI-PRO OXADIAZON SC HERBICIDE [135]	53883-364	CONTROL SOLUTIONS INC	OR
OXADIAZON	RONSTAR 50WSP HERBICIDE [84]	432-893	BAYER ENVIRONMENTAL SCIENCE	OR
OXYFLUORFEN	AGRISTAR OXYSTAR 2E [53]	42750-136	ALBAUGH LLC	OR
OXYFLUORFEN	BIATHLON ORNAMENTAL HERBICIDE [49]	59807-12	OHP INC.	OR
OXYFLUORFEN	CLEANTRAXX HERBICIDE [298]	62719-702	DOW AGROSCIENCES LLC	OR
OXYFLUORFEN	COLLIDE HERBICIDE [120]	70506-295	UNITED PHOSPHORUS INC -UPI-	OR
OXYFLUORFEN	GALIGAN 2E HERBICIDE	66222-28	MAKHTESHIM AGAN NORTH AMERICA	OR
OXYFLUORFEN	GALIGAN 2E HERBICIDE [10]	66222-28	MAKHTESHIM-AGAN NA DBA ADAMA	OR
OXYFLUORFEN	GOAL 2XL HERBICIDE [116]	62719-424	DOW AGROSCIENCES LLC	OR
OXYFLUORFEN	GOALTENDER HERBICIDE [197]	62719-447	DOW AGROSCIENCES LLC	OR
OXYFLUORFEN	OZYFLUORFEN 2E HERBICIDE [12]	70506-295-84237	SOLERA ATO LLC	OR
OXYFLUORFEN	PINDAR GT	62719-611	DOW AGROSCIENCES LLC	OR
OXYFLUORFEN	PINDAR GT HERBICIDE [270]	62719-611	DOW AGROSCIENCES LLC	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
OXYFLUORFEN	SHOWCASE SPECIALTY HERBICIDE [204	62719-516	DOW AGROSCIENCES LLC	OR
OXYFLUORFEN	WILLOWOOD OXYFLO 2EC [5	87290-8	WILLOWOOD LLC -USA-	OR
OXYFLUORFEN	WILLOWOOD OXYFLO 4SC [4	87290-10	WILLOWOOD LLC -USA-	OR
PELARGONIC ACID (NONANOIC ACID)	SCYTHE HERBICIDE [83	10163-325	GOWAN CO.	OR
PENDIMETHALIN	DREXEL PIN-DEE 3.3 T&O HERBICIDE	19713-590	DREXEL CHEMICAL COMPANY	OR
PENDIMETHALIN	FREEHAND 1.75G HERBICIDE [154	7969-273	BASF CORP	OR
PENDIMETHALIN	HAMMERKOP HYDROCAP [123	70506-230	UNITED PHOSPHORUS INC -UPI-	OR
PENDIMETHALIN	LESCO PRE-M AQUA CAP HERBICIDE [70	241-416-10404	LESCO INC	OR
PENDIMETHALIN	PENDULUM 2G GRANULE HERBICIDE [34	241-375	BASF CORP	OR
PENDIMETHALIN	PENDULUM 3.3 EC HERBICIDE [23	241-341	BASF CORP	OR
PENDIMETHALIN	PENDULUM AQUA CAP HERBICIDE [50	241-416	BASF CORP	OR
PENDIMETHALIN	UP-END 3.3 HERBICIDE [181	70506-318	UNITED PHOSPHORUS INC -UPI-	OR
PENDIMETHALIN	UP-END HYDROCAP HERBICIDE [124	70506-230	UNITED PHOSPHORUS INC -UPI-	OR
PENOX SULAM	CLEANTRAXX HERBICIDE [298	62719-702	DOW AGROSCIENCES LLC	OR
PENOX SULAM	PINDAR GT	62719-611	DOW AGROSCIENCES LLC	OR
PENOX SULAM	PINDAR GT HERBICIDE [270	62719-611	DOW AGROSCIENCES LLC	OR
PENOX SULAM	TANGENT HERB	62719-603	DOW AGROSCIENCES LLC	OR
PICLORAM	GRASLAN L SPECIALTY HERBICIDE [289	62719-655	DOW AGROSCIENCES LLC	BLM (W&E) FS, BOR & OR
PICLORAM POTASSIUM SALT	AGRISTAR TRIUMPH 22K [47	42750-79	ALBAUGH LLC	OR
PICLORAM POTASSIUM SALT	ALLIGARE PICLORAM 22K [18	81927-18	ALLIGARE LLC	OR
PICLORAM POTASSIUM SALT	OUTPOST 22K HERBICIDE [224	62719-6	DOW AGROSCIENCES LLC	OR
PICLORAM POTASSIUM SALT	TORDON 22K SPECIALTY HERBICIDE [138	62719-6	DOW AGROSCIENCES LLC	OR
PICLORAM POTASSIUM SALT	TORDON K SPECIALTY HERBICIDE [22	62719-17	DOW AGROSCIENCES LLC	OR
PICLORAM POTASSIUM SALT	TROOPER 22K HERBICIDE [100	228-535	NUFARM AMERICAS INC	OR
PICLORAM TRIISOPROPANOLAMINE	ALLIGARE PICLORAM+D [15	81927-16	ALLIGARE LLC	OR
PICLORAM TRIISOPROPANOLAMINE	GRAZON P+D HERBICIDE [26	62719-182	DOW AGROSCIENCES LLC	OR
PICLORAM TRIISOPROPANOLAMINE	PATHWAY [56	62719-31	DOW AGROSCIENCES LLC	OR
PICLORAM TRIISOPROPANOLAMINE	TORDON 101 MIXTURE [137	62719-5	DOW AGROSCIENCES LLC	OR
PICLORAM TRIISOPROPANOLAMINE	TORDON RTU [57	62719-31	DOW AGROSCIENCES LLC	OR
PRODIAMINE	ALLIGARE PRODIAMINE 65 WG HERBICIDE [34	81927-36	ALLIGARE LLC	OR
PRODIAMINE	BARRICADE 65WG HERBICIDE [104	100-834	SYNGENTA CROP PROTECTION INC.	OR
PRODIAMINE	BIATHLON ORNAMENTAL HERBICIDE [49	59807-12	OHP INC.	OR
PRODIAMINE	CAVALCADE 65WDG [13	60063-26	SIPCAM AGRO USA INC.	OR
PRODIAMINE	ECHELON 4SC HERBICIDE [74	279-3323	FMC CORP - DIV AGRICULTURAL SOLUTIONS	OR
PRODIAMINE	EVADE 4FL [255	34704-915	LOVELAND PROD./CROP PRODUCTION SVCS	OR
PRODIAMINE	HALTS PRO	66222-89	MAKHTESHIM AGAN NORTH AMERICA	OR
PRODIAMINE	KNIGHTHAWK HERBICIDE [160	70506-266	UNITED PHOSPHORUS INC -UPI-	OR
PRODIAMINE	PRIMERAONE PRODIAMINE 65WDG HERBICIDE [32	60063-26	SIPCAM AGRO USA INC.	OR
PRODIAMINE	PROCLIPSE 65 WDG [63	228-434	NUFARM AMERICAS INC	OR
PRODIAMINE	PRODIAMINE 4SC SELECT [15	89442-26	PRIME SOURCE LLC -WAGNER	OR
PRODIAMINE	RESOLUTE 65WG HERBICIDE [172	100-834	SYNGENTA CROP PROTECTION INC.	OR
PROMETON	PRAMITOL 25E HERBICIDE	66222-22	MAKHTESHIM AGAN NORTH AMERICA	OR
PROMETON	PRAMITOL 25E HERBICIDE [81	66222-22-34704	LOVELAND PROD./CROP PRODUCTION SVCS	OR
PROMETON	PRAMITOL 25E HERBICIDE [28	66222-22-9779	WINFIELD SOLUTIONS LLC	OR
PROMETON	PRAMITOL 5PS PELLETTED HERBICIDE	66222-23	MAKHTESHIM AGAN NORTH AMERICA	OR
PROMETON	PRAMITOL 5PS PELLETTED HERBICIDE [82	66222-23-34704	LOVELAND PROD./CROP PRODUCTION SVCS	OR
PYRAFLUFEN-ETHYL	4-SPEED SELECTIVE HERBICIDE [121	228-589	NUFARM AMERICAS INC	OR
PYRAFLUFEN-ETHYL	EDICT 2SC IVM HERBICIDE [10	71711-25	NICHINO AMERICA INC.	OR
PYRAFLUFEN-ETHYL	LESCO REDZONE 2 HERBICIDE [149	228-589	NUFARM AMERICAS INC	OR
PYRAFLUFEN-ETHYL	PYRESTA HERBICIDE [18	71711-35	NICHINO AMERICA INC.	OR
PYRAFLUFEN-ETHYL	VENUE HERBICIDE [11	71711-25	NICHINO AMERICA INC.	OR
PYROXASULFONE	PIPER HERB [78-	59639-193	VALENT USA CORPORATION	OR
PYROXASULFONE	PIPER HERBICIDE [78	59639-193	VALENT USA CORPORATION	OR
QUINCLORAC	AGRISTAR QUINSTAR 4L HERBICIDE [66	42750-169	ALBAUGH LLC	OR
QUINCLORAC	GORDONS PROFORM Q4 PLUS TURF HERBICIDE /GRASS & BROADLEAF [162	2217-930	PBI/GORDON CORPORATION	OR
QUINCLORAC	LESCO MOMENTUM Q HERBICIDE [108	228-531	NUFARM AMERICAS INC	OR
QUINCLORAC	ONETIME HERBICIDE [150	7969-267	BASF CORP	OR
QUINCLORAC	Q4 PLUS TURF HERBICIDE [228	2217-930	PBI/GORDON CORPORATION	OR
QUINCLORAC	QUALI-PRO 2DQ HERBICIDE [96	53883-334	CONTROL SOLUTIONS INC	OR
QUINCLORAC	QUALI-PRO QUINCLORAC 75 DF	66222-160	MAKHTESHIM AGAN NORTH AMERICA	OR
QUINCLORAC	QUINCEPT HERBICIDE [91	228-531	NUFARM AMERICAS INC	OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
QUINCLORAC	QUINCLORAC 75DF SELECT HERBICIDE [16	89442-25	PRIME SOURCE LLC -WAGNER	OR
QUINCLORAC DIMETHYLAMINE SALT	DRIVE XLR8 HERBICIDE [153	7969-272	BASF CORP	OR
QUINCLORAC DIMETHYLAMINE SALT	FACET L HERBICIDE [203	7969-315	BASF CORP	OR
QUINCLORAC DIMETHYLAMINE SALT	QUINCLORAC 1.5L SELECT HERBICIDE [11	89442-12	PRIME SOURCE LLC -WAGNER	OR
QUIZALOFOP-P ETHYL	DuPONT ASSURE II HERBICIDE [32	352-541	E I DUPONT DE NEMOURS & CO	OR
QUIZALOFOP-P ETHYL	TARGA EC HERBICIDE [1	33906-9-81880	CANYON GROUP LLC -GOWAN CO	OR
RIMSULFURON	ALLIGARE LARAMIE 25DF [61	81927-57	ALLIGARE LLC	OR
RIMSULFURON	DuPONT MATRIX FNV HERB [119-1	352-671	E I DUPONT DE NEMOURS & CO	OR
RIMSULFURON	DuPONT MATRIX FNV HERB [119-3	352-671	E I DUPONT DE NEMOURS & CO	OR
RIMSULFURON	DuPONT MATRIX HERB [33-6	352-556	E I DUPONT DE NEMOURS & CO	OR
RIMSULFURON	DuPONT MATRIX HERB [33-8	352-556	E I DUPONT DE NEMOURS & CO	OR
RIMSULFURON	DuPONT MATRIX SG HERB [135-1	352-768	E I DUPONT DE NEMOURS & CO	OR
RIMSULFURON	DuPONT MATRIX SG HERB [135-2	352-768	E I DUPONT DE NEMOURS & CO	OR
RIMSULFURON	DuPONT MATRIX SG HERBICIDE [135	352-768	E I DUPONT DE NEMOURS & CO	OR
RIMSULFURON	HINGE HERBICIDE [30	83100-40-83979	ROTAM NORTH AMERICA INC	OR
RIMSULFURON	PRUVIN HERBICIDE [77	66222-184	MAKHTESHIM-AGAN NA DBA ADAMA	OR
RIMSULFURON	RIMGRO HERB [9-1	352-768-85588	AGSURF CORPORATION	OR
RIMSULFURON	RIMGRO HERB [9-2	352-768-85588	AGSURF CORPORATION	OR
RIMSULFURON	RIMGRO HERBICIDE [9	352-768-85588	AGSURF CORPORATION	OR
RIMSULFURON	SOLIDA HERBICIDE [168	279-3576	FMC CORP - DIV AGRICULTURAL SOLUTIONS	OR
RIMSULFURON	SOLIDA HERBICIDE [44	67760-105	CHEMINOVA INC.	OR
S-METOLACHLOR	PENNANT MAGNUM HERBICIDE [138	100-950	SYNGENTA CROP PROTECTION INC.	OR
SAFLUFENACIL	DETAIL POWERED BY KIXOR HERBICIDE [189	7969-297	BASF CORP	OR
SETHOXYDIM	BONIDE GRASS BEATER OVER-THE-TOP GRASS KILLER CONC. [186	7969-88-4	BONIDE PRODUCTS INC	FS & OR
SETHOXYDIM	NUFARM SETHOXYDIM SPC HERBICIDE [160	228-619	NUFARM AMERICAS INC	FS & OR
SETHOXYDIM	POAST HERBICIDE [101	7969-58	BASF CORP	FS & OR
SETHOXYDIM	SEGMENT HERBICIDE [179	7969-317	BASF CORP	FS & OR
SETHOXYDIM	SEGMENT II HERBICIDE [296	7969-398	BASF CORP	FS & OR
SIDURON (TUPERSAN)	GORDONS PRO T&O PROD TUPERSAN HERBICIDE WETTABLE POWDER [3	10163-213-2217	PBI/GORDON CORPORATION	OR
SIMAZINE	AGRSOLUTIONS SIMAZINE 90DF [36	9779-295	WINFIELD SOLUTIONS LLC	OR
SODIUM CHLORATE	PRAMITOL 5PS PELLETTED HERBICIDE	66222-23	MAKHTESHIM AGAN NORTH AMERICA	OR
SODIUM CHLORATE	PRAMITOL 5PS PELLETTED HERBICIDE [82	66222-23-34704	LOVELAND PROD./CROP PRODUCTION SVCS	OR
SODIUM METABORATE	PRAMITOL 5PS PELLETTED HERBICIDE	66222-23	MAKHTESHIM AGAN NORTH AMERICA	OR
SODIUM METABORATE	PRAMITOL 5PS PELLETTED HERBICIDE [82	66222-23-34704	LOVELAND PROD./CROP PRODUCTION SVCS	OR
SULFENTRAZONE	ARMORTECH SUREZONE TURF HERBICIDE [6	2217-823-86064	UNITED TURF ALLIANCE	OR
SULFENTRAZONE	DISMISS NXT HERBICIDE [174	279-3383	FMC CORP - DIV AGRICULTURAL SOLUTIONS	OR
SULFENTRAZONE	DuPONT SULFENTRAZONE XP HERBICIDE [90	352-713	E I DUPONT DE NEMOURS & CO	OR
SULFENTRAZONE	DuPONT THROTTLE XP HERBICIDE [115	352-725	E I DUPONT DE NEMOURS & CO	OR
SULFENTRAZONE	ECHELON 4SC HERBICIDE [74	279-3323	FMC CORP - DIV AGRICULTURAL SOLUTIONS	OR
SULFENTRAZONE	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	OR
SULFENTRAZONE	GORDONS PROFORM Q4 PLUS TURF HERBICIDE /GRASS & BROADLEAF [162	2217-930	PBI/GORDON CORPORATION	OR
SULFENTRAZONE	GORDONS PROFORM SURGE BROADLEAF HERBICIDE/TURF [111	2217-867	PBI/GORDON CORPORATION	OR
SULFENTRAZONE	GORDONS PROFORM TZONE BROADLEAF HERBICIDE [154	2217-920	PBI/GORDON CORPORATION	OR
SULFENTRAZONE	GORDONS PROFORM TZONE SE BROADLEAF HERBICIDE /TOUGH WEEDS [195	2217-976	PBI/GORDON CORPORATION	OR
SULFENTRAZONE	PORTFOLIO 4F HERBICIDE [79	279-3295-2935	WILBUR-ELLIS COMPANY	OR
SULFENTRAZONE	Q4 PLUS TURF HERBICIDE [228	2217-930	PBI/GORDON CORPORATION	OR
SULFOMETURON-METHYL	ALLIGARE SFM 75 [19	81927-26	ALLIGARE LLC	BLM (W &E) FS & OR
SULFOMETURON-METHYL	ALLIGARE SFM EXTRA [6	81927-5	ALLIGARE LLC	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER LANDMARK XP HERBICIDE [225	432-1560	BAYER ENVIRONMENTAL SCIENCE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER OUST EXTRA HERBICIDE [228	432-1557	BAYER ENVIRONMENTAL SCIENCE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER OUST XP HERBICIDE [223	432-1552	BAYER ENVIRONMENTAL SCIENCE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	BAYER WESTAR HERBICIDE [224	432-1558	BAYER ENVIRONMENTAL SCIENCE	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT LANDMARK XP HERBICIDE [75	352-645	E I DUPONT DE NEMOURS & CO	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT LINEAGE HWC HERBICIDE [128	352-765	E I DUPONT DE NEMOURS & CO	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT LINEAGE PREP HERBICIDE [130	352-767	E I DUPONT DE NEMOURS & CO	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT OUST EXTRA HERBICIDE [62	352-622	E I DUPONT DE NEMOURS & CO	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT OUST XP HERBICIDE [47	352-601	E I DUPONT DE NEMOURS & CO	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT THROTTLE XP HERBICIDE [115	352-725	E I DUPONT DE NEMOURS & CO	BLM (W &E) FS & OR
SULFOMETURON-METHYL	DuPONT WESTAR HERBICIDE [63	352-626	E I DUPONT DE NEMOURS & CO	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SFM 75 [4	81927-26-86291	PRECISION CONTROL TECHNOLOGY INC	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SFM PLUS [5	81927-5-86291	PRECISION CONTROL TECHNOLOGY INC	BLM (W &E) FS & OR

Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way

INGREDIENT	PRODUCT NAME	EPA #	REGISTRANT NAME	Approval
SULFOMETURON-METHYL	SPYDER EXTRA SELECTIVE HERBICIDE [128	228-690	NUFARM AMERICAS INC	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SPYDER SELECTIVE HERBICIDE [126	228-408	NUFARM AMERICAS INC	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SULFOMET EXTRA HERBICIDE [5	352-622-85588	AGSURF CORPORATION	BLM (W &E) FS & OR
SULFOMETURON-METHYL	SULFOMET XP HERBICIDE [6	352-601-85588	AGSURF CORPORATION	BLM (W &E) FS & OR
SULFOSULFURON	OUTRIDER HERBICIDE [45	524-500	MONSANTO COMPANY	OR
SULFOSULFURON	OUTRIDER HERBICIDE [93	59639-223	VALENT USA CORPORATION	OR
TEBUTHIURON	ALLIGARE TEBUTHIURON 20 P [35	81927-41	ALLIGARE LLC	BLM ( E ) & OR
TEBUTHIURON	ALLIGARE TEBUTHIURON 80 WG [36	81927-37	ALLIGARE LLC	BLM ( E ) & OR
TEBUTHIURON	SPIKE 20P SPECIALTY HERBICIDE [13	62719-121	DOW AGROSCIENCES LLC	BLM ( E ) & OR
TEBUTHIURON	SPIKE 80DF SPECIALTY HERBICIDE [8	62719-107	DOW AGROSCIENCES LLC	BLM ( E ) & OR
THIENCARBAZONE-METHYL	DERIGO HERBICIDE [211	432-1533	BAYER ENVIRONMENTAL SCIENCE	OR
THIENCARBAZONE-METHYL	TRIBUTE TOTAL [195	432-1519	BAYER ENVIRONMENTAL SCIENCE	OR
TOPRAMEZONE	FREQUENCY HERB [165-1	7969-281	BASF CORP	OR
TOPRAMEZONE	FREQUENCY HERBICIDE [165	7969-281	BASF CORP	OR
TOPRAMEZONE	PYLEX HERBICIDE [202	7969-327	BASF CORP	OR
TRICLOPYR	QUALI-PRO 2-D HERBICIDE	66222-222	MAKHTESHIM AGAN NORTH AMERICA	BLM (W&E) FS & OR
TRICLOPYR	TRYCERA SELECTIVE BROADLEAF HERBICIDE [118	5905-580	HELENA CHEMICAL COMPANY	BLM (W&E) FS & OR
TRICLOPYR BUTOXYETHYL ESTER	AGRISTAR CROSSROAD [49	42750-124	ALBAUGH LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	AGRISTAR TRICLOPYR 4E [51	42750-126	ALBAUGH LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	ALLIGARE BOULDER 6.3 [55	81927-54	ALLIGARE LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	ALLIGARE EVERETT HERBICIDE [26	81927-29	ALLIGARE LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	ALLIGARE TRICLOPYR 4 [22	81927-11	ALLIGARE LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	BRUSH KILLER /HARD-TO-KILL BRUSH [235	2217-952	PBI/GORDON CORPORATION	OR
TRICLOPYR BUTOXYETHYL ESTER	BRUSHTOX W/ TRICLOPYR CONC [9	42750-126-84009	RAGAN & MASSEY INC.	OR
TRICLOPYR BUTOXYETHYL ESTER	CANDOR HERBICIDE [114	228-565	NUFARM AMERICAS INC	OR
TRICLOPYR BUTOXYETHYL ESTER	COOL POWER SELECTIVE HERBICIDE [21	228-317	NUFARM AMERICAS INC	OR
TRICLOPYR BUTOXYETHYL ESTER	CROSSBOW HERBICIDE [195	62719-260-1381	WINFIELD SOLUTIONS LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	CROSSBOW HERBICIDE [39	62719-260-55467	TENKOZ INC	OR
TRICLOPYR BUTOXYETHYL ESTER	CROSSBOW L [103	62719-260-34704	LOVELAND PROD./CROP PRODUCTION SVCS	OR
TRICLOPYR BUTOXYETHYL ESTER	CROSSBOW SPECIALTY HERBICIDE [3	62719-260-829	SOUTHERN AGRICULTURAL INSECTICIDES INC	OR
TRICLOPYR BUTOXYETHYL ESTER	CROSSBOW [38	62719-260	DOW AGROSCIENCES LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	CROSSBOW [65	62719-260-5905	HELENA CHEMICAL COMPANY	OR
TRICLOPYR BUTOXYETHYL ESTER	ELEMENT 4 SPECIALTY HERBICIDE [223	62719-40	DOW AGROSCIENCES LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	GARLON 4 SPECIALTY HERBICIDE [102	62719-40	DOW AGROSCIENCES LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	GARLON 4 ULTRA SPECIALTY HERBICIDE [215	62719-527	DOW AGROSCIENCES LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	GARLON XRT SPECIALTY HERBICIDE [214	62719-553	DOW AGROSCIENCES LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	GORDONS PASTURE PRO BRUSH KILLER /HARD-TO-KILL BRUSH [202	2217-952	PBI/GORDON CORPORATION	OR
TRICLOPYR BUTOXYETHYL ESTER	GORDONS PROFORM TZONE BROADLEAF HERBICIDE [154	2217-920	PBI/GORDON CORPORATION	OR
TRICLOPYR BUTOXYETHYL ESTER	GORDONS PROFORM TZONE SE BROADLEAF HERBICIDE /TOUGH WEEDS [195	2217-976	PBI/GORDON CORPORATION	OR
TRICLOPYR BUTOXYETHYL ESTER	LESCO TRICLOPYR 4 ESTER HERBICIDE (702035) [154	10404-119	LESCO INC	OR
TRICLOPYR BUTOXYETHYL ESTER	PATHFINDER II [25	62719-176	DOW AGROSCIENCES LLC	OR
TRICLOPYR BUTOXYETHYL ESTER	PROGENY HERBICIDE [152	228-395	NUFARM AMERICAS INC	OR
TRICLOPYR BUTOXYETHYL ESTER	SIGHTLINE HERBICIDE	74779-8	RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS INC.	OR
TRICLOPYR CHOLINE SALT	VASTLAN SPECIALTY HERBICIDE [296	62719-687	DOW AGROSCIENCES LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	AGRISTAR TRICLOPYR 3A [52	42750-127	ALBAUGH LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	ALLIGARE PRESCOTT HERBICIDE [20	81927-30	ALLIGARE LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	ALLIGARE TRICLOPYR 3 [21	81927-13	ALLIGARE LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	AQUASWEEP [170	228-316	NUFARM AMERICAS INC	OR
TRICLOPYR TRIETHYLAMINE SALT	BATTLESHIP III HERBICIDE [87	228-453-5905	HELENA CHEMICAL COMPANY	OR
TRICLOPYR TRIETHYLAMINE SALT	BRAZEN HERBICIDE [116	228-564	NUFARM AMERICAS INC	OR
TRICLOPYR TRIETHYLAMINE SALT	BRUSH KILLER /LARGE PROPERTY [234	2217-950	PBI/GORDON CORPORATION	OR
TRICLOPYR TRIETHYLAMINE SALT	CAPSTONE [269	62719-572	DOW AGROSCIENCES LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	CAPSTONE [269-1	62719-572	DOW AGROSCIENCES LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	CHASER 2 AMINE [220	34704-930	LOVELAND PROD./CROP PRODUCTION SVCS	OR
TRICLOPYR TRIETHYLAMINE SALT	ELEMENT 3A SPECIALTY HERBICIDE [222	62719-37	DOW AGROSCIENCES LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	FOUNDATION TURF HERBICIDE [96	2217-921-2935	WILBUR-ELLIS COMPANY	OR
TRICLOPYR TRIETHYLAMINE SALT	GARLON 3A SPECIALTY HERBICIDE [87	62719-37	DOW AGROSCIENCES LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	GARLON 3A [87-2	62719-37	DOW AGROSCIENCES LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	LESCO MOMENTUM FX2 HERBICIDE (088525) [86	228-447-10404	LESCO INC	OR
TRICLOPYR TRIETHYLAMINE SALT	MILESTONE VM PLUS [230	62719-572	DOW AGROSCIENCES LLC	OR
TRICLOPYR TRIETHYLAMINE SALT	MILESTONE VM PLUS [230-2	62719-572	DOW AGROSCIENCES LLC	OR

**Table 2-2 Herbicides Products Registered in Oregon for use on Road Rights-of-Way**

<b>INGREDIENT</b>	<b>PRODUCT NAME</b>	<b>EPA #</b>	<b>REGISTRANT NAME</b>	<b>Approval</b>
TRICLOPYR TRIETHYLAMINE SALT	NAVITROL LANDSCAPE & AQUATIC HERBICIDE [27	8959-56	APPLIED BIOCHEMISTS INC	OR
TRICLOPYR TRIETHYLAMINE SALT	QUALI-PRO 2-D HERBICIDE [133	53883-377	CONTROL SOLUTIONS INC	OR
TRICLOPYR TRIETHYLAMINE SALT	RENOVATE 3 AQUATIC HERBICIDE [6	62719-37-67690	SEPRO CORPORATION	OR
TRICLOPYR TRIETHYLAMINE SALT	TAHOE 3A HERBICIDE [97	228-520	NUFARM AMERICAS INC	OR
TRICLOPYR TRIETHYLAMINE SALT	TAILSPIN HERBICIDE [201	34704-958	LOVELAND PROD./CROP PRODUCTION SVCS	OR
TRICLOPYR TRIETHYLAMINE SALT	VENGEANCE PLUS SELECTIVE HERBICIDE [75	228-411-2935	WILBUR-ELLIS COMPANY	OR
TRIFLURALIN	LEBANON TREFLAN 5-G	961-405	LEBANON SEABOARD CORPORATION	OR
TRIFLURALIN	QUALI-PRO T/I 2.5 G HERBICIDE	66222-224	MAKHTESHIM AGAN NORTH AMERICA	OR
TRIFLURALIN	SHAWS TREFLAN 500 GRANULES	62719-98-8378	KNOX FERTILIZER COMPANY INC	OR
TRIFLURALIN	SHOWCASE SPECIALTY HERBICIDE [204	62719-516	DOW AGROSCIENCES LLC	OR
TRIFLURALIN	SNAPSHOT 2.5TG SPECIALTY HERBICIDE [24	62719-175	DOW AGROSCIENCES LLC	OR
TRIFLURALIN	SNAPSHOT DG [275	62719-175	DOW AGROSCIENCES LLC	OR
TRIFLURALIN	TRIFLURALIN 10G [219	34704-790	LOVELAND PROD./CROP PRODUCTION SVCS	OR
TRIFLURALIN	TRIFLURALIN HF [67	34704-792	LOVELAND PROD./CROP PRODUCTION SVCS	OR
<a href="http://cru66.cahe.wsu.edu/LabelTolerance.html">http://cru66.cahe.wsu.edu/LabelTolerance.html</a>				

## **Appendix 3**

### **Pesticide – Use Proposal (FSM 2150) for Use on National Forests Lands**

<b>PESTICIDE - USE PROPOSAL</b> (Reference FSM 2150)	DEPARTMENT/AGENCY		CONTACT/PHONE NO.
	REGION	FOREST	DATE SUBMITTED
1) OBJECTIVE			
a) Project No.			
b) Specific Target Pest			
c) Purpose			
2) PESTICIDE			
a) Common Name			
b) Formulation			
c) % AI,AE,or lb / Gal.			
d) Registration No.			
3) a) Form Applied			
b) Use Strength (%) or Dilution Rate			
c) Diluent			
4) Lbs. AL per Acre or Other Rate			
5) APPLICATION			
a) Method			
b) Equipment			
6) a) Acres or Other Unit to be treated			
b) Number of Applications			
c) Number of Sites			
d) Specific Description of Sites			
7) a) Month(s) of Year			
b) States			
8) SENSITIVE AREAS			
a) Areas to be avoided			
b) Areas to be Treated with caution			
9) REMARKS			
a) Precautions to be taken			
b) Use of Trained/ Certified Personnel			

c) State and Local Coordination	
d) Other Pesticides being applied to Same Site	
e) Monitoring	
d) Other	
Approval (Signatures of Approving Official)	Date (mm/dd/yy):

**Instructions for completing Form FS-2100-2, Pesticide Use Proposal**

**Heading** - Provide requested information.

**OBJECTIVE** (Block 1)

- a) Project Number - Assign in accordance with field IPM WG procedures.
- b) Specific Target Pest - Identify the target pest by common and scientific name. Identify life cycle stage for animals or stage of growth for plants (e.g. emergent or pre-emergent, seedling, sapling, etc.)
- c. Purpose - State exact purpose of pesticide use.

**PESTICIDE** (Block 2)

- a) Common name of active ingredient(s) as indicated on the pesticide label. When a combination of pesticides are to be used on a single pest, use the word "AND" in listing the pesticide names. When alternate materials are proposed, use the word "OR" in listing the names.
- b) Indicate product formulation (i.e., amine, ester, emulsifiable concentrate, granules, solution, etc.).
- c) Percentage active ingredient, acid equivalent, or pounds per gallon (as indicated on the pesticide label).
- d) List the EPA registration number from the pesticide label.

**PESTICIDE** - continued (Block 3)

- a) Form Applied - e.g., dust, granule, emulsion, bait, solution, gas, etc.
- b) Use strength or Dilution Rate - List the quantity of concentrate mixed with the quantity of diluent or indicate the percentage strength of the formulation.
- c) Diluent - Identify the pesticide carrier, i.e., water, oil, talc, kerosene, etc.

**PESTICIDE** - continued - (Block 4)

Pounds of Active Ingredient Per Acre or Other Rate - State pounds of active ingredient per acre to be applied, unless some other unit is indicated. If reporting in acreage is not appropriate, indicate units used. Indoor applications of residual sprays may be expressed as percent of actual ingredient in the prepared spray in gallons per M (1,000) square feet. Point of runoff, which may appear on a label is generally considered to be 1 gallon per 1,000 square feet on most indoor surfaces. If dusts are used instead of sprays, express as ounces or pounds of prepared dust per M (1,000) square feet. Treatment of trees is listed by number of trees or is application is by hydraulic sprayer, is expressed as pounds or quarts of concentrate per 100 gallons of diluent - oil or water, whichever is used. If the pesticide for trees or brush is applied by air or mist blower, express as pounds of active ingredient per acre. Fumigants or inside aerosols are expressed as pounds of the fumigant or aerosol per M (1,000) cubic feet. Rodent baits should be listed as ounces or pounds of the prepared bait per bait station. Treatments in water may be expressed in parts per million (ppm) by weight or volume - specify. In spot applications, the rate of application is expressed in pounds or gallons per 1,000 square feet indoors or pounds per acre of active ingredient outdoors applied to the spot area treated.

**APPLICATION** - (Block 5)

Indicate as specifically as possible the method (i.e., aerial, ground, etc.) of application and the type of equipment such as helicopter, hand compression sprayer, mist-dust blower, hydraulic sprayer, injector, etc.

**APPLICATION** - (Block 6)

- a) Acres or Other Unit to be Treated. State in terms of acres, unless otherwise indicated. Some projects may require repeat applications. Report only the units to be treated for the first application.
- b) Number of Applications - For projects that require repeat applications to the same area, indicate their estimated

number and their timing.

- c) Number of Sites - If the reported figures are a consolidation from several locations, indicate the number of locations.
- d) Specific Descriptions of Sites - Indicate the type of area and pertinent portion of the area to be treated; such as ditchbank, rangeland, powerline right-of-way, tree nursery, etc. Specify if pesticide is to be applied in or around water and whether it will be applied directly to water or to the shore. Where applicable, indicate the slope of the treated area. For aquatic use, indicate water quality (hardness and pH) if available or applicable.

**APPLICATION (Block 7)**

- a) Month(s) of Year - State month(s) of year.
- b) State(s) - Indicate State and other designation that identifies the area geographically.

**SENSITIVE AREAS (Block 8)**

- a) Areas to be Avoided - Identify sensitive areas to be avoided. Indicate if the area is subject to inadvertent treatment as a result of drift. Describe fully in "remarks" (Block 9) what protective measures are to be taken.
- b) Areas to be Treated with Caution - Identify sensitive areas to be treated with special precautions to avoid contamination.

**REMARKS (Block 9)**

Use this line for information which will be helpful to the field IPMWG in evaluating the project.

- a) Precautions to be Taken - Describe specific precautions be taken to protect sensitive areas; for example, no application within 100 feet of streams.
- b) Use of Trained / Certified Personnel - Provide information on the status of training and/or certification of personnel doing the actual work and of those supervising. Has project been reviewed by a field biologist, agronomist, entomologist, or other appropriate subject matter specialist?
- c) State and Local Coordination - Indicate coordination on the project at a State or local level.
- d) Other Pesticides Being Applied to Same Site - Indicate what other pesticides are being or will be applied on the same site within the year.
- e) Monitoring - Describe any monitoring of the operation be to conducted. Indicate effectiveness of prior projects and mention undesirable side effects observed.
- f) Other - Indicate if the project is to be accomplished by contract.

Environmental analyses (EA's and/or EIS's) may be referred for additional information.

**APPROVAL (Block 10)**

- a) Signature of Approving Official
  - b) Date of Signature
-

## **Appendix 4**

### **Equipment Cleaning Checklist**

## **EQUIPMENT CLEANING CHECKLIST**

The purpose of this checklist is to provide guidance to appropriate PCGP staff in the cleaning of equipment, to control or prevent the spread of invasive plants, noxious weeds and *Phytophthora lateralis* (PL). This is a guide to direct attention to specific areas on equipment that are likely to accumulate soil and organic material. On-site judgments still need to be made about overall equipment cleanliness.

- 1) Does the equipment appear to have been cleaned?
- 2) Is the equipment clean of clumps of soil and organic matter?

### **Rubber-Tired Vehicles:**

- Tires
- Wheel Rims (underside and outside)
- Axles
- Fenders/wheel wells/trim
- Bumpers

### **Track-Laying Vehicles:**

- Tracks
- Road Wheels
- Drive Gears
- Sprockets
- Roller Frame
- Track Rollers/Idlers

### **All Vehicles as Appropriate:**

- Frame
- Belly Pan (inside)
- Stabilizers (jack pads)
- Grapple and Arms
- Dozer Blade or Bucket and Arms
- Ripper
- Brush Rake
- Winch
- Shear Head
- Log Loader
- Water Tenders (empty or with treated water)
- Trailers (Low-boys)
- Radiator/grill
- Air filter/pre-cleaner
- Struts/Spring/Shocks
- Body seams

### **Other Materials**

- Equipment Mats / Temporary Bridge Materials
-

**Appendix 5**  
**Weed Monitoring Report Form**

**Pacific Connector Weed Monitoring Report Form**

Date: \_\_\_\_\_  
 Monitoring Year <sup>1</sup>: \_\_\_\_\_  
 Observer: \_\_\_\_\_

<b>Pacific Connector Monitoring Report Form</b>			
<b>Monitoring location</b> <sup>2</sup>	<b><u>Mileposts/Stations:</u></b>		<b><u>Alignment Sheets:</u></b>
<b>Project Component</b> <sup>3</sup>			
<b>County</b>			
<b>Landowner/Jurisdiction</b>			
<b>Legal Location</b>	<b><u>1/4/1/4 &amp; Section (s)</u></b>	<b><u>Township</u></b>	<b><u>Range</u></b>
<b>Infestation Number or Site Number (if previously recorded)</b>			
<b>UTM – Zone 10 NAD 83 (Or substitute Latitude and Longitude for UTM Coordinates)</b>	<b>UTM Easting/(Longitude)</b>	<b>UTM Northing/(Latitude)</b>	
<b>Attach copy of location map</b> <sup>4</sup>			
<b>Access Routes</b> <sup>5</sup>			
<b>Weed Observations</b>			
<b>Common Weed Name</b> (scientific name/code)			
<b>Weed Infestation Condition</b>			
<b>General Abundance</b> <sup>6</sup>			
<b>Estimated # Individuals</b>			
<b>Size of Infestation (sq. ft/acres)</b>			
<b>Infestation Pattern (patchy, continuous, etc.)</b>			
<b>Notes on Previous Treatment success (if applicable)</b>			
<b>Potential for Infestation to Spread to Adjacent Areas &amp; Recommended Actions</b>			
<b>Other Site Conditions Notes</b>			
<sup>1</sup> First, second, third year etc. following construction/restoration or after weed treatment. Or if during routine operations monitoring. <sup>2</sup> Provide area of weed surveyed (PCGP milepost/engineering station range). <sup>3</sup> Indicate if equipment/weed cleaning station, hydrostatic test water discharge location, construction right-of-way, temporary extra work areas or temporary access roads or road improvement areas. <sup>4</sup> Attach copy of map (alignment sheet) identifying infestation. <sup>5</sup> Provide Road Names/Numbers and Transportation Map Drawing Numbers. <sup>6</sup> Weed Abundance Chart.			
<b>Abundance Rating</b>	<b>Indicators of Abundance</b>		
Few	Weeds found, but only after much searching		
Common	Weeds easily found during typical searching		
Abundant	Weeds found in large numbers obvious without searching.		
Innumerable	Weeds extremely numerous obvious without searching.		

## **Appendix 6**

### **Herbicide Application Record for BLM-Managed and NFS Lands**

## Components in Spreadsheet for Pesticide Reporting

The Pesticide Application Record spreadsheet will contain the data fields listed below. This information should be completed at the time of the application. The spreadsheet will contain a new entry for each herbicide application.

**Infestation Number or Site Number:** Needed when List A, T, or List B species are inventoried and treated. This is the unique number or code associated with each weed infestation.

**Pesticide-Use Proposal Number (see Appendix 3)**

**Reference or EA Number**

**Date:** Date of the weed inventory and/or treatment.

**Application timing: Include beginning and ending time of application**

**Applicator (Appl):** Person applying the herbicide.

**Weed Name:** Common name of the weed that is primarily being targeted.

**UTM Easting (UTM E), Northing (UTM N) and Zone (Z)** (should always be in NAD 83) or use Lat and Long if preferred. Be consistent with which one is used.

**Infested Acres:** List how many acres are covered with the weed.

**Density (Dens) i.e. Cover:** L= Low (less than 5% total canopy cover)  
M = Moderate (5% - 25% canopy cover)  
H = High (more than 25% canopy cover)

**Surface ownership (Own):** BLM, FS, or private. For federal managed lands included Forest Name, BLM District and Resource Area.

**Herbicide Trade Name (Tr Name) and Treatment Method** – The formulation name on the herbicide container (e.g. Accord or Weedone). Treatment method (e.g. spot spray with backpack sprayer, truck or atv mounted sprayer; wicking; wiping; hack and squirt). Include description of the type of equipment used during application. .

**Chemical Names (Chem Name)** – Common name of all herbicide active ingredients used (e.g. Glyphosate or 2,4-D)  
Pesticide manufacturer (PM)

**Pesticide Form:** include if liquid or granular formulation

**Adjuvant(s)** are substances added to the pesticide formulation to enhance the toxicity of the active ingredient or to make the active ingredient easier to handle. List any used and include application rate.

**Application Rate (Pounds Active Ingredient (A.I.)/Acre):** For those formulations or tank mixes with multiple active ingredients, multiple columns for the application rates are provided. Application rates should be entered in the same order chemical names are entered. For

---

example, for Sahara DG, the A.I./acre of imazapyr would be entered in the first Application Rate (AR #1) column. The A.I./acre of diuron would be entered in the second Application Rate (AR #2) column. If an additional chemical was used in the mix it would be entered in the third Application Rate (AR #3) column.

**Total Pounds Active Ingredient (A.I.) Applied:** For those herbicides with multiple chemicals, multiple columns for the pounds of A.I. are provided. Pounds of A.I. should be entered in the same order chemical names are entered. For example, for Sahara DG, the pounds of A.I. of imazapyr would be entered in the first Total Pounds A.I. (AI #1) column. The pounds of A.I. of diuron would be entered in the second Total Pounds A.I./ (AI #2) column. If an additional chemical was used in the mix, it would be entered in the third Total Pounds A.I./ (AI #3) column.

**Volume of output per acre (Vol):**

**Acres Treated:** This should equal the Total Pounds A.I. divided by the Application Rate in Pounds A.I..

**Stage of Pest Development (Pest Stage):** Provide descriptions of the phenological stage of the weed being treated at the time of treatment.

**Site Treated:** include description of the site such as native vegetation, seeded vegetation and briefly describe site such as road right-of-way, meadow, forests, etc.

**Weather Conditions (Weather):** provide weather conditions during application including wind velocity, wind direction, temperature, cloud cover

**Other.** If necessary, provide other observations or notes relevant to application conditions

---

### Pesticide Application Record <sup>1</sup>

<b>Infestation Number or Site Number</b>		<b>Pesticide-Use Proposal Number</b>		
<b>Reference or EA Number</b>				
<b>Date of Inventory and/or Treatment</b>				
<b>Application Time</b>	<b>Beginning of Application</b>		<b>End of Application</b>	
<b>Applicator (name of person applying herbicide)</b>				
<b>Common Weed Name</b>				
<b>UTM &amp; Zone</b>	<b>UTM Easting</b>		<b>UTM N</b>	<b>Zone in NAD 83</b>
<b>Infested Acres</b>		<b>Infestation Density</b>		
<b>Ownership</b>	<b>BLM</b>		<b>Forest Service</b>	<b>Private</b>
<b>Herbicide Trade Name</b>		<b>Treatment Method</b>		
<b>Chemical Name</b>	<b>Manufacturer</b>		<b>Form</b>	

Adjuvant(s) Name		Application Rate			
Application Rates	AR #1		AR #2	AR #3	
Active Ingredients (total pounds)	AI #1		AI #2	AI #3	
Volume of Output Per Acre			Acres Treated		
Stage of Pest Development					
Site Treated					
Weather Conditions	Wind Velocity		Wind Direction	Temperature	Cloud Cover
Other Observations					

<sup>1</sup> Adapted from Noxious and Invasive Weed Management Plan for Oil and Gas Operators, BLM Glenwood Springs Energy Office, March 2007.

## **Appendix 7**

### **Table 7-1 Sensitive Species or Habitats Crossed or in the Vicinity of the Pipeline Project**

**Table 7-1 Sensitive Species or Habitats Crossed or in the Vicinity of the PCGP Project**

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
<b>Early Works 0.00-7.34R</b>									
Waterbody Crossing	Estuary Drain (Alt Wet NH (West))	State		0.00				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland Alt Wetl NA	Private		0.00				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland Alt Wetl NE	Private		0.00				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland J	Private		0.14				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Coos Bay (NE-26) WB-T02-001	State		0.28	1.00			100-foot from feature	unless approved by appropriate agency
Wetland	Wetland APC-C2	State		1.16				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland EE-WW-9902	State		1.20, 1.41				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Coos Bay (NE-26) WB-T02-001	State		1.46	3.02			100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Kentuck Slough EE-SS-9004 (EE-6)			3.02	6.39R			100-foot from feature	unless approved by appropriate agency
Wetland	Wetland KEN-A1 (NW-117/EE-6A)	State/Private		3.25, 6.39R				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland KEN-A2 (NW-117/EE-6A)	State/Private		3.33, 6.39R				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Trib to Coos Bay (S1-01/EE-6)	Private		6.39R				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland W1-02	Private		6.47R				100-foot from feature	unless approved by appropriate agency
<b>SPREAD ONE: 7.34R-29.54</b>									
MAMU	WC1A-C	Private	7.95R	8.24R	8.25R	8.55R	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	WC1A-F	Private	8.26R	N/A	N/A	8.95R	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Willanch Slough (EE-7) S1-04 (EE-7 MOD))	Private		8.27R				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland W1-04	Private		8.33R				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Johnston Creek / Willanch Creek S1-05 (GDX-29 / EE-8 (MOD))	Private		8.35R				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland W-T01-001A-1	Private		8.40R				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Trib. to Willanch Slough S-T0-1-003(GDX030)	Private		8.46R				100-foot from feature	unless approved by appropriate agency
MAMU	WC1A-G	Private	8.51R	8.79R	8.85R	9.12R	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to Cooston Channel (Echo Creek)	Private		10.21R				100-foot from feature	unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
Waterbody Crossing	Coos River (BSP-119)	Private		11.13R				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland WW-100-001	Private		11.01R				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland WW-222-002	Private		11.26R				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland WW-500-001	Private		11.39BR				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Vogel Creek (SS-100-005)	Private		11.55BR				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland BR-W-03	Private		11.74BR, 12.00BR				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland BR-W-03	Private		11.74BR, 12.00BR				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland EE-WW-9927	Private		12.12BR				100-foot from feature	unless approved by appropriate agency
MAMU	C1027	Coos Bay BLM	12.42BR	12.83BR	13.27BR	13.43BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C1042	Coos Bay BLM	12.96BR	13.17BR 13.46BR	13.31BR 13.58BR	13.89BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G102	Private	13.27BR	N/A	N/A	14.08BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline TEWA 13.79BR
MAMU	C1040	Coos Bay BLM	13.21BR	13.46BR	13.78BR	14.77BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	BR 01	Coos Bay BLM	13.79BR	14.06BR	14.15R	14.46BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to Stock Slough (EE-SS-9026)	Private		13.92BR				100-foot from feature	unless approved by appropriate agency
MAMU	PO-9	Private	14.22BR	N/A	N/A	14.51BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	G104	Private	14.49BR	N/A	N/A	15.02BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to Stock Slough (BR-S-31)	Private		14.72BR			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Stock Slough (Laxstrom Gulch) (BR-S-30)	Private		14.82BR			100-foot from feature		unless approved by appropriate agency
MAMU	G106 / G107	Private	14.85BR	N/A	N/A	15.56BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland BR-W-04A	Private		15.01BR			100-foot from feature		unless approved by appropriate agency
MAMU	G108	Private	15.02BR	N/A	N/A	15.64BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G109	Private	15.05BR	N/A	N/A	15.75BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Stock Slough (BR-S-36)	Private		15.11BR			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BR-W-04B	Private		15.08BR			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Stock Slough (Laxstrom Gulch)	Private		15.16BR			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BR-W-05	Private		15.15BR			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Stock Slough (EE-SS-9068)	Private		15.32BR			100-foot from feature		unless approved by appropriate agency
MAMU	BR 02A	Private	15.85BR	16.44BR	16.71BR	16.97BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	BR 02B	Coos Bay BLM	16.42BR	N/A	N/A	16.92BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	BR 03	Coos Bay BLM	16.72BR	17.13BR	17.56BR	17.84BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	PO-3	Coos Bay BLM	16.85BR	N/A	N/A	17.01BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	BR 04	Coos Bay BLM	17.58BR	17.60BR	17.90BR	18.14BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G114 / G115	Private / Coos Bay	18.16BR	N/A	N/A	18.72BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G113 / G116	Private / Coos Bay	18.13BR	18.5BR	18.52BR	18.79BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G119	Coos Bay BLM	18.34BR	18.69BR	18.76BR	19.04BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G120	Coos Bay BLM	18.57BR	18.86BR	19.02BR	19.28BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	BR 05	Coos Bay BLM	18.55BR	19.02BR	19.13BR	19.51BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
				19.18BR	19.25BR				

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	BR 06	Coos Bay BLM	18.31BR	19.50BR	19.62BR	19.86BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G122	Coos Bay BLM	19.34BR	19.36BR	20.2BR	20.49BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	BR 07	Coos Bay BLM	19.74BR	N/A	N/A	19.8BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Steinnon Creek (SS-500-003; BR-S-63)	Coos Bay BLM		20.20BR			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-500-003	Private		20.99BR			100-foot from feature		unless approved by appropriate agency
MAMU	G128	Coos Bay BLM	23.39BR	22.69BR	22.95BR	23.21BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G129	Coos Bay BLM	22.81BR	23.06BR	23.08BR	23.47BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G133	Private	24.2BR	24.49BR	24.50BR	24.75BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Steinnon Creek (BR-S-63)	Coos Bay BLM		24.32BR			100-foot from feature		unless approved by appropriate agency
MAMU	G134	Private	24.33BR	24.58BR	24.72BR	25.01BR	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G35	Private	21.78	N/A	N/A	22.43	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	G38	Private	22.84	23.08	23.17	23.46	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland W-T02-003A-1	Private		22.50			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland NW-40	Private		22.78			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland W-T02-002A-1	Private		22.90			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	North Fork Coquille River (BSP-207)	Private		23.06			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-222-009 (CW-10)	Coos Bay BLM		23.38			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Middle Creek S-T02-001 (EE-SS-9073)	Private		25.18			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Middle Creek (BSI-137)	Coos Bay BLM		27.01			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Middle Creek (BSI-135)	Coos Bay BLM		27.03			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Middle Creek (BSP-133)	Coos Bay BLM		27.04			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-222-005 (BW-134)	Coos Bay BLM		27.02			100-foot from feature		unless approved by appropriate agency
MAMU	C1080 (B02)	Coos Bay BLM	26.88	27.14	27.47	27.81	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G41	Private	27.10	N/A	N/A	27.91	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G42	Private	28.21	N/A	N/A	28.74	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. To E. Fork Coquille (BSP-77)	Private		28.99			100-foot from feature		unless approved by appropriate agency
MAMU	PO-10	Private	29.27	N/A	N/A	29.46	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. To E. Fork Coquille (BSP-74)	Private		29.30			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
<b>SPREAD TWO: 29.54-51.58</b>									
Waterbody Crossing	Trib. To E. Fork Coquille (BSI-76)	Private		29.47				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland BW-72	Private		29.52				100-foot from feature	unless approved by appropriate agency
MAMU	G46	Private	29.63	N/A	N/A	30.18	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	East Fork Coquille River (BSP-71)	Private		29.85				100-foot from feature	unless approved by appropriate agency
MAMU	G47	Private	29.64	N/A	N/A	30.18	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G48	Private	29.73	N/A	N/A	30.30	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	P06A	Private	29.88	N/A	N/A	30.42	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G49	Private	30.09	N/A	N/A	30.69	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G51 / P06B	Indian Affairs - Coquille Forest	30.12	N/A	N/A	31.31	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to E. Fork Coquille (SS- 003-007A)	Private		30.22				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Trib. to E. Fork Coquille (SS- 003-007B)	Private		30.29				100-foot from feature	unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	C3163 (B03)	Coos Bay BLM	31.29	N/A	N/A	31.77	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. To E. Fork Coquille (BSI-70)	Coos Bay BLM		31.64			100-foot from feature		unless approved by appropriate agency
MAMU	C3098	Coos Bay BLM	31.67	32.04	32.47	32.63	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Elk Creek (BSP-57)	Private		32.40			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Elk Creek S-T01-008 (BSP-55)	Private		32.50			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Elk Creek S-T01-004 (SS-100-030)	Private		32.56			100-foot from feature		unless approved by appropriate agency
MAMU	C3039	Coos Bay BLM	31.73	N/A	N/A	31.91	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. To Elk Creek (BSP-49)	Private		33.00			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Elk Creek (BSP-50)	Private		33.02			100-foot from feature		unless approved by appropriate agency
MAMU	C3042	Coos Bay BLM	33.02	33.84	33.90	34.52	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	South Fork Elk Creek (CSP-5)	Private		34.46			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland CW-6	Private		34.45			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland CW-4	Private		34.46			100-foot from feature		unless approved by appropriate agency
MAMU	P07	Indian Affairs - Coquille Forest	33.38	N/A	N/A	34.01	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C3075	Coos Bay BLM	33.48	33.76	33.86	34.31	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
				33.94	34.00				

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	G53 / PO-15	Indian Affairs - Coquille Forest	34.21	N/A	N/A	34.89	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C3093	Coos Bay BLM	34.87	35.12	35.24	36.11	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
				35.34	35.79				
Waterbody Crossing	Trib. To S. Fork Elk Creek (BSI-251)	Coos Bay BLM		35.51			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Big Creek (BLM 35.87 (CSP-2))	Coos Bay BLM		35.87			100-foot from feature		unless approved by appropriate agency
MAMU	C3165 (B07)	Coos Bay BLM	35.56	35.89	36.12	36.42	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C3073	Coos Bay BLM	35.83	36.49	36.63	37.44	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
				36.65	37.16				
Waterbody Crossing	Trib. To Big Creek (BLM 36.48)	Coos Bay BLM		36.48			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Big Creek (GSI-25/BSI-253)	Coos Bay BLM		36.54			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Big Creek (BLM 36.85)	Coos Bay BLM		36.85			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Big Creek (BSI-252)	Coos Bay BLM		36.92			100-foot from feature		unless approved by appropriate agency
MAMU	C3090	Coos Bay BLM	36.81	37.14	37.16	38.35	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
				37.32	38.09				
NSO	2317B	Coos Bay BLM	37.33	37.40	37.79	37.85	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. To Big Creek (ESI-19)	Coos Bay BLM		37.32			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Big Creek (ESP-20)	Coos Bay BLM		37.35			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	C3094	Coos Bay BLM	37.80	38.09	38.18	38.57	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C3095	Coos Bay BLM	38.21	38.82	38.92	39.20	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	PO-16	Coos Bay BLM	39.84	N/A	N/A	40.63	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G55	Private	40.17	40.47	40.50	41.08	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	G56	Private	40.52	N/A	N/A	41.23	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C3070	Coos Bay BLM	41.20	41.89	41.97	42.29	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C3091	Coos Bay BLM	41.53	N/A	N/A	42.60	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	C3164 (GS05)	Coos Bay BLM	42.67	N/A	N/A	44.57	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland WW-222-006 (CW-1)	Private		43.63			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	G58	Coos Bay BLM	43.57	43.92	44.06	44.32	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Upper Rock Creek (BSP-41)	Private		44.21			100-foot from feature		unless approved by appropriate agency
MAMU	C3092	Coos Bay BLM	45.14	45.40	45.47	45.78	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to Upper Rock Creek (S3-07 /BW-38)	Private		46.56			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland W3-01 (BW-38 (MOD))	Private		46.56			100-foot from feature		unless approved by appropriate agency
MAMU	R3035 (EAR 46.51_A)	Roseburg BLM	46.58	46.90	47.10	47.45	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	R3026	Roseburg BLM	46.74	N/A	N/A	48.25	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland BSP-257 (MOD)	Private		48.27			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Deep Creek (BSP-257)	Roseburg BLM		48.27			100-foot from feature		unless approved by appropriate agency
MAMU	PO-18	Roseburg BLM	48.75	N/A	N/A	49.01	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Middle Fork Coquille River (BSP-30)	Private		50.28			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Middle Fork Coquille (GDX-36/BSI-66/67)	Private		50.45			100-foot from feature		unless approved by appropriate agency
MAMU	ALTR-A	Private	50.57	50.83	51.04	51.33	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
MAMU	R3036 (ALTR-A)	Roseburg BLM	50.77	51.04	51.29	51.68	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Belieu Creek (BSP-61/GSI-37)	Private		50.71			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Middle Fork Coquille (S1-07/GSI-38)	Private		51.02			100-foot from feature		unless approved by appropriate agency
<b>SPREAD THREE: 51.58-71.37</b>									
Waterbody Crossing	Trib to Jim Belieu Creek (SS-222-006)	Private		51.71			100-foot from feature		unless approved by appropriate agency
MAMU	B12	Roseburg BLM	52.16	N/A	N/A	52.62	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	PO-27	Roseburg BLM	52.73	N/A	N/A	53.33	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
MAMU	R3052 (B13)	Roseburg BLM	53.03	53.11	53.76	54.70	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
				54.31	54.44				
MAMU	PO-20	Roseburg BLM	53.30	N/A	N/A	53.66	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
NSO	21990	Private	53.68	N/A	N/A	54.05	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to Shields Creek (BSI-202)	Private		55.90			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Shields Creek (BSI-203)	Private		55.94			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-164	Private		55.98			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Shields Creek (Denied Access 13)	Private		56.28			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Shields Creek (Denied Access 14)	Private		56.34			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes	
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing		
Waterbody Crossing	Trib. to Olalla Creek S-T02-002	Private		56.80				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland DA-15	Private		56.69				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-160	Private		56.75				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland W-T02-004A-1 (BW-161)	Private		56.78				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-162	Private		56.83				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-163	Private		56.97				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Olalla Creek (BSI-140)	Private		57.11, 57.14				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-142	Private		57.18				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Olalla Creek (BSI-138)	Private		57.31				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-141	Private		57.25				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-145	Private		47.46				100-foot from feature		unless approved by appropriate agency
Kincaid's Lupine	MP 57.90	Private	57.84	N/A	N/A	57.91		30 meters from plant location	May 1 - June 30	hand pulling (if agency approved)
Waterbody Crossing	Trib. to Olalla Creek (BSI-147/EE-12)	Private		57.84				100-foot from feature		unless approved by appropriate agency
MAMU	PO-21	Roseburg BLM	58.00	N/A	N/A	58.33		1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland BW-150	Private		58.97				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Olalla Creek (BSI-151)	Private		58.20				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland W4-02 (BW-158 (MOD))	Private		58.42				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Olalla Creek (BSP-159)	Private		58.55				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Olalla Creek (BSP-155)	Private		58.78				100-foot from feature		unless approved by appropriate agency
MAMU	PO-22	Roseburg BLM	58.85	N/A	N/A	59.17		1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland BW-154	Private		58.98				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Olalla Creek (BSI-132)	Private		59.29				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Olalla Creek (BSI-129)	Private		59.65				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-130	Private		59.56				100-foot from feature		unless approved by appropriate agency
MAMU	R3021	Roseburg BLM	60.01	N/A	N/A	60.54		1/4 mile from stand	April 1 - August 5 (DTRs through September 15)	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland BW-127	Private		59.93				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-126	Private		60.01				100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes	
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing		
Waterbody Crossing	Trib. to McNabb Creek (NSP-14)	Private		60.13				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	McNabb Creek (NSP-13)	Private		60.48				100-foot from feature		unless approved by appropriate agency
MAMU	R3051 (B14)	Roseburg BLM	60.57	60.85	61.66	61.97	1/4 mile from stand	April 1 - August 5 (DTRs through September 15)		constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
NSO	PCGP 064.2	Private	64.01	64.10	64.33	64.48	1/4 mile from activity center	March 1 - July 15		constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Kent Creek (BSP-240)	Private		63.97				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Kent Creek (BSI-241)	Private		63.97				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Rice Creek (S2-04; BSP-227)	Private		65.76				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib to Rice Creek (BSI-228)	Private		65.83				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-229	Private		65.83				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Willis Creek (BSI-230)	Private		66.87				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Willis Creek (BSP-168)	Private		66.95				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Willis Creek (BSI-169)	Private		67.00				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-005-001 (SS-100-011))	Private		69.10				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-004-004 SS-100-012)	Private		69.29				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-004-005 SS-100-013)	Private		69.35				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-004-005	Private		69.25				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-004-006 SS-100-014)	Private		69.57				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-999-001)	Private		70.79				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-005-006/SS-100-015)	Private		71.08				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-005-002	Private		71.08				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	South Umpqua River (BSP-26)	Private		71.27				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-501-009	Private		71.18				100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
Waterbody Crossing	Trib. to South Umpqua River (SS-005-007)	Private		71.34			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-005-08 SS-100-16)	Private		71.35, 71.57			100-foot from feature		unless approved by appropriate agency
<b>SPREAD FOUR: 71.37-94.75</b>									
Waterbody Crossing	Trib. to South Umpqua River (SS-100-017)	Private		71.69			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-005-009 SS-100-019)	Private		73.04			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-005-013 SS-100-020)	Private		73.51			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to South Umpqua River (SS-005-011 & -12 SS-100-02)	Private		73.56			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-005-006	Private		73.60			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib to Richardson Creek (S-T-03-002)	Private		73.70			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib to Richardson Creek (SS-005-010)	Private		73.73			100-foot from feature		unless approved by appropriate agency
Cox's mariposa lily	None	Roseburg BLM	74.10	N/A	N/A	75.10	30 meters from plant location	June - July	hand pulling (if agency approved)
Waterbody Crossing	Rock Creek (EE-SS-9032)	Private		75.33			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Rock Creek (EE-SS-9033)	Private		75.34			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Bilger Creek (S-T02-004BSP-1)	Private		76.38			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-2	Private		76.69			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-258	Private		77.62			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Little Lick (BSP-6)	Private		77.71			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-5	Private		77.66			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Little Lick Creek (BSI-8)	Private		77.93			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Little Lick Creek (BSI-10)	Private		78.02			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland W4-03 (BW-011 (MOD))	Private		78.05			100-foot from feature		unless approved by appropriate agency
NSO	PCGP A-3	Roseburg BLM	78.12	78.28	78.42	78.59	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	North Myrtle Creek (NSP-37)	Private		79.12			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to North Myrtle Creek (NSP-38)	Private		79.15			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to N. Myrtle Creek (EE-SS-9038)	Private		79.17			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes	
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing		
Waterbody Crossing	Trib. to N. Myrtle Creek (EE-SS-9039)	Private		79.19				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	South Myrtle Creek S-T02-003 (BSP-172)	Private		81.19				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to S. Myrtle Creek (BSP-259)	Private		81.38				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-173	Private		81.39				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to S. Myrtle Creek (SS-100-023)	Private		81.45				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to S. Myrtle Creek (EE-SS-9074)	Private		81.93				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Wood Creek (BSP-226)	Private		84.17				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland EW-24	Private		84.23				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland EW-25	Private		84.23				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland EW-26	Private		84.23				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Wood Creek (EE-SS-9040)	Private		85.38				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Wood Creek (EE-SS-9041)	Private		85.69				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Wood Creek (EE-SS-9042)	Private		85.71				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Wood Creek (EE-SS-9043)	Private		85.88				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Wood Creek (EE-SS-9044)	Private		86.07				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Wood Creek (EE-SS-9045)	Private		86.10				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Fate Creek (BSI-236)	Private		88.20				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Fate Creek (BSI-238 (MOD))	Private		88.23				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland BW-239	Private		88.22				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Fate Creek (BSP-232)	Private		88.48				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Days Creek (BSP-233)	Private		88.60				100-foot from feature		unless approved by appropriate agency
GGO	PCGP 88.6	Roseburg BLM	89.86	N/A	N/A	90.12		1/4 mile from nest	March 1 - July 31	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
NSO	PCGP 090.2	Roseburg BLM	89.95	90.01	90.40	90.46		1/4 mile from nest patch	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Saint John Creek (ASP-303)	Private		92.62				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-504-012 (AW-197 (MOD))	Private		94.51				100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
Waterbody Crossing	H3-01	Private		94.60				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	H3-02	Private		94.60				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	H3-03	Private		94.60				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	South Umpqua River (ASP-196)	Private		94.73				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland WW-502-003 (AW-201 (MOD))	Private		94.65				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland WW-GM-39	Private		94.66				100-foot from feature	unless approved by appropriate agency
<b>SPREAD FIVE: 94.75-132.52</b>									
Waterbody Crossing	Trib. to South Umpqua River (ASI-193 / ASI-191)	Private		94.85				100-foot from feature	unless approved by appropriate agency
NSO	PCGP 095.3	Roseburg BLM	95.03	95.10	95.44	95.51	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
NSO	4052A	Roseburg BLM	N/A	N/A	N/A	N/A	1/4 mile from activity center	March 1 - July 15	TEWA 95.95 (turn-around, parking); constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to South Umpqua River (ASI-193 / ASI-191)	Private		95.03				100-foot from feature	unless approved by appropriate agency
Wetland	Wetland WW-504-013 (AW-194/AW-195 (MOD))	Private		94.96				100-foot from feature	unless approved by appropriate agency
Kincaid's Lupine	MP 96.50-96.90	Private	96.49	N/A	N/A	96.90	30 meters from plant location	May 1 - June 30	hand pulling (if agency approved)  (This population may have been extirpated with the fire and post-fire treatments.)
Waterbody Crossing	Trib. to South Umpqua (ASI-190)	Roseburg BLM		98.46				100-foot from feature	unless approved by appropriate agency
NSO	4008B	Umpqua National Forest	100.37	100.50	100.59	100.75	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Wetland	Wetland WW-003-006 (CW-55)	Private		103.90				100-foot from feature	unless approved by appropriate agency
Ditch	Ditch (Beaver Creek) (CDX-50)	Umpqua National Forest		105.41				100-foot from feature	unless otherwise allowed by land-managing agency
Ditch	Ditch (CDX-49)	Umpqua National Forest		106.77				100-foot from feature	unless otherwise allowed by land-managing agency
Ditch	Roadside Ditch (CDX-47)	Umpqua National Forest		108.08				100-foot from feature	unless otherwise allowed by land-managing agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes	
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing		
Ditch	Roadside Ditch (CDX-48)	Umpqua National Forest		108.40				100-foot from feature		unless otherwise allowed by land-managing agency
Waterbody Crossing	Trib. to East Fork Cow Creek (GDX-15)	Umpqua National Forest		109.13				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-111-001 (GW-14 (FS-HF-C))	Umpqua National Forest		109.15				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-111-001	Umpqua National Forest		109.17				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to East Fork Cow Creek (GSI-16/FS-HF-F)	Umpqua National Forest		109.33				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	East Fork Cow Creek (GSP-19/FS-HF-G)	Umpqua National Forest		109.47				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-111-005 (GW-21 (FS-HF-H))	Umpqua National Forest		109.47				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	East Fork Cow Creek (GSP-22/FS-HF-G ASP297)	Umpqua National Forest		109.69				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to East Fork Cow Creek (FS-HF-J/AW298)	Umpqua National Forest		109.69				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to East Fork Cow Creek (FS-HF-K/AW-299)	Umpqua National Forest		109.78				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Pond Trib. to W. Fork Trail Creek (EW-69)	Umpqua National Forest		110.57				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to W. Fork Trail Creek (ESI-68) (EW-68)	Umpqua National Forest		110.57				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to E. Fork Cow Creek (FS-HF-N /ESI-68)	Umpqua National Forest		110.96				100-foot from feature		unless approved by appropriate agency
Peregrine Falcon	Trail Creek Falcon	Umpqua National Forest	111.10	N/A	N/A	113.43		1.5 miles from nest site	January 1 - July 31	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to West Fork Trail Creek (SS-100-032)	Private		118.80				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	West Fork Trail Creek (ASP-202)	Private		118.89				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Trail Creek (S1-06 (DA-16 (MOD)))	Private		119.84				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Canyon Creek (NSP-11)	Medford BLM		120.45				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland AW-204	Private		120.83				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Trail Creek (ASI-205)	Private		120.90				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Trail Creek (ASI-206)	Private		121.57				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Cricket Creek (ESI-71)	Private		121.87				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Cricket Creek (ESI-73)	Private		121.91				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Cricket Creek (ESI-72)	Private		121.96				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Cricket Creek (ESI-74)	Private		122.04				100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
Waterbody Crossing	Cricket Creek (ESI-70)	Private		122.07			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Rogue River (ASP-235)	Private		122.65			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Indian Creek (ASI-223)	Private		125.91			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Indian Creek (ASI-222)	Private		125.98			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Indian Creek (RS-4)	Medford BLM		126.53			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Indian Creek (ASI-221)	Medford BLM		126.56			100-foot from feature		unless approved by appropriate agency
Gentner's Fritillary	TEWA 128.01-W	Private	N/A	128.09	128.10	N/A	30 meters from plant location	April 1 - June 30	hand pulling (if agency approved)
Waterbody Crossing	Deer Creek (ASP-307)	Private		128.49			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Indian Creek (AW-278)	Private		128.61			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland AW-278 Indian Creek	Private		128.61			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Indian Creek (ASP-310)	Private		128.68			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland AW-309 Trib. to Indian Creek	Medford BLM		128.89			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Indian Creek (ASI-400)	Medford BLM		129.13			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Indian Creek (ASI-306)	Medford BLM		129.21			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Indian Creek (ASI-277)	Private		129.46			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Neil Creek (SS-201-014a (AW-244))	Private		130.81			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Neil Creek (SS-201-14b (AW-244))	Private		130.83			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-201-003a (AW-245 (MOD))	Private		130.81			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-201-003b (AW-244 (MOD))	Private		130.83			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-201-001 (AW-248 (MOD))	Private		131.26			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Neil Creek (ASI-251)	Medford BLM		131.37			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Neil Creek (ASP-252)	Private		132.12			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-502-002 (W2-02 (MOD))	Private		132.08			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-502-001	Private		132.22			100-foot from feature		unless approved by appropriate agency
wetland	Wetland W3-05 (AW-243 (MOD))	Private		132.33, 132.47			100-foot from feature		unless approved by appropriate agency
<b>SPREAD SIX: 132.52-162.40</b>									
wetland	Wetland W5-01	Private		132.54			100-foot from feature		unless approved by appropriate agency
wetland	Wetland W5-02 (AW-242)	Private		132.69			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes	
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing		
Waterbody Crossing	Trib. to Quartz Creek (S5-01/ASI-265)	Private		132.75				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Quartz Creek (S5-02 / AW-264)	Private		132.77				100-foot from feature		unless approved by appropriate agency
wetland	Wetland R5-02 (AW-264 (MOD))	Private		132.77				100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-263	Private		133.09				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Quartz Creek (ASP-241)	Medford BLM		133.35				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Medford Aqueduct - Ditch 3 (ASP-240)	Medford BLM		133.38				100-foot from feature		unless approved by appropriate agency
wetland	Wetland R5-05 (AW-239)	Private		133.92				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Whiskey Creek (ASI-207)	Private		137.48				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Whiskey Creek (SS-200-006)	Private		137.50				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Whiskey Creek (SS-200-008)	Private		137.60				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (ASI-208)	Private		138.26				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (SS-GM-9)	Private		138.36				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (SS-GM-10)	Private		138.44				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (ASI-210)	Private		138.50				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (SS-GM-11)	Private		138.55				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (SS-GM-12)	Private		138.57				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (ASI-211)	Private		138.71				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (SS-GM-13)	Private		138.74				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (S-T04-002A (SS-GM-14))	Private		139.07				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (S-T04-006 (SS-GM-15))	Private		139.21				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-GM-33 (ASI-214)	Private		139.15				100-foot from feature		unless approved by appropriate agency
Wetland	Wetland WW-GM-37	Private		139.17				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (S-T04-007 (SS-GM-16))	Private		139.28				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (S-T04-008 (ASI-217))	Private		139.42				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (ASI-226)	Private		139.59				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (ASI-227)	Private		139.63				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (ASI-228)	Private		139.68				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Lick Creek (SS-GM-43 (AW-230))	Private		139.75				100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
Waterbody Crossing	Trib. to Lick Creek (SS-GM-19)	Private		139.91			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Lick Creek (ASI-233)	Medford BLM		140.27			100-foot from feature		unless approved by appropriate agency
Ditch	Ditch Trib. to Lick Creek (ADX-234)	Medford BLM		140.32			100-foot from feature		unless otherwise allowed by land-managing agency
Waterbody Crossing	Trib. to Lick Creek (ASI-189)	Private		140.58			100-foot from feature		unless approved by appropriate agency
Ditch	Ditch Trib. to Lick Creek (ADX-186)	Medford BLM		140.94			100-foot from feature		unless otherwise allowed by land-managing agency
Waterbody Crossing	Star Lake Reservoir (Edge-1)	Private		141.01			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Salt Creek (ASI-187)	Medford BLM		141.18			100-foot from feature		unless approved by appropriate agency
wetland	Wetland EW-77	Private		141.08			100-foot from feature		unless approved by appropriate agency
wetland	Wetland EW-78 (EW-82)	Private		141.08			100-foot from feature		unless approved by appropriate agency
wetland	Wetland EW-76	Private		141.08			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Salt Creek (ASI-188)	Medford BLM		141.48			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Salt Creek (RS-17)	Medford BLM		141.49			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Salt Creek (ESI-30)	Private		141.95			100-foot from feature		unless approved by appropriate agency
Gentner's Fritillary	MP 142.07; TEWA 142.07-N	Private	N/A	142.10	142.12	N/A	30 meters from plant location	April 1 - June 30	hand pulling (if agency approved)
Waterbody Crossing	Trib. to Salt Creek (ESI-31)	Private		142.32, 142.35			100-foot from feature		unless approved by appropriate agency
wetland	Wetland EW-33	Private		142.45			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Salt Creek (ESP-34)	Private		142.57			100-foot from feature		unless approved by appropriate agency
wetland	Wetland EW-35	Private		142.61			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Salt Creek (ESI-37)	Private		143.12			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Long Branch Creek (ESI-38)	Private		143.51, 143.76			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Long Branch Creek (ESI-39)	Private		143.74			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Stock Pond (EL-41)	Private		143.76			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Long Branch Creek (ESI-40)	Private		143.77			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Long Branch Creek (ESI-38)	Private		144.11			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to S. Fork Long Branch (GSP-5/ESP-48)	Private		144.70			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	South Fork Long Branch Cr (GSI-6/ESP-59)	Private		145.27			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to S. Fork Long Branch (ESI-61)	Private		145.54			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland EW-63	Private		145.55			100-foot from feature		unless approved by appropriate agency
Wetland	Wetland EW-67	Private		145.63			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	North Fork Little Butte Creek (ESP-66)	Private		145.69			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
Waterbody Crossing	Trib. to N. Fork Little Butte Creek (ESI-56)	Private		146.05				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Trib. to N. Fork Little Butte Creek (ESI-55)	Private		146.38				100-foot from feature	unless approved by appropriate agency
NSO	0071	Rogue River National Forest	N/A	N/A	N/A	N/A	1/4 mile from activity center	March 1 - July 15	Rock Source/Disposal - Rum Rye MP 160.41; constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
NSO	1620	Rogue River National Forest	161.12	161.20	161.55	161.60	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
<b>SPREAD SEVEN: 162.40-228.81</b>									
Waterbody Crossing	South Fork Little Butte Creek (ASP-165)	Rogue River National Forest		162.45				100-foot from feature	unless approved by appropriate agency
GGO	PCGP 161.6	Rogue River National Forest	162.57	N/A	N/A	162.74	1/4 mile from nest	March 1 - July 31	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
NSO	0994 (RRS 2040)	Rogue River National Forest	163.02	163.11	163.34	163.42	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
NSO	4277 (RRS 2067)	Rogue River National Forest	164.23	N/A	N/A	164.29	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Daley Creek (ESI-76/ ESI-84)	Rogue River National Forest		166.21				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Spencer Creek (WWW-001-013/ EW-85)	Fremont-Winema National Forest		171.07				100-foot from feature	unless approved by appropriate agency
wetland	Wetland WW-001-013 (EW-85)	Fremont-Winema National Forest		171.06				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Trib. to Spencer Creek SS-201-001 (GSP-7)	Fremont-Winema National Forest		171.57				100-foot from feature	unless approved by appropriate agency
wetland	Wetland WW-201-004	Private		171.60				100-foot from feature	unless approved by appropriate agency
Waterbody Crossing	Trib. to Spencer Creek (ESI-106a)	Fremont-Winema National Forest		173.74				100-foot from feature	unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
NSO	0023	Fremont-Winema National Forest	173.35	173.45	173.50	173.69	1/4 mile from activity center	March 1 - July 15	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to Spencer Creek (ESI-69)	Lakeview BLM		176.54			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Spencer Creek (GSI-10)	Lakeview BLM		176.56			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Clover Creek (SS-502-EW-103/ EW-103)	Private		177.76			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Clover Creek (GSI-11)	Private		177.76			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-502-EW-103 (EW-103 (MOD))	Private		177.76			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-203-002	Private		182.50			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Klamath River (ESI-97)	Private		186.61			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Klamath River (ESI-99)	Private		186.65			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to Klamath River (S-T03-001 (ESI-100))	Private		186.74			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. To Klamath River (SS-001-001/SS-100-025)	Private		188.90			100-foot from feature		unless approved by appropriate agency
wetland	Wetland W2-03	Private		191.47			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-200-001 (W2-06a)	Private		192.20			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-200-001 (W2-06b)	Private		192.20			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-65	Private		192.71			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-200-003	Private		192.80			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Irrigation Canal (NDX-66)	Private		192.81			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-66	Private		192.86			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-200-004 (NW-71)	Private		192.89			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-68	Private		193.03			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-71	Private		193.17			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-504-014 (NW-72)	Private		193.21			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-70	Private		193.21			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-504-001 (NW-74)	Private		193.51			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-201-009a (AW-74 & AW-75)	Private		194.50			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-201-009 (WW-001-00 (ADX-77, AW-76))	Private		194.57			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-201-009c (WW-504-015 (NW-76))	Private		194.57			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-201-009c (NDX-77)	Private		194.57			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
wetland	Wetland WW-201-010 (WW-001-010 (ADX-78))	Private		194.64			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-201-010a	Private		194.67			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-200-006	Private		194.70			100-foot from feature		unless approved by appropriate agency
wetland	Wetland NDX-80	Private		194.88			100-foot from feature		unless approved by appropriate agency
wetland	Wetland ADX-81	Private		194.92			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-502-AW-82 (AW-82 (MOD))	Private		194.92			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-85	Private		195.14			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-200-007	Private		195.30			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-88	Private		195.34			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-21	Private		195.45			100-foot from feature		unless approved by appropriate agency
Applegate's Milk-Vetch	Collins Tract MP 195.3-196.5	Private	195.55	N/A	N/A	196.60	30 meters from plant location	June - early August	hand pulling (if agency approved)
wetland	Wetland GDX-1	Private		195.80			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-GM-29	Private		196.62			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-GM-28	Private		196.70			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Weyerhaeuser Pond (AL-34)	Private		196.78			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-37	Private		196.79			100-foot from feature		unless approved by appropriate agency
wetland	Wetland NW-91	Private		196.82			100-foot from feature		unless approved by appropriate agency
wetland	Wetland DX-GM-7	Private		196.88			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-GM-27	Private		196.94			100-foot from feature		unless approved by appropriate agency
wetland	Wetland DX-GM-6	Private		197.10			100-foot from feature		unless approved by appropriate agency
wetland	Wetland DX-GM-5	Private		197.17			100-foot from feature		unless approved by appropriate agency
wetland	Wetland DX-GM-3	Private		197.28			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-GM-23 (AW-43)	Private		197.80			100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Klamath River (ASP-151)	State		199.38			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-152	Private		199.49			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-001-004 (AW-154)	Private		199.54			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-001-005 (AW-155)	Private		199.55			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-001-006 (AW-156)	Private		199.59			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-157	Private		199.59			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-158	Private		199.60			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-GM-36 (AW-160)	Private		199.78			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-001-003 (AW-312)	Private		200.03			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-255	Private		200.06			100-foot from feature		unless approved by appropriate agency
Ditch	Irrigation Canal (No. 1 Drain) (ADX-294)	BOR		200.54			100-foot from feature		unless otherwise allowed by land-managing agency
wetland	Wetland WW-001-002 (AW-95)	Private		201.51			100-foot from feature		unless approved by appropriate agency
Ditch	Irrigation Ditch (SS-201-007 (ADX-96) (C-4-E Lateral))	BOR		201.63			100-foot from feature		unless otherwise allowed by land-managing agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing	
Golden Eagle		Private	202.50	N/A	N/A	203.50	0.5 mile from nest	January 1 - August 31	constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
wetland	Wetland WW-GM-35 (AW-98)	Private		203.94			100-foot from feature		unless approved by appropriate agency
Ditch	Irrigation Canal (C-4 Lateral) (ADX-100)	BOR		204.12			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Canal (C-4-F Lateral) (ADX-101)	BOR		204.33			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Ditch No. 3 Drain (ADX-105)	BOR		204.74			100-foot from feature		unless otherwise allowed by land-managing agency
wetland	Wetland AW-108	Private		205.11			100-foot from feature		unless approved by appropriate agency
Ditch	Ditch (C-4-C Lateral) (ADX-109)	BOR		205.50			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Canal (C Canal) (ADX-111)	BOR		205.96			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Ditch (D-2 Lateral) (ADX-113)	BOR		206.51			100-foot from feature		unless otherwise allowed by land-managing agency
wetland	Wetland AW-114	Private		207.12			100-foot from feature		unless approved by appropriate agency
Ditch	Roadside Drainage Ditch (5-A Drain)(ADX-115)	BOR		207.26			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Lateral (C-4-7 Lateral) (ADX-116)	BOR		207.40			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Drain 5-A Drain (ADX-117)	BOR		207.42			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Drain (5-A Drain) (ADX-118)	BOR		207.60			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Drain (5-A Drain) (ADX-119)	BOR		207.99			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Drainage Ditch Irrigation Drain (5-A Drain) (ADX-123)	BOR		208.18			100-foot from feature		unless otherwise allowed by land-managing agency
wetland	Wetland WW-201-015	Private		208.70			100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-127	Private		208.79			100-foot from feature		unless approved by appropriate agency
Ditch	Irrigation Drain 5-K Drain (ADX-130)	BOR		209.02			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation C-9 Lateral (ADX-134)	BOR		209.15			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Ditch (No. 5 Drain) (Trib. to Lost River) (ADX-143/ SS-003-001)	BOR		210.26			100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	Irrigation Ditch 5-H Drain (Trib. to Lost River) (ADX-260)	BOR		210.85			100-foot from feature		unless otherwise allowed by land-managing agency
wetland	Wetland WW-202-005 (WW-003-002)	Private		211.19			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-003-001	Private		211.20			100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-003-003 (EDX-1)	Private		211.67, 211.97			100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes	
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing		
Waterbody Crossing	Lost River (NSP001)	State		212.07				100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-001-001 (EW-86)	Private		212.51				100-foot from feature		unless approved by appropriate agency
wetland	Wetland WW-001-001 (EW-87)	Private		212.54				100-foot from feature		unless approved by appropriate agency
Ditch	Irrigation Ditch (ADX-274)	BOR		213.85				100-foot from feature		unless otherwise allowed by land-managing agency
Ditch	G Canal (G Canal) (ADX-275)	BOR		213.87				100-foot from feature		unless otherwise allowed by land-managing agency
Waterbody Crossing	Pond (Edge-2)	Private		214.28				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Unnamed Creek (ASI-51)	Private		216.10				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Unnamed Creek (ASI-52)	Private		216.11				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Unnamed Creek (ASI-50)	Private		216.30				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Unnamed Creek (ASI-49)	Private		216.44				100-foot from feature		unless approved by appropriate agency
Golden Eagle		Private	217.80	N/A	N/A	218.90	0.5 mile from nest	January 1 - August 31		constraints do not apply to manual herbicide use to control noxious weeds; PCGP will not use mechanical herbicide application (unless allowed by land-managing agency); aerial herbicide application will not occur anywhere along the pipeline
Waterbody Crossing	Trib. to D Canal (ASI-136)	Private		218.09				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to D Canal (ASI-137)	Private		218.46				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to D Canal (ASI-291)	Private		219.69				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Excavated Pond (NL-116)	Private		219.70				100-foot from feature		unless approved by appropriate agency
wetland	Wetland AW-292	Private		219.69				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-012)	Private		220.72				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-013)	Private		221.15				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-013b)	Private		221.15				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-014)	Private		221.30				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-016)	Private		221.72				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-003b)	Private		222.79				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-003a)	Private		222.80				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-004)	Private		222.99				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-005)	Private		223.08				100-foot from feature		unless approved by appropriate agency

Species/ Resource/ Waterbody	Unit Number	Landowner	Milepost Enter		Milepost Exit		Constraints		Other notes	
			Buffer	nest patch/ stand/primary zone/range	nest patch/ stand/primary zone/range	Buffer	Spatial	Timing		
Waterbody Crossing	Trib. to V Canal (SS-502-006)	Private		223.12				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-023)	Private		223.39				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-011)	Private		223.54				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-009a)	Private		224.03				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-009)	Private		224.04				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-008)	Private		224.17				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-007)	Private		224.21				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-021)	Private		224.44				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-025 (ASI-140))	Private		225.96				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-024)	Private		225.99				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-020)	Private		227.14				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Trib. to V Canal (SS-502-017)	Private		227.57				100-foot from feature		unless approved by appropriate agency
Waterbody Crossing	Agricultural Pond (AL-288)	Private		228.13				100-foot from feature		unless approved by appropriate agency