
APPENDIX F.10
Plan of Development
(continued)



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Klamath Project Facilities Crossing Plan

Pacific Connector Gas Pipeline Project

January 2018

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1.0 INTRODUCTION

The Klamath Project Facilities Crossing Plan (Crossing Plan) identifies the locations within Klamath County, Oregon where the Pacific Connector Gas Pipeline (Pipeline or Pipeline Project) alignment crosses facilities within the Klamath Project that are administered by the Klamath Basin Area Office of the U.S. Bureau of Reclamation (Reclamation) and the methods proposed to construct the Pipeline Project across Reclamation facilities. These facilities comprise a portion of the Reclamation irrigation infrastructure and include canals, laterals, and drains. The Pipeline will cross Reclamation facilities at 20 locations. These locations are listed in Table 1 and are shown on the crossing maps and individual plan and profile drawings included in Attachment 1.

The Pipeline Project is within the boundaries of five irrigation districts in the Klamath Basin. All 20 Reclamation facilities crossed by the Pipeline Project are in the Klamath Irrigation District (KID). All of the 20 facilities are proposed to be crossed by boring. This trenchless crossing method is further described in Section 2.0.

PCGP is working with all affected irrigation districts in the Klamath Basin to address their specific concerns relative to the proposed pipeline installation. Below is a complete list of affected irrigation districts in the Klamath Basin:

- Pioneer District Improvement Company (no Reclamation facilities crossed)
- Plevna District Improvement Company (no Reclamation facilities crossed)
- Klamath Irrigation District
- Van Brimmer Ditch Company (no Reclamation facilities crossed)
- Shasta View Irrigation District (SVID, no Reclamation facilities crossed)

2.0 PIPELINE CROSSING METHODS

The Pipeline Project has been routed to minimize impacts to Reclamation facilities by avoiding or minimizing the number of facility crossings whenever possible. This was generally accomplished by locating the Pipeline on highlands and avoiding drainages to the extent practicable. Due to the topography within the Klamath Valley and the linear nature of Reclamation facilities, complete avoidance is impossible and Reclamation facility crossings are necessary (see Resource Report 10 Section 10.4.3.8 and Figure 10.4-7).

PCGP proposes to install the pipeline with a minimum of five feet of cover across Reclamation facility crossings. Five feet of cover is consistent with industry standards and has been proven sufficient to protect against scour and third-party damage. Cover depth exceeding five feet would require additional construction measures and excessive land disturbance associated with dramatically increased excavation volumes and dewatering efforts. Proposed crossing methods, peak/average winter and summer flows, location coordinates, and underlying landowner information are provided in Table 1. Site photos of the majority of the crossing locations are available in Attachment 2. A brief explanation of trenchless crossing methods provided below.

2.1 Trenchless Installation

This method is completed using a boring machine to bore/auger a hole under a feature facilitating pipe installation without any surface disturbance. This is accomplished by excavating a large pit on either side of the crossing at a depth sufficient to accommodate the boring machine and achieve the required crossing depth. The excavation length is governed by the bored crossing length and must accommodate the length of the pipe to be installed. The

excavation depth is approximately one to two feet below the bottom of pipe elevation at the crossing. A boring machine is assembled in the entry pit and is used to advance an auger or cutter and temporary steel casing beneath the crossing area. After the auger and casing are advanced to the exit pit, the auger assembly is removed leaving the casing pipe in place. The product pipe is then welded to the casing and is either pushed or pulled through the bored hole completing the installation. In some geologic conditions, the product pipe may be installed without the use of a temporary steel casing. A typical drawing of this crossing method is available in Attachment 3.

All Reclamation canal and drain crossings will be completed using trenchless conventional bore methodology. Crossing the canals and drains using trenchless methodology will preserve the existing canal and drain embankments and avoid disruption of the underlying hardpan.

2.2 Compliance with Reclamation Requirements

All crossings of Reclamation facilities in the Klamath Project will be constructed in accordance with Reclamation's *Engineering and O&M Guidelines for Crossings*, December 2014 edition (Guidelines). PCGP will also implement the Guidelines for pipeline installation in each of the affected irrigation districts.

Compliance with the majority of the requirements in the Guidelines has been demonstrated on the drawings in Attachment 1. The following bullets provide additional clarification of PCGP's compliance. The section number of each bullet item references the corresponding section in the Guidelines.

- **Section 4.6.3 #1** – Facility crossings will be made nearly perpendicular (between 70 and 90 degrees) to the axis of the channel. Some exceptions exist due to adherence to FERC guidelines that emphasize co-location with existing utilities when siting new utilities. In these locations where the crossing angle is less than 70 degrees, the alignment is co-located (parallel) with existing high voltage transmission lines, or was aligned based on other routing constraints or based on landowner requests. Modifying the crossing angle would increase project disturbance, landowner encumbrances, and eliminate the benefit of co-location.
- **Section 4.6.3 #5** – Plans for the bored crossings will be prepared once the services of a qualified drilling contractor have been procured. Plans will be submitted to Reclamation for approval prior to the commencement of any drilling work.
- **Section 4.6.3 #10b** – At the conclusion of construction and prior to placing the pipeline in-service, PCGP will conduct a strength test as required by CFR Title 49, Part 192.505. All crossings of Reclamation facilities are in Class 1 areas.
- **Section 4.6.3 #10f** – Because the welded, steel pipeline will be buried in a predominantly linear alignment and will be carrying compressible natural gas at a nearly steady state temperature, expansion and contraction of the pipe are not significant risks to Reclamation facilities. If any crossings require pipeline fittings be installed in close proximity to Reclamation embankments to obtain the required depth of cover across short distances, adequate padding will be used around the fittings to ensure movement of the fitting will be minimal.
- **Section 5.0** – PCGP will install an impressed current cathodic protection (CP) system in compliance with CFR Title 49, Part 192, as opposed to Part 195 as mentioned in the Guidelines. However, the CP system may not be installed until up to one year after installation of the pipeline. This allows for accurate soil resistivity readings along the

alignment, to adequately design the CP system for pipeline protection. No CP infrastructure will be installed within Reclamation easements.

2.3 Specifications

PCGP will design, construct, and operate all pipeline and facilities in compliance with the Code of Federal Regulations Title 49, Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards and all industry standards referenced therein. Part 192 addresses specific questions raised by Reclamation during collaboration with PCGP, such as surveillance (192.613), emergency response (192.615), and public awareness (192.616). Although 192.707 indicates installing aboveground line markers at waterway crossings is not required for buried pipelines, PCGP has committed to install them at all aboveground and buried crossings of Reclamation facilities, as seen in the General Notes on each of the drawings in Attachment 1.

2.4 Approval of Crossing Plans

As specified by the Reclamation Guidelines, PCGP will submit this Crossing Plan and the associated design package (joint submittal of the Crossing Plan and design package hereafter referred to as Design Submittal) for approval of the Klamath Basin Area Office. PCGP's Design Submittal will follow the Reclamation *Mid-Pacific Region Guidelines for the Review of Design Drawings and Specification and Oversight of Related Activities on Transferred Works*, April 2014. As requested by the Klamath Basin Area Office, all PCGP Design Submittals will utilize Reclamation form MP-620 – *Request for Review and Acceptance of Design Drawings and Specifications*. Submittal of the final Design Submittal will not occur until PCGP has contracted with an engineering, procurement, and construction contractor (EPC Contractor), who will be responsible for all final designs and submittals.

This Design Submittal and pending approval are not intended to satisfy the requirements of Section 2.0 of the Guidelines, which requires applicants obtain a written land use authorization for Reclamation crossings. It is expected that Reclamation will authorize the Pipeline Project by issuing a memorandum to the Bureau of Land Management (BLM) State Director acknowledging concurrence with the BLM Record of Decision and subsequent issuance of a Right of Way Grant and Temporary Use Permit to cross lands under federal jurisdiction and/or easements. In order to maintain the schedule for issuance of the Record of Decision, a conditional approval by Reclamation of PCGP's Design Submittal will be necessary. The conditional approval should address any outstanding items required of PCGP to satisfy Reclamation requirements. This same procedure was used by Reclamation to authorize the Ruby Pipeline Project in the formal concurrence memorandum to the BLM State Director dated July 9, 2010.

3.0 KLAMATH FACILITY CROSSING LOCATIONS

The proposed Reclamation facility crossing locations are listed in Table 1, along with other pertinent information. Additional location and design information are provided on the individual drawings in Attachment 1.

Table 1
Klamath Project Facility Crossing Locations

Crossing ID Number	Facility	Index No	2009 Proposed Crossing Method	Proposed Crossing Method	PCGP Drawing Number	PCGP Milepost	Township	Range	Section	QQ	Winter Peak/Avg Flow (cfs)	Summer Peak Flow/Avg Flow (cfs)	Irrigation District	Reclamation Type of Rights	How Acquired by Reclamation	Grantor, Grantee
NA	C-4-E Lateral	KO-20-080	Dry Open Cut	Not Crossed	3430.5-X-117	NA	39S	9E	20	SWNE	NA	NA	KID	NA	NA	NA
NA	Withdrawn Land	KO-20	Dry Open Cut	Not Crossed	3430.5-X-117	NA	39S	9E	20	SWNE	NA	NA	KID	NA	NA	NA
1	No. 1 Drain	KO-20-276	Dry Open Cut	Bore	3430.5-X-117	200.54	39S	9E	20	SWNE	20 / 2	15 / 8	KID	Perpetual, reserved	Patents	USA, Heater, and USA, Parker
2	C-4-E Lateral	KO-20-164	Dry Open Cut	Bore	3430.5-X-118	201.63	39S	9E	28	NENW	2 / < 1	20 / 10	KID	Perpetual, fee	Bargain and Sale instrument	Miller, USA
3	C-4 Lateral	KO-09-013	Dry Open Cut	Bore	3430.5-X-119	204.13	40S	9E	3	NWNE	5 / < 1	150 / 70	KID	Canal Act 1890, reservation	Patent	USA, Melhare
4	C-4-F Lateral	KO-09-013	Dry Open Cut	Bore	3430.5-X-120	204.33	40S	9E	3	NWNE	1 / < 1	20 / 10	KID	Canal Act 1890, reservation	Patent	USA, Melhare
5	No. 3 Drain	KO-09-014	Dry Open Cut	Bore	3430.5-X-121	204.74	40S	9E	2	NWNW	4 / < 2	5 / 2	KID	Canal Act 1890, reservation	Patent	USA, Sayres
6	C-4-C Lateral	KO-09-018	Dry Open Cut	Bore	3430.5-X-122	205.50	40S	9E	2	SWNE	2 / < 1	15 / 7	KID	Perpetual, fee	Bargain and Sale instrument	Carolan, USA
7	C Canal	KO-09-027	Bore	Bore	3430.5-X-123	205.96	40S	9E	1	NWSW	5 / < 1	270 / 200	KID	Canal Act 1890, reservation	Patents	USA, Manning, and USA, Koontz
8	D-2 Lateral	KO-09-050	Dry Open Cut	Bore	3430.5-X-124	206.51	40S	9E	12	NWNE	< 1 / < 1	7 / 4	KID	Perpetual, fee	Warranty Deed	Johnson, USA
9	5-A-1 Drain	KO-09-053	Dry Open Cut	Bore	3430.5-X-125	207.11	40S	9E	12	NESE	3 / < 1	2 / 1	KID	Perpetual, easement	Bargain and Sale instrument	Case
10	5-A Drain	KO-09-054	Dry Open Cut	Bore	3430.5-X-126	207.26	40S	9E	12	NESE	5 / < 1	5 / 2	KID	Canal Act 1890, reservation	Patent	USA, Shaw
11	C-4-7 Lateral	KO-10-031	Dry Open Cut	Bore	3430.5-X-127 & 128	207.4	40S	10E	7	NWSW	< 1 / < 1	25 / 15	KID	Perpetual, fee	Bargain and Sale instrument	Kershner, USA
12	5-A Drain	KO-10-032	Dry Open Cut	Bore	3430.5-X-127 & 128	207.42	40S	10E	7	NWSW	5 / < 1	5 / 2	KID	Perpetual, fee	Quitclaim	Cheyne, USA
13	5-A Drain	KO-10-032	Dry Open Cut	Bore	3430.5-X-129	207.6	40S	10E	7	SWSW	7 / < 1	6 / 3	KID	Perpetual, fee	Quitclaim	Cheyne, USA
14	5-A Drain	KO-10-034	Dry Open Cut	Bore	3430.5-X-130	207.98	40S	10E	18	NENW	7 / < 1	6 / 3	KID	Canal Act 1890, reservation	Patent	USA, Uerling
15	5-A Drain	KO-10-034	Dry Open Cut	Bore	3430.5-X-131	208.18	40S	10E	18	SENE	7 / < 1	6 / 3	KID	Canal Act 1890, reservation	Patent	USA, Uerling

Crossing ID Number	Facility	Index No	2009 Proposed Crossing Method	Proposed Crossing Method	PCGP Drawing Number	PCGP Milepost	Township	Range	Section	QQ	Winter Peak/Avg Flow (cfs)	Summer Peak Flow/Avg Flow (cfs)	Irrigation District	Reclamation Type of Rights	How Acquired by Reclamation	Grantor, Grantee
16	5-K Drain	KO-10-048	Dry Open Cut	Bore	3430.5-X-132	209.02	40S	10E	18	SESE	2 / < 1	5 / 2	KID	Canal Act 1890, reservation	Patent	USA, Steele
17	C-9 Lateral	KO-10-047	Dry Open Cut	Bore	3430.5-X-133	209.15	40S	10E	20	NWNW	1 / < 1	10 / 6	KID	Perpetual, fee	Warranty Deed	Henley, USA
18	No. 5 Drain	KO-10-061	Dry Open Cut	Bore	3430.5-X-134	210.26	40S	10E	20	SESE	40 / < 5	40 / 15	KID	Canal Act 1890, reservation	Patent	USA, Crawford
19	5-H Drain	KO-10-074	Dry Open Cut	Bore	3430.5-X-135	210.85	40S	10E	28	SWNW	5 / < 1	5 / < 2	KID	Perpetual, easement	Bargain and Sale instrument	Bunnell/O'Connor, USA
23	G Canal	KO-10-086	Bore	Bore	3430.5-X-140	213.87	40S	10E	26	SESE	50 / < 1	330 / 200	KID	Canal Act 1890, reservation	Patent	USA, Hill

4.0 RECLAMATION BRIDGES AND CULVERTS

PCGP conducted a review of potential crossings of Reclamation bridges and culverts and determined that two bridges and sixteen culverts could potentially be crossed by construction traffic, as listed in Table 2. Each potential crossing is also depicted in the crossing map in Attachment 1, labeled with the Object ID and Feature Crossed. All crossing locations except the private bridge over G Canal (Object ID 399) are along public roadways, and PCGP's construction contractor will comply with state and county load requirements. The private bridge over G Canal is a wooden structure that will not support heavy equipment loads. If PCGP's construction contractor determines that crossing this bridge with heavy loads is necessary, plans for bridge upgrade or replacement will comply with Reclamation Guidelines, Section 4.1. A design package will be submitted to Reclamation for review and approval prior to the commencement of any bridge work.

Table 2
Klamath Project Culvert and Bridge Crossings

Object ID	Facility Type	Feature Crossed	Road	Reclamation ID Number	Township	Range	Section
4	Culvert	A3 Lateral	Tingley Lane		39S	9E	16
5	Culvert	A3 Lateral	Tingley Lane		39S	9E	16
6	Culvert	No. 1 Drain	Midland Highway		39S	9E	20
18	Culvert	A3 Lateral	Villa Drive		39S	9E	11
19	Culvert	A3 Lateral	Summers Lane		39S	9E	15
20	Culvert	A3 Lateral	Anderson Avenue		39S	9E	15
22	Culvert	A3 Lateral	Ditch Rider Road		39S	9E	16
25	Culvert	Drain Ditch	Joe Wright Road		39S	9E	20
26	Culvert	Drain Ditch	Joe Wright Road		39S	9E	20
39	Culvert	Irrigation Canal	Old Midland Road		40S	9E	4
40	Culvert	Irrigation Canal	Anderson Road		41S	10E	2
49	Culvert	G-3 Lateral	Hill Road	KLAM-160	40S	10E	25
50	Culvert	J-1 Lateral	State Line Road (Hwy 161)		48N	4E	18
53	Culvert	Irrigation Canal	Old Midland Road		40S	9E	4
54	Culvert	Drain Ditch	State Line Road (Hwy 161)		48N	3E	13
113	Culvert	A3 Lateral	Southside Expressway (Hwy 140)		39S	9E	16
399	Bridge	G Canal	Private	KLAM-117	40S	10E	27
432	Bridge	D Canal	North Malin Road (6th Street)	KLAM-146	41S	12E	15

5.0 TEMPORARY EQUIPMENT CROSSINGS

To maintain the movement of equipment along the construction corridor and reduce impacts to Reclamation roads, bridges, and public roads, it will be necessary for PCGP's construction contractor to install temporary equipment bridges across Reclamation facilities. The need for installation and the type and length of these bridges are independent of the bored pipeline crossing method. These bridges will be placed without impact to the canal or drain embankments. Any bridge abutments necessary to install the bridge will be placed so as not to transfer load to the facility embankments. All temporary bridges will be removed following construction. A typical drawing of a temporary equipment bridge is provided in Attachment 3.

6.0 ENVIRONMENTAL CONSIDERATIONS

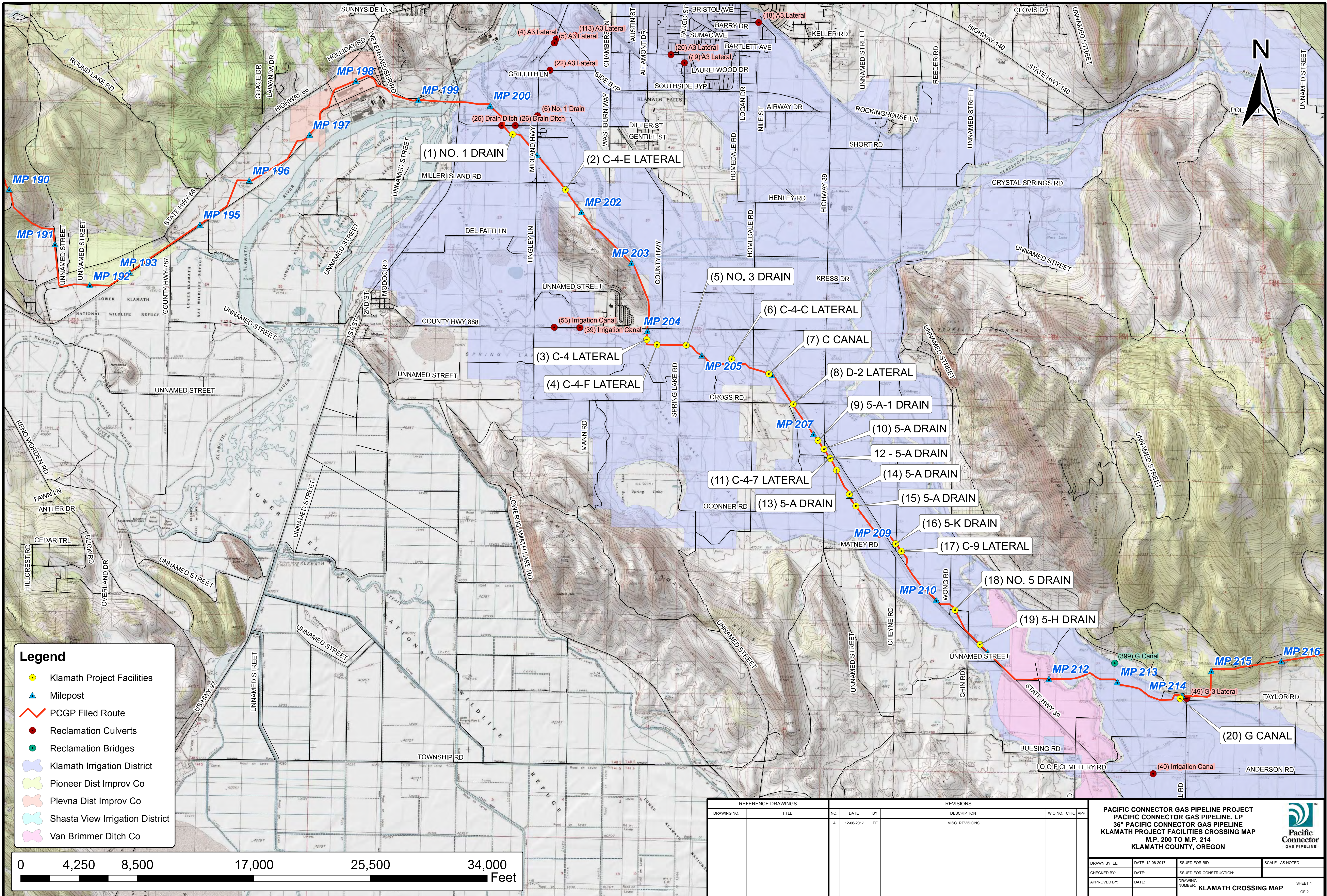
PCGP will follow the procedures outlined in the pertinent Plans of Development to ensure environmental compliance and conformance with the federal right-of-way grant. These plans primarily include:

- Air/Noise and Fugitive Dust Control Plan
- Environmental Briefings Plan
- Erosion Control and Revegetation Plan
- Environmental Response Plan
- Fire Prevention and Suppression Plan
- Integrated Pest Management Plan
- Right-of-Way Marking Plan
- Safety and Security Plan
- Sanitation and Waste Disposal Management Plan
- Spill Prevention, Containment, and Countermeasures Plan
- Transportation Management Plan
- Unanticipated Discovery Plan

Although not expected because of the trenchless crossing method, any sensitive fish species discovered in Reclamation facilities potentially impacted by construction of the Pipeline Project will be handled in accordance with the Fish Salvage Plan (see Appendix L to the POD). PCGP will retain contracted fish removal and handling personnel authorized to conduct the fish removal operations in coordination with Reclamation and the Klamath Falls U.S. Fish and Wildlife Service office. During construction, PCGP will provide weekly schedules to Reclamation indicating projected or anticipated work that would occur on or near Reclamation facilities for the following week. PCGP will also provide Reclamation a 48-hour notice prior to conducting work on a Reclamation facility that would require fish removal.

ATTACHMENT 1

**Klamath Project Facilities Crossing Location Map and
Site-Specific Drawings**



Legend

- Klamath Project Facilities
- ▲ Milepost
- PCGP Filed Route
- Reclamation Culverts
- Reclamation Bridges
- Klamath Irrigation District
- Pioneer Dist Improv Co
- Plevna Dist Improv Co
- Shasta View Irrigation District
- Van Brimmer Ditch Co

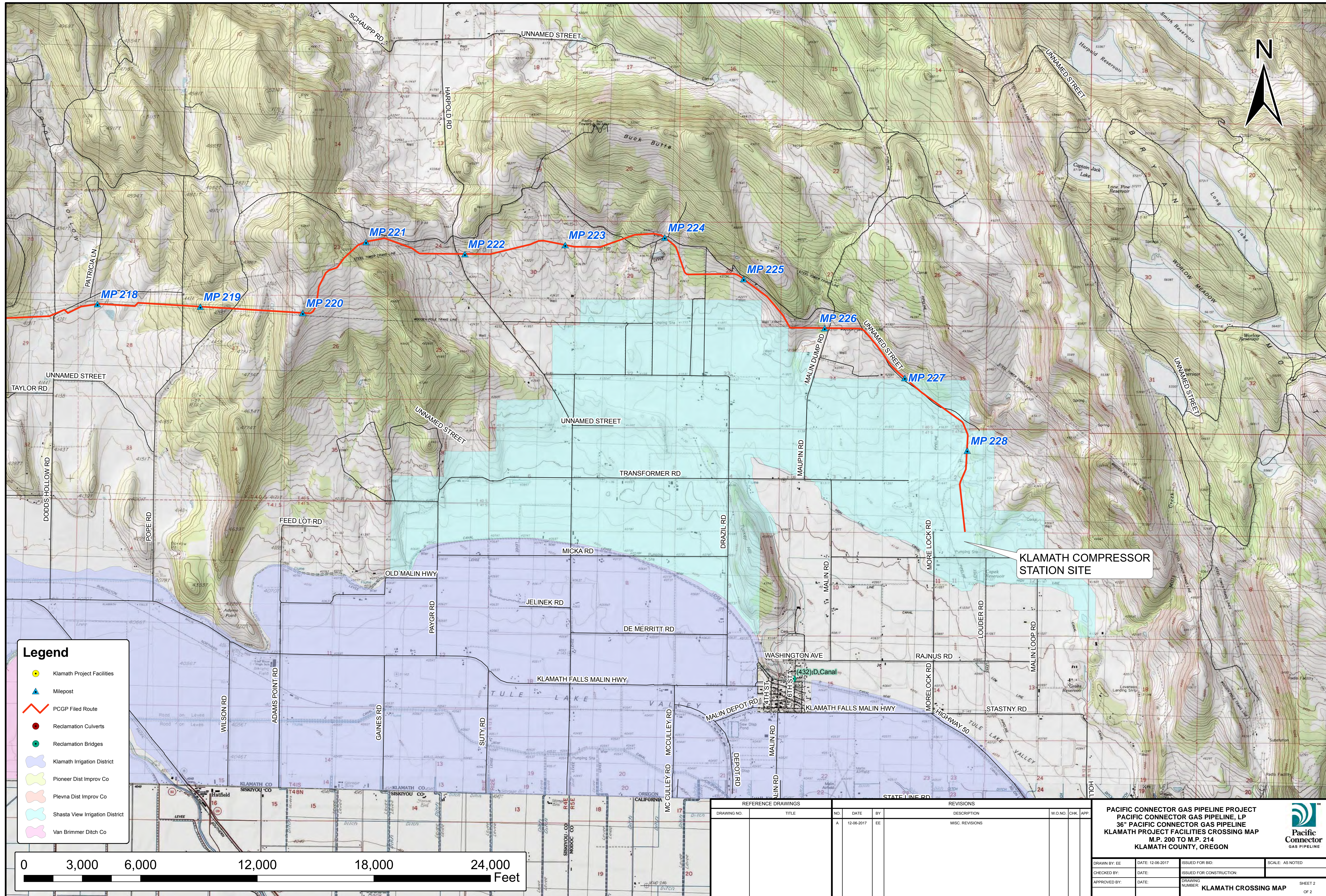


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PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
36" PACIFIC CONNECTOR GAS PIPELINE
KLAMATH PROJECT FACILITIES CROSSING MAP
M.P. 200 TO M.P. 214
KLAMATH COUNTY, OREGON

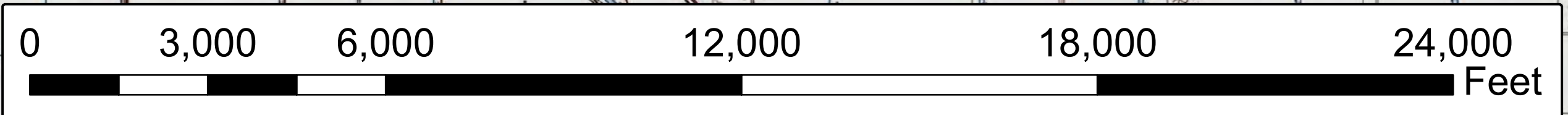
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 APPROVED BY: DATE: DRAWING NUMBER: SHEET 1 OF 2

KLAMATH CROSSING MAP



Legend

- Klamath Project Facilities
- Milepost
- PCGP Filed Route
- Reclamation Culverts
- Reclamation Bridges
- Klamath Irrigation District
- Pioneer Dist Improv Co
- Plevna Dist Improv Co
- Shasta View Irrigation District
- Van Brimmer Ditch Co

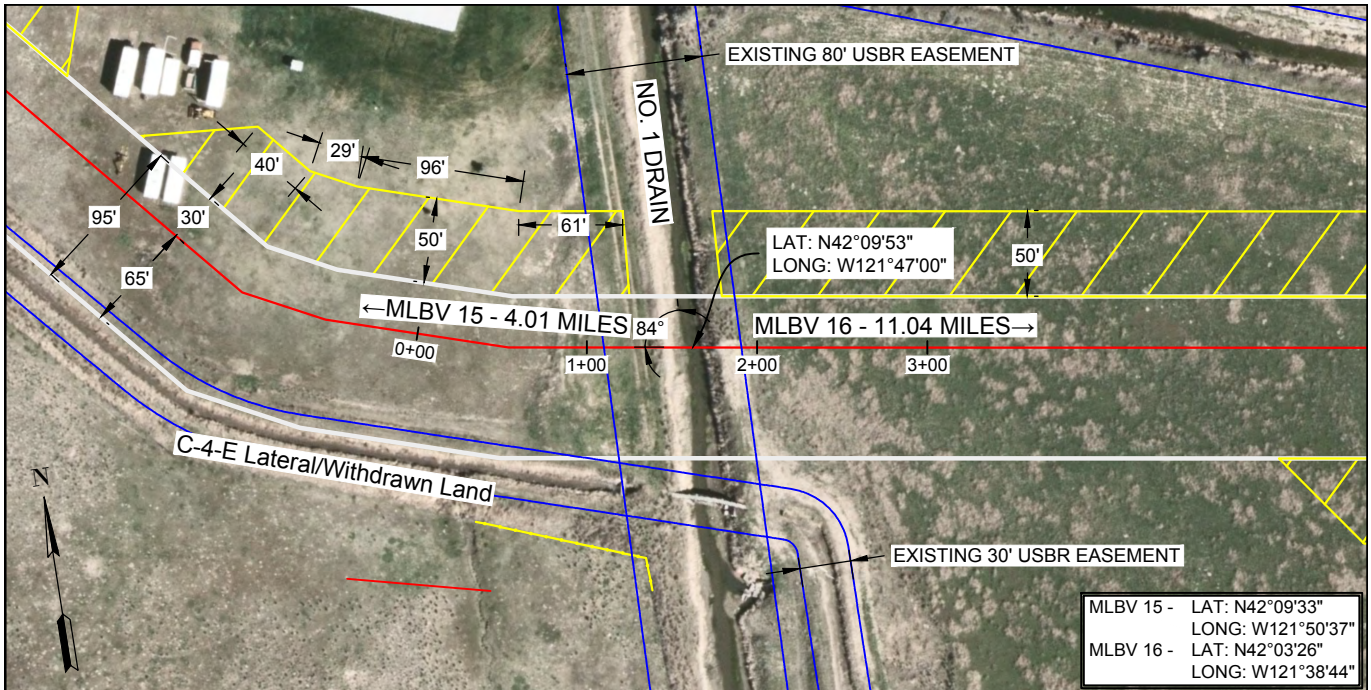


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PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
36" PACIFIC CONNECTOR GAS PIPELINE
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DRAWN BY: EE	DATE: 12-06-2017	ISSUED FOR BID:	SCALE: AS NOTED
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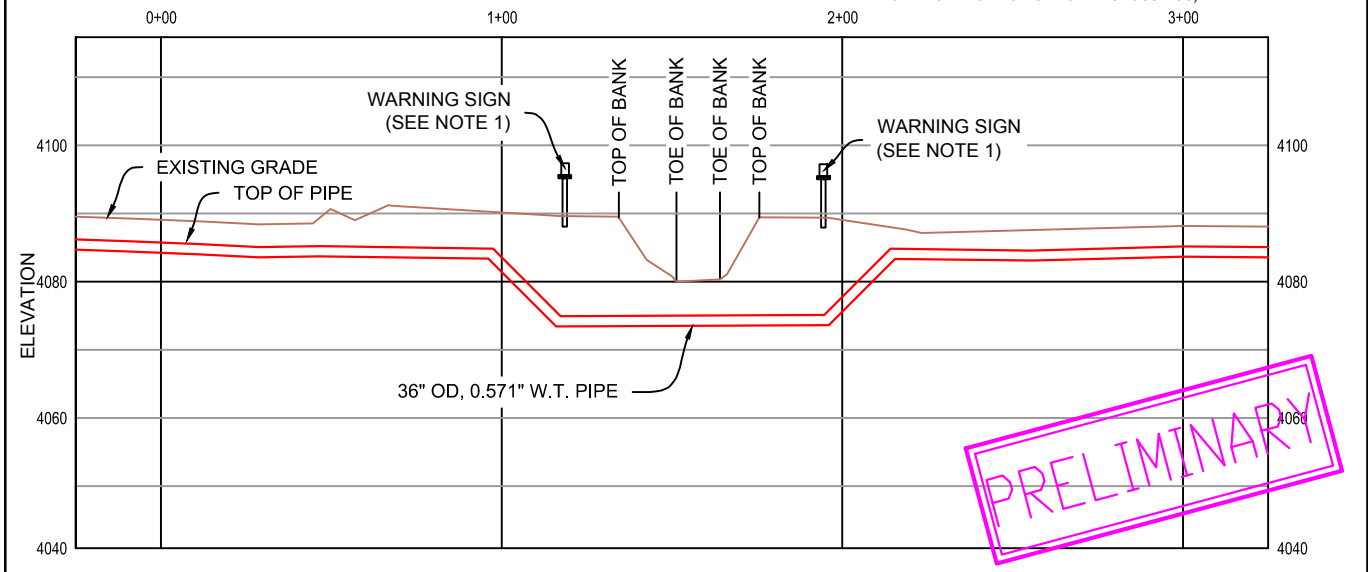
KLAMATH CROSSING MAP



CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE AND 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

- GENERAL NOTES:**
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
 - 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
 - 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
 - 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



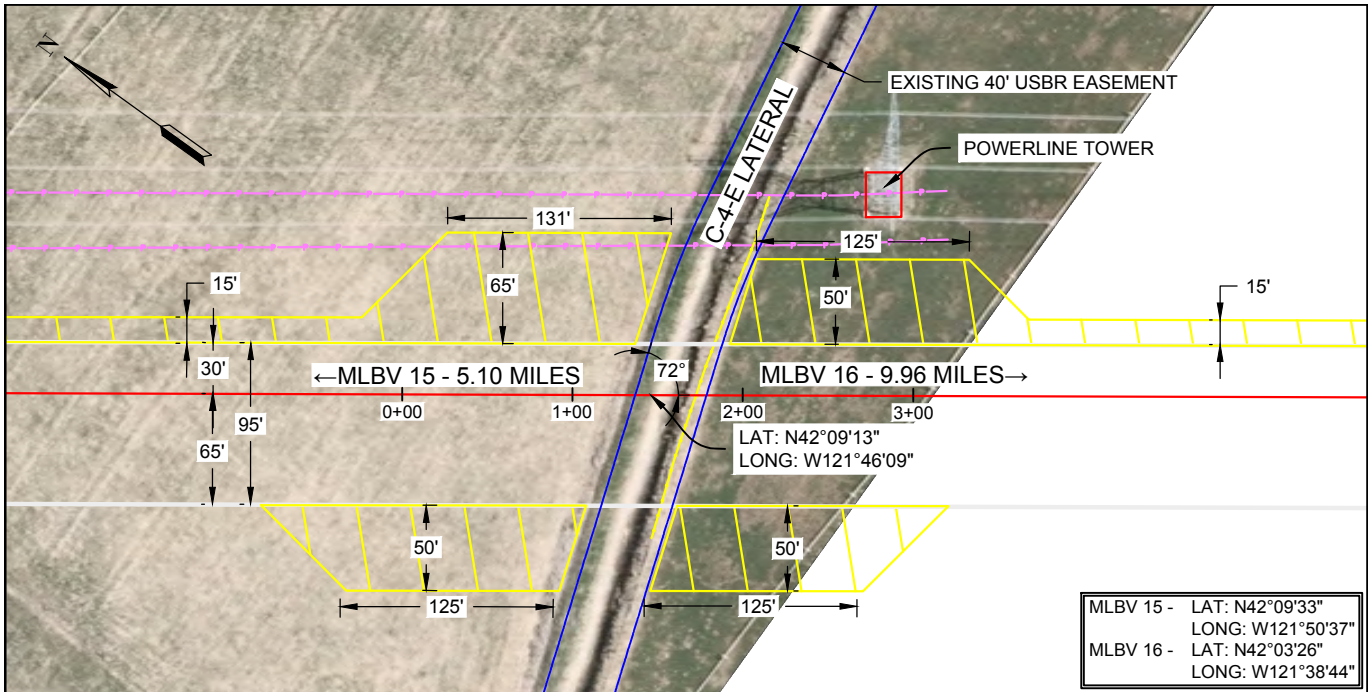
PRELIMINARY

REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #1 - NO. 1 DRAIN - PCGP M.P. 200.54
SEC 20, T-39-S, R-9-E
KLAMATH COUNTY, OREGON

Pacific Connector
GAS PIPELINE

REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
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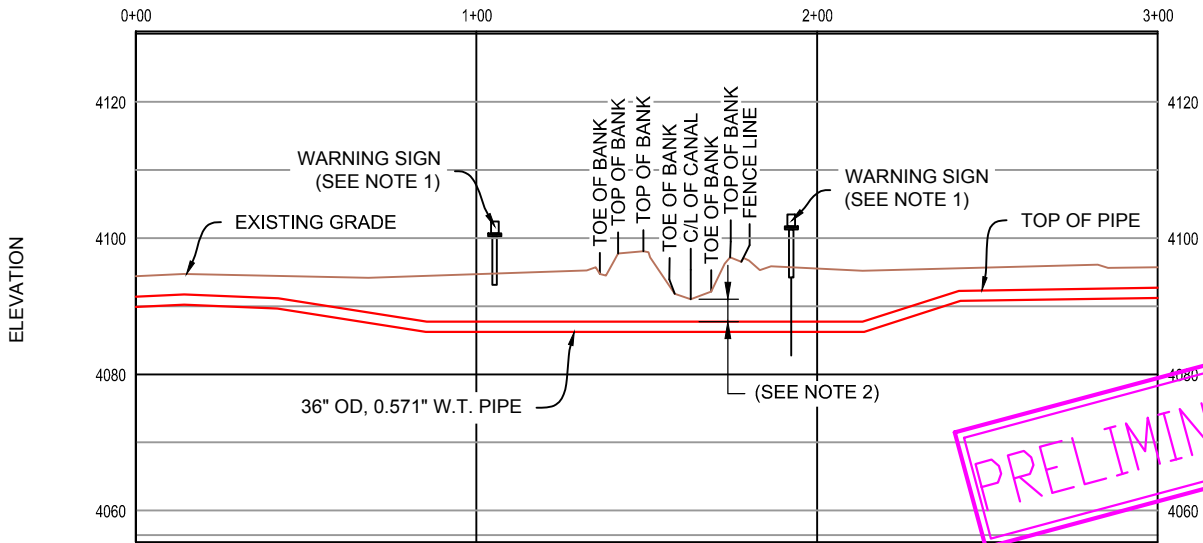


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
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PRELIMINARY

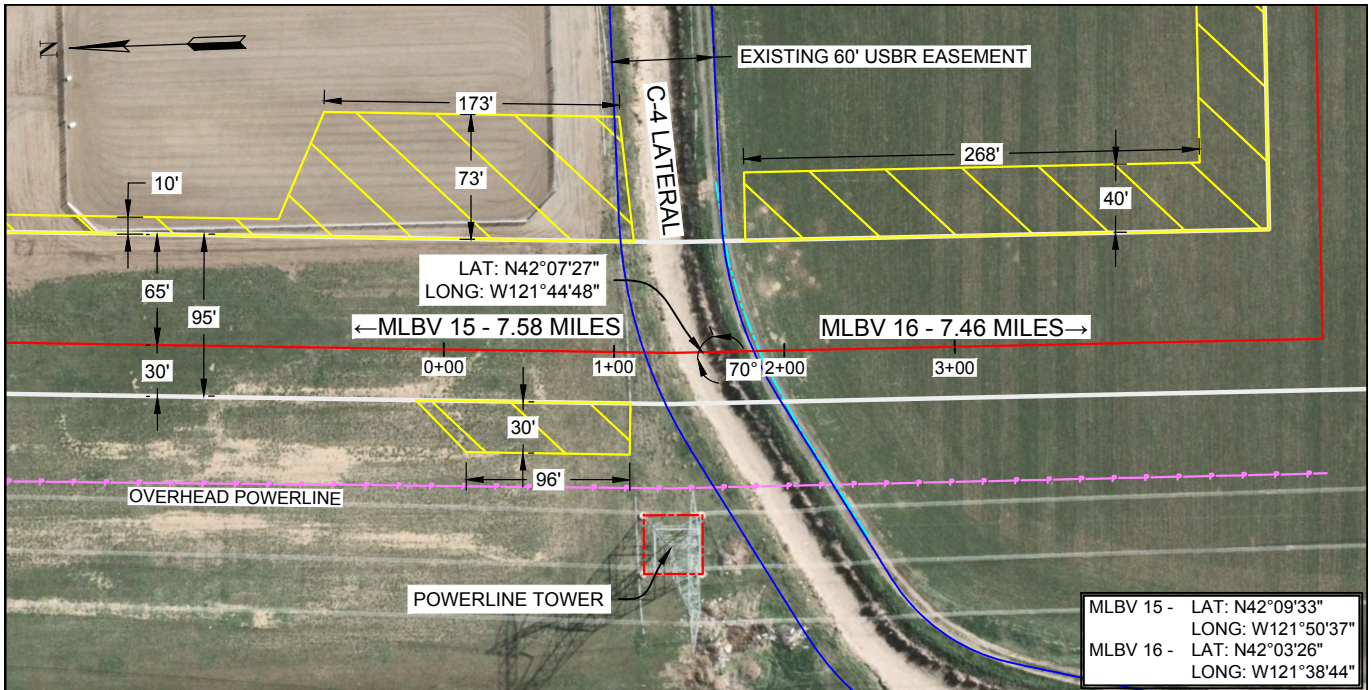
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DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #2 - C-4-E LATERAL - PCGP M.P. 201.63
SEC 28, T-39-S, R-9-E
KLAMATH COUNTY, OREGON



REVISIONS						
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7	03-30-2016	JCP	REISSUED FOR PERMIT	1026555	TEG	TEG
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DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:	
APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-118	SHEET 1 OF 1

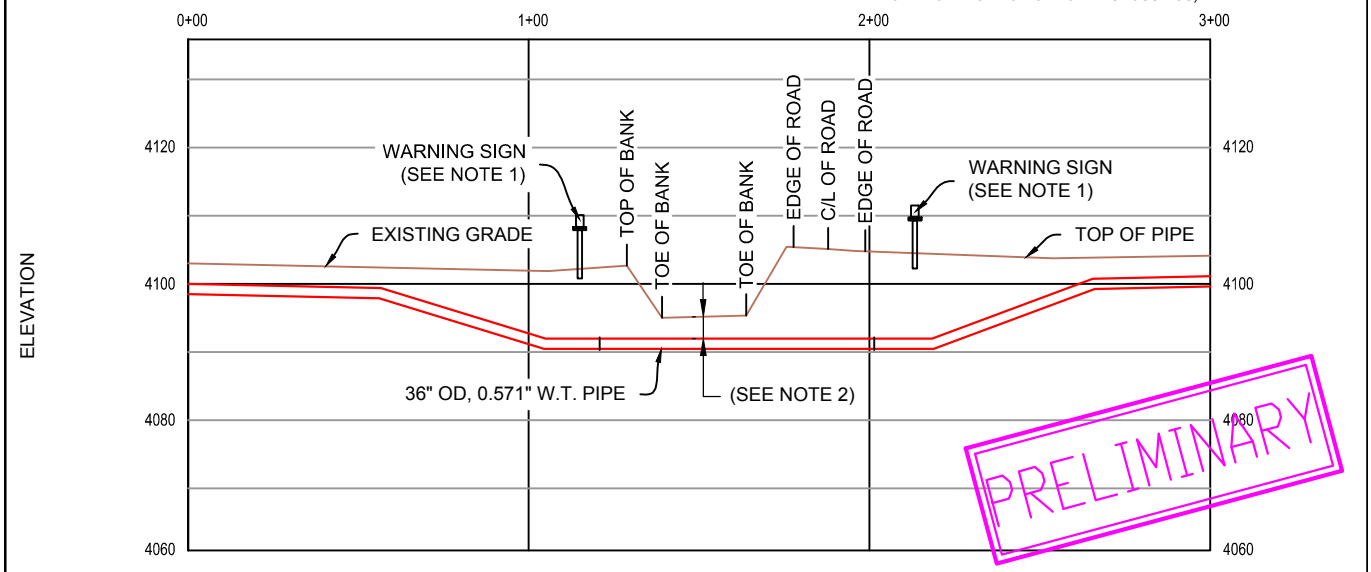


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- ▨ T.E.W.A.

- GENERAL NOTES:**
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
 - 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
 - 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
 - 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)

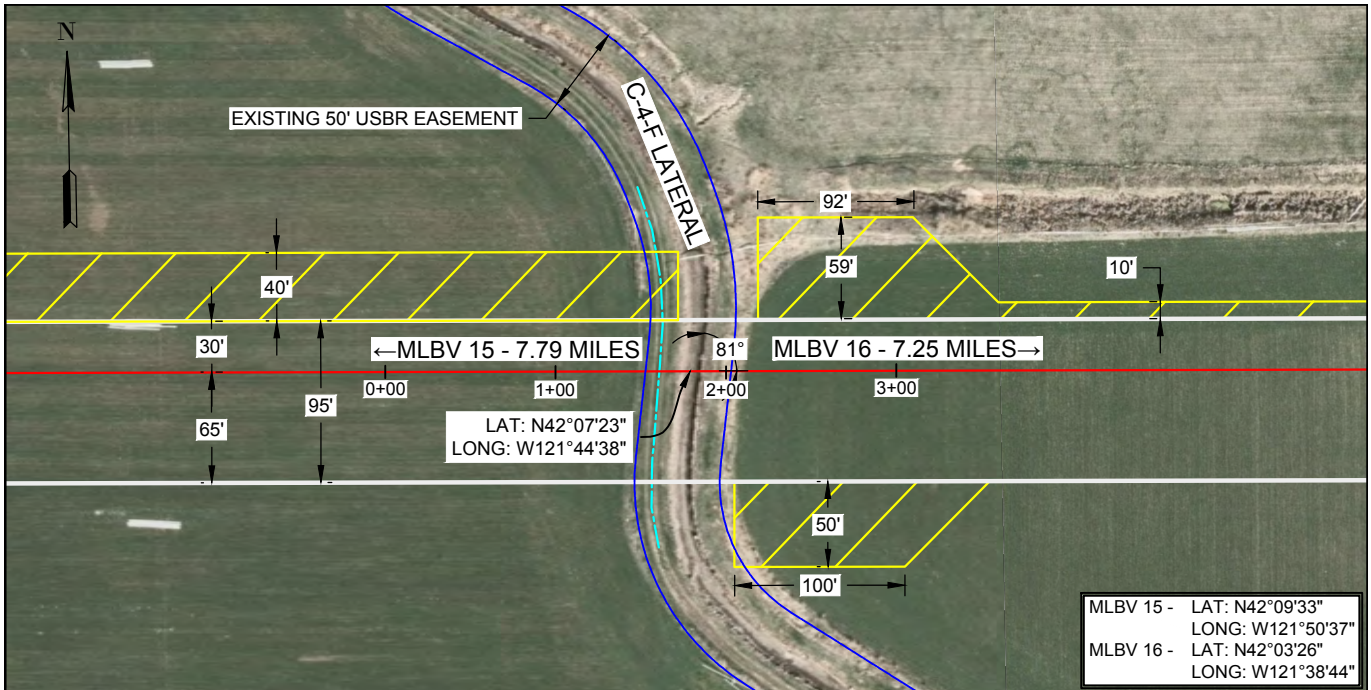
MLBV 15 - LAT: N42°09'33"
 LONG: W121°50'37"
 MLBV 16 - LAT: N42°03'26"
 LONG: W121°38'44"



REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #3 - C-4 LATERAL - PCGP M.P. 204.13
SEC 3, T-40-S, R-9-E
KLAMATH COUNTY, OREGON

REVISIONS					DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE	
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
7	10-22-2015	JTS	REISSUED FOR PERMIT	52408	BSB	NJL	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-119
8	01-22-2016	JCP	REISSUED FOR PERMIT	1028555	TEG	TEG			
9	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			



MLBV 15 - LAT: N42°09'33"
 LONG: W121°50'37"
 MLBV 16 - LAT: N42°03'26"
 LONG: W121°38'44"

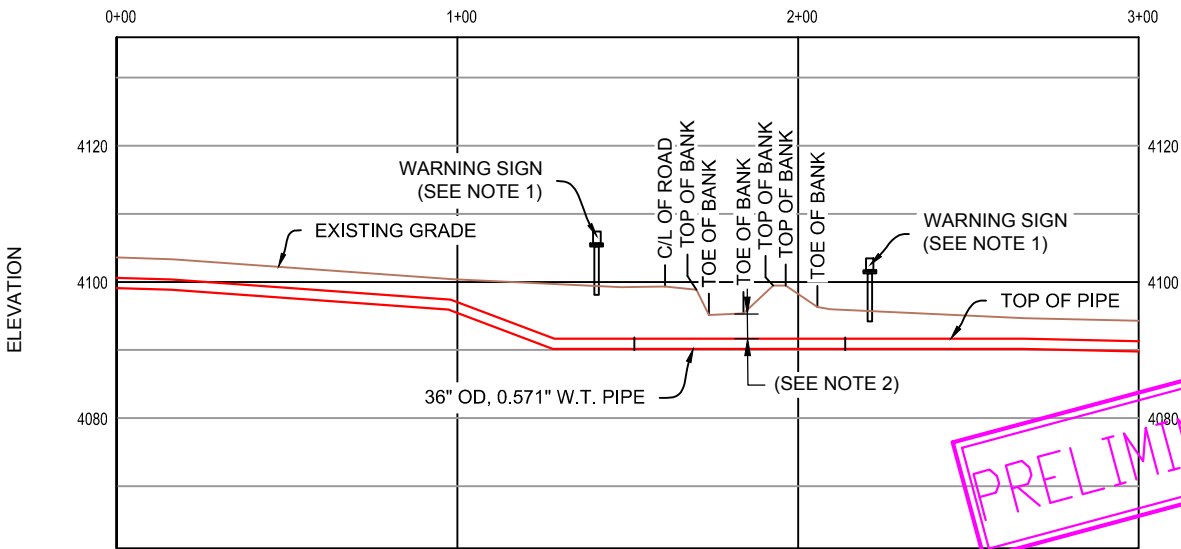
CROSSING PIPE SPECIFICATIONS:

36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- ▨ T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



PRELIMINARY

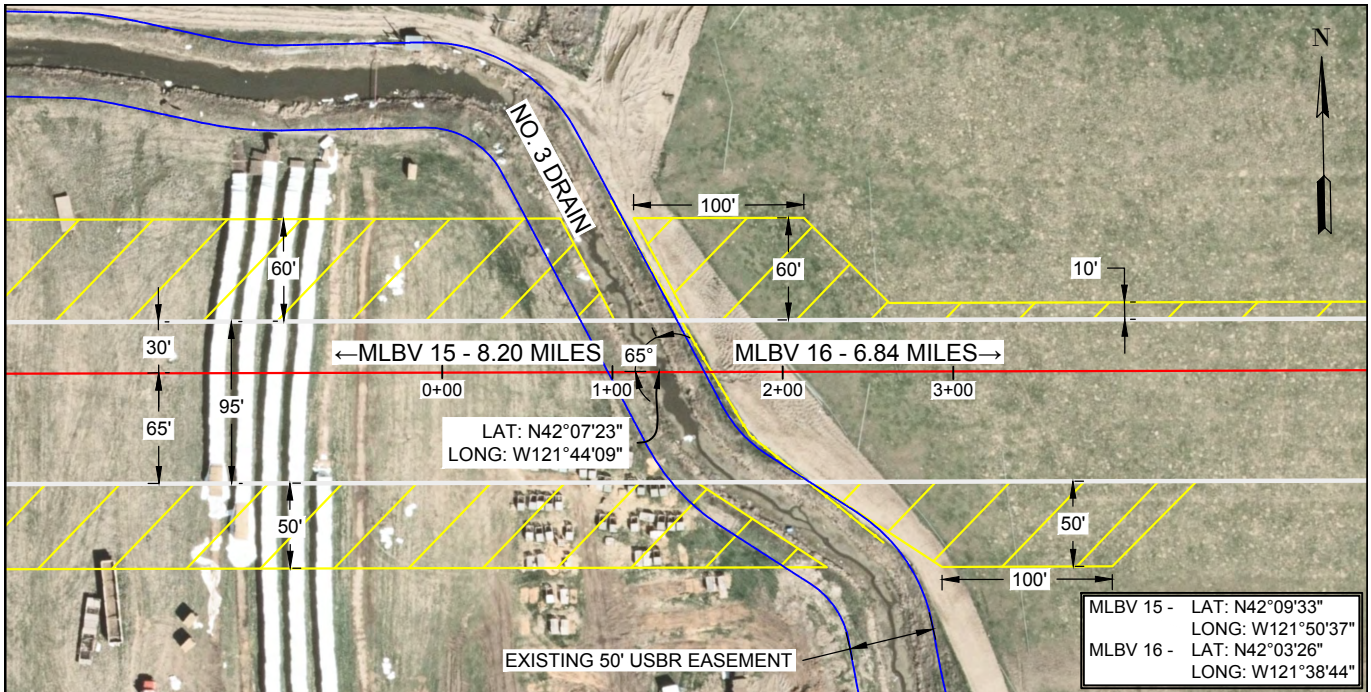
REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #4 - C-4-F LATERAL - PCGP M.P. 204.33
SEC 3, T-40-S, R-9-E
KLAMATH COUNTY, OREGON



REVISIONS					
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK. APP.
6	10-22-2015	JTS	REISSUED FOR PERMIT	52408	BSB NJL
7	01-22-2016	JTS	REISSUED FOR PERMIT	1028555	TEG TB
8	12-08-2017	AWL	UPDATE PIPE DATA		

DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:	
APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-120	SHEET 1 OF 1



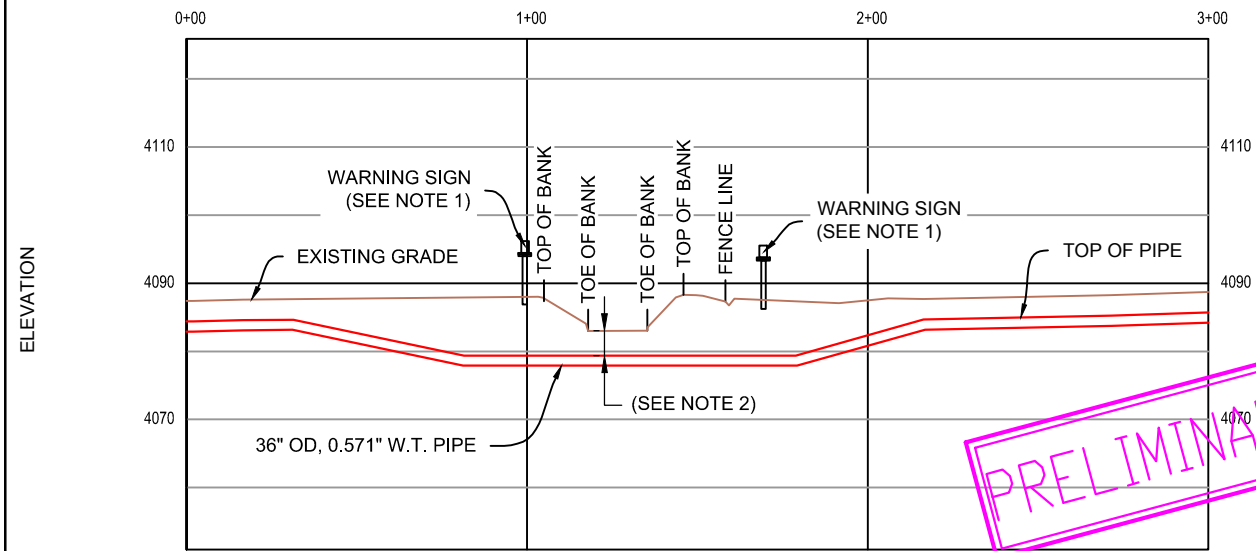
CROSSING PIPE SPECIFICATIONS:

36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 15-20 MILS FBE
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

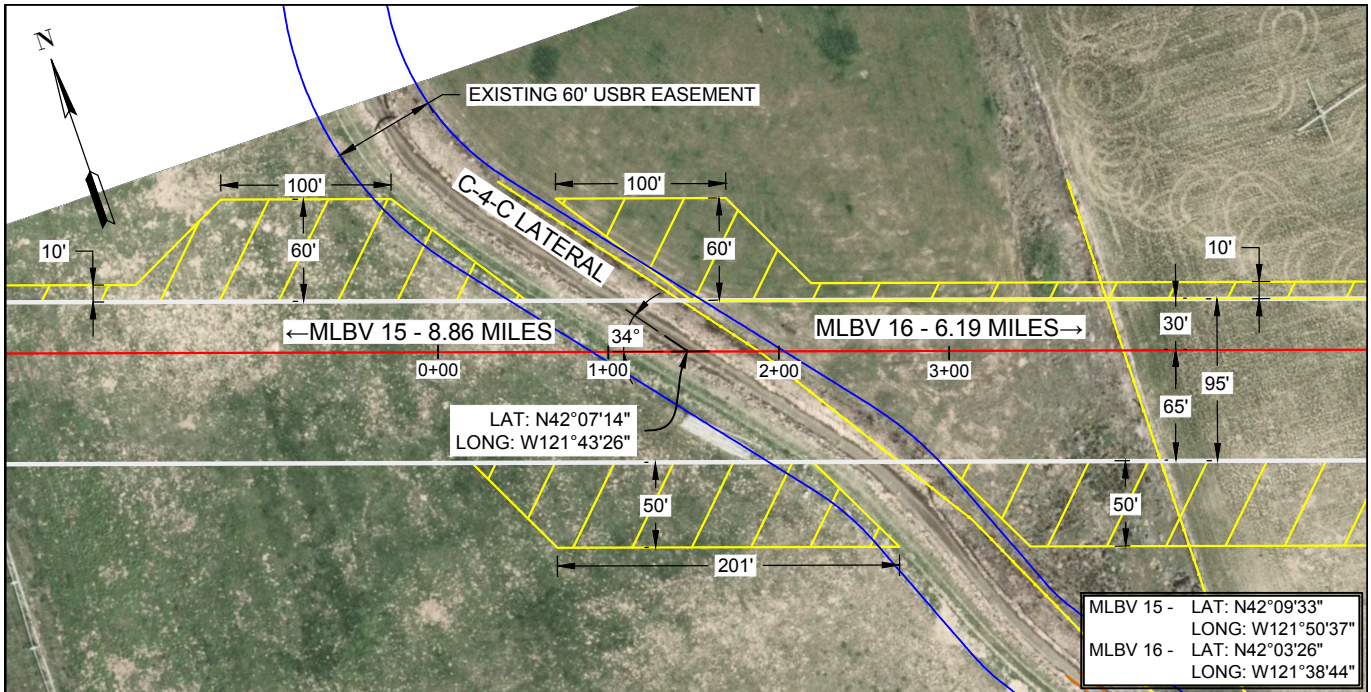
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #5 - NO. 3 DRAIN - PCGP M.P. 204.74
SEC 2, T-40-S, R-9-E
KLAMATH COUNTY, OREGON

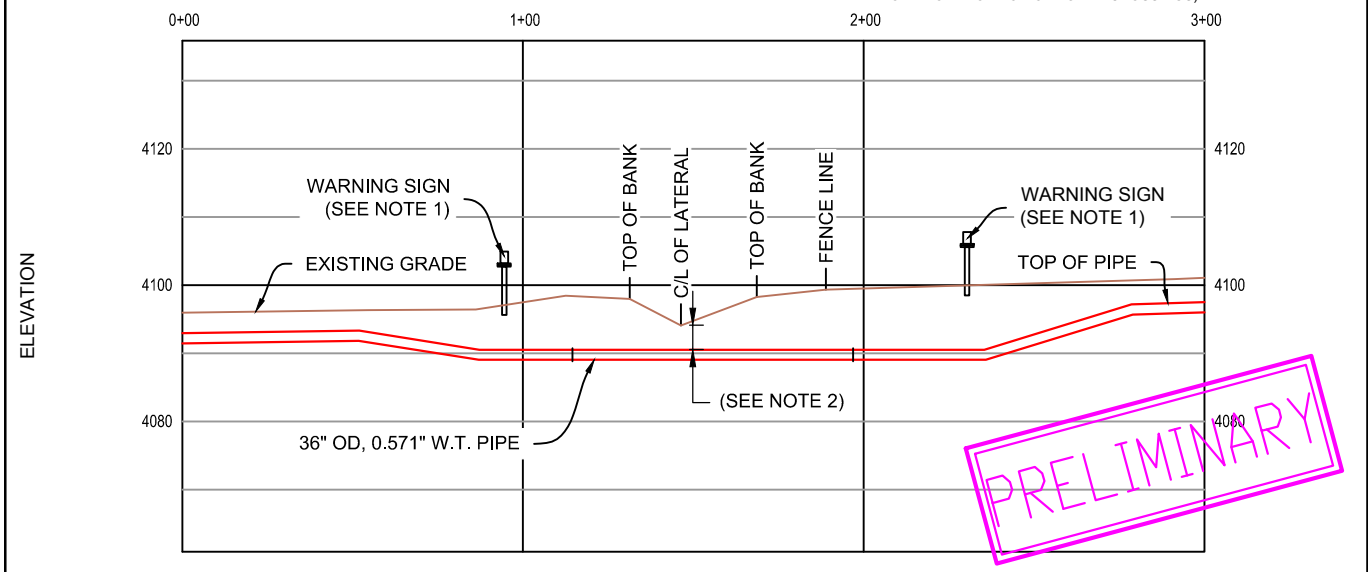
REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
7	9-29-2016	JCP	REVISED ROW WIDTH FOR BOR	1026555	KLL	BAB	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-121
8	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			
9	1-15-2018	AWL	UPDATED METHOD OF INSTALL FROM OPEN CUT TO BORE						



CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

- GENERAL NOTES:**
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
 - 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
 - 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
 - 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)

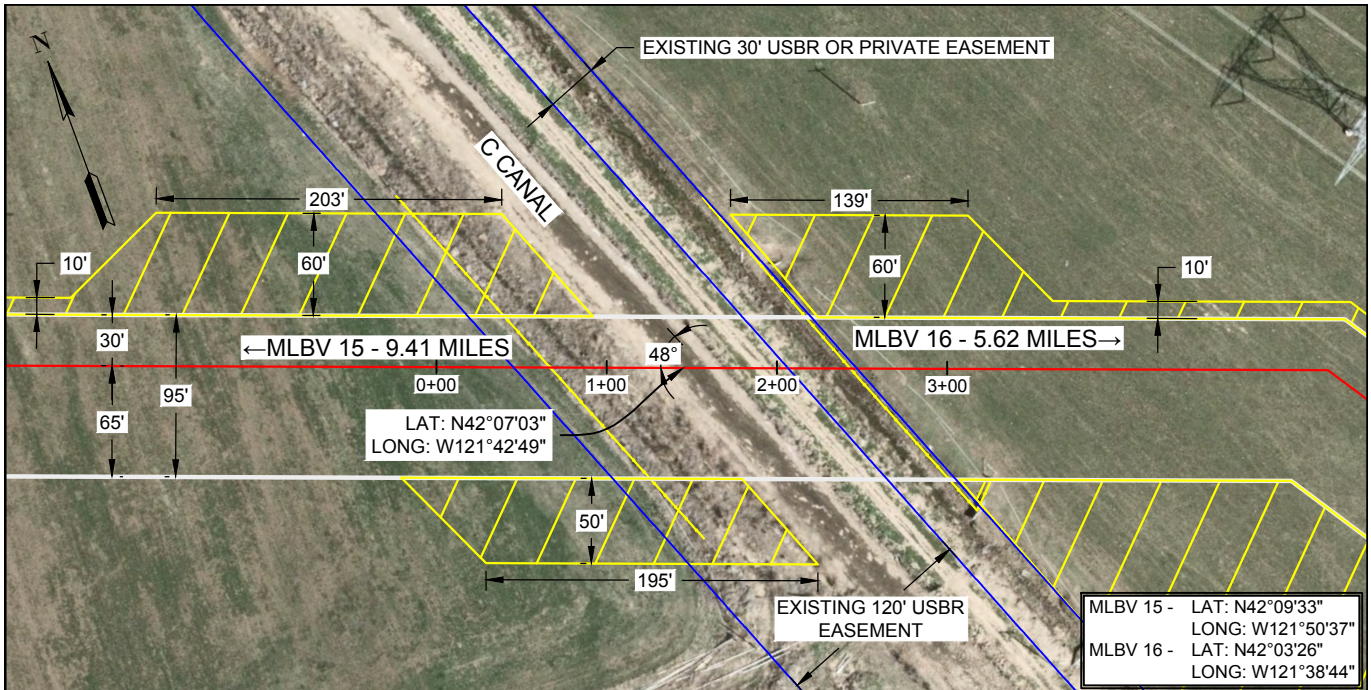


REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #6 - C-4-C LATERAL - PCGP M.P. 205.5
SEC 2, T-40-S, R-9-E
KLAMATH COUNTY, OREGON

REVISIONS					DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE	
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
6	10-22-2015	JTS	REISSUED FOR PERMIT	52408	BSB	NJL	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-122
7	01-22-2016	JTS	REISSUED FOR PERMIT	1028555	TEG	TEG			
8	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			

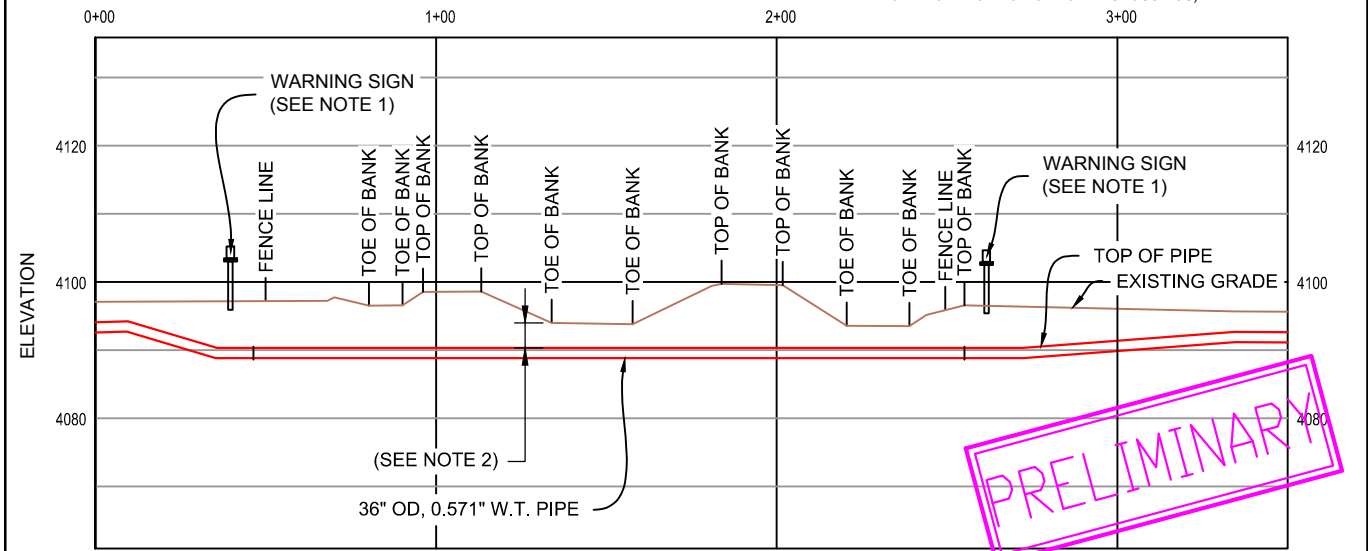
SHEET 1 OF 1



CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.


- GENERAL NOTES:**
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
 - 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
 - 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
 - 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



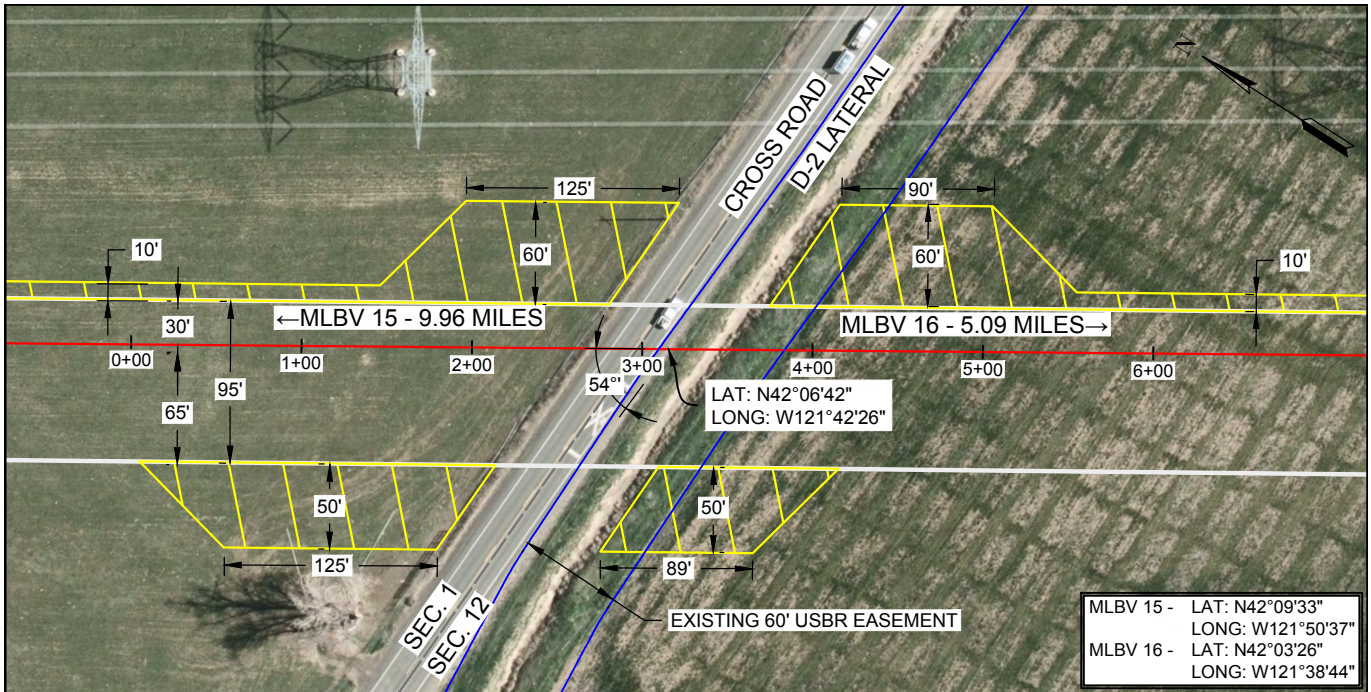
REFERENCE DRAWINGS	
DRAWING NO.	TITLE

REVISIONS			
NO.	DATE	BY	DESCRIPTION
6	10-22-2015	JTS	REISSUED FOR PERMIT
7	01-22-2016	JTS	REISSUED FOR PERMIT
8	12-08-2017	AWL	UPDATE PIPE DATA

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #7 - C CANAL - PCGP M.P. 205.96
SEC 1, T-40-S, R-9-E
KLAMATH COUNTY, OREGON



DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:	
APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-123	SHEET 1 OF 1

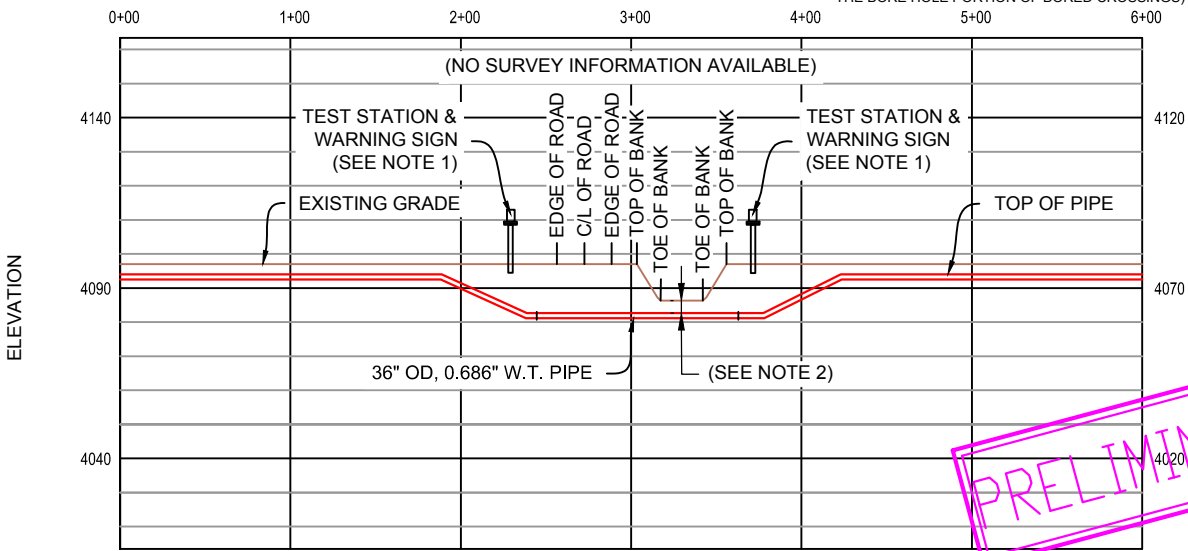


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.686" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.6
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

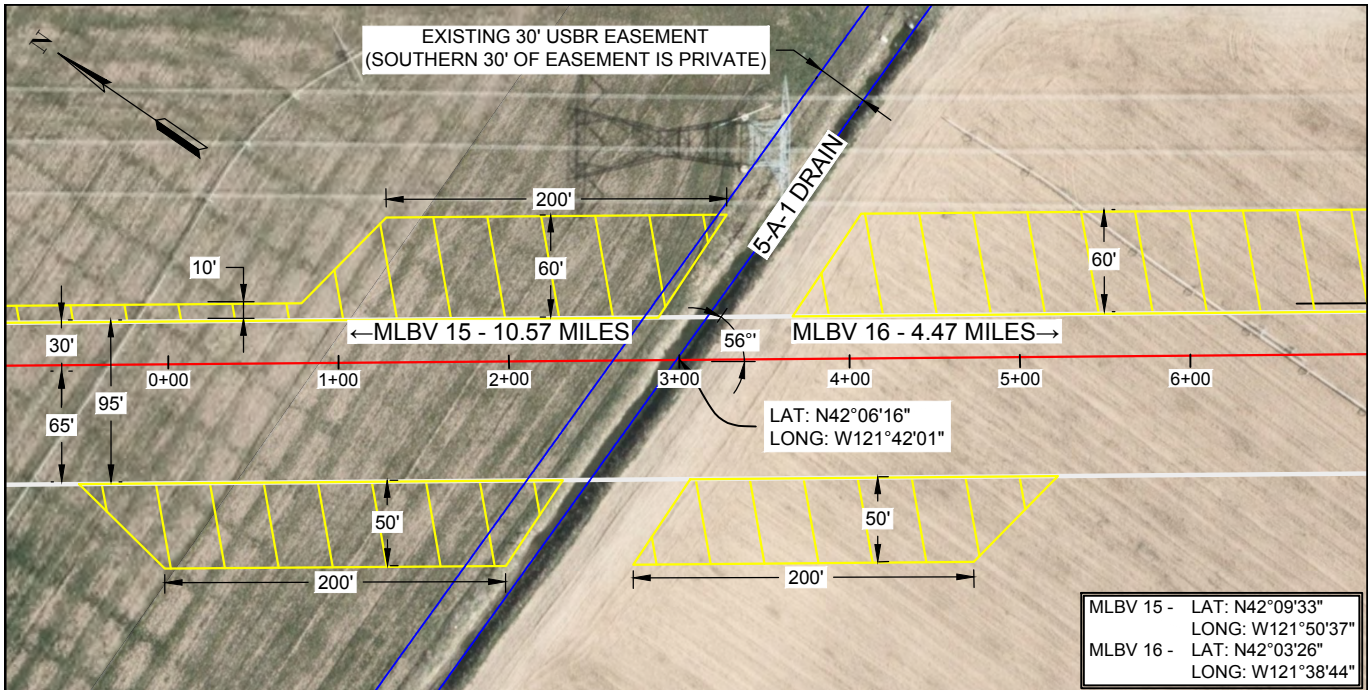
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #8 - D-2 LATERAL - PCGP M.P. 206.51
SEC 12, T-40-S, R-9-E
KLAMATH COUNTY, OREGON

REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: NJL	ISSUED FOR CONSTRUCTION:
4	10-27-2015	JTS	REISSUED FOR PERMIT	52408	BSB	NJL	APPROVED BY: BSB	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-124
5	01-22-2016	JCP	REISSUED FOR PERMIT	1028555	TEG	TEG			
6	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			



MLBV 15 - LAT: N42°09'33"
 LONG: W121°50'37"
 MLBV 16 - LAT: N42°03'26"
 LONG: W121°38'44"

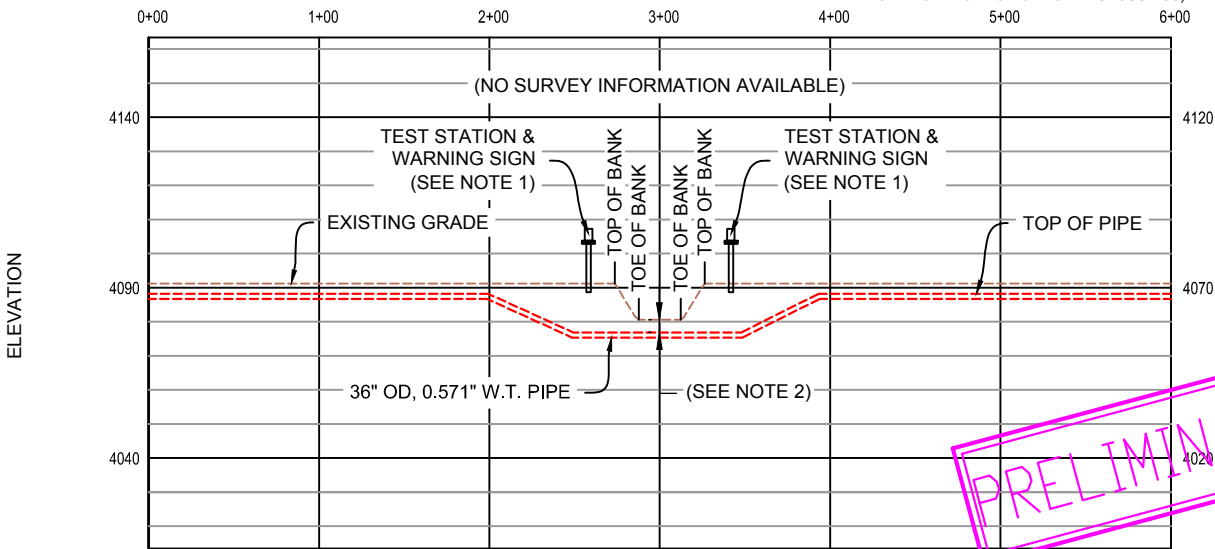
CROSSING PIPE SPECIFICATIONS:

36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 15-20 MILS FBE
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

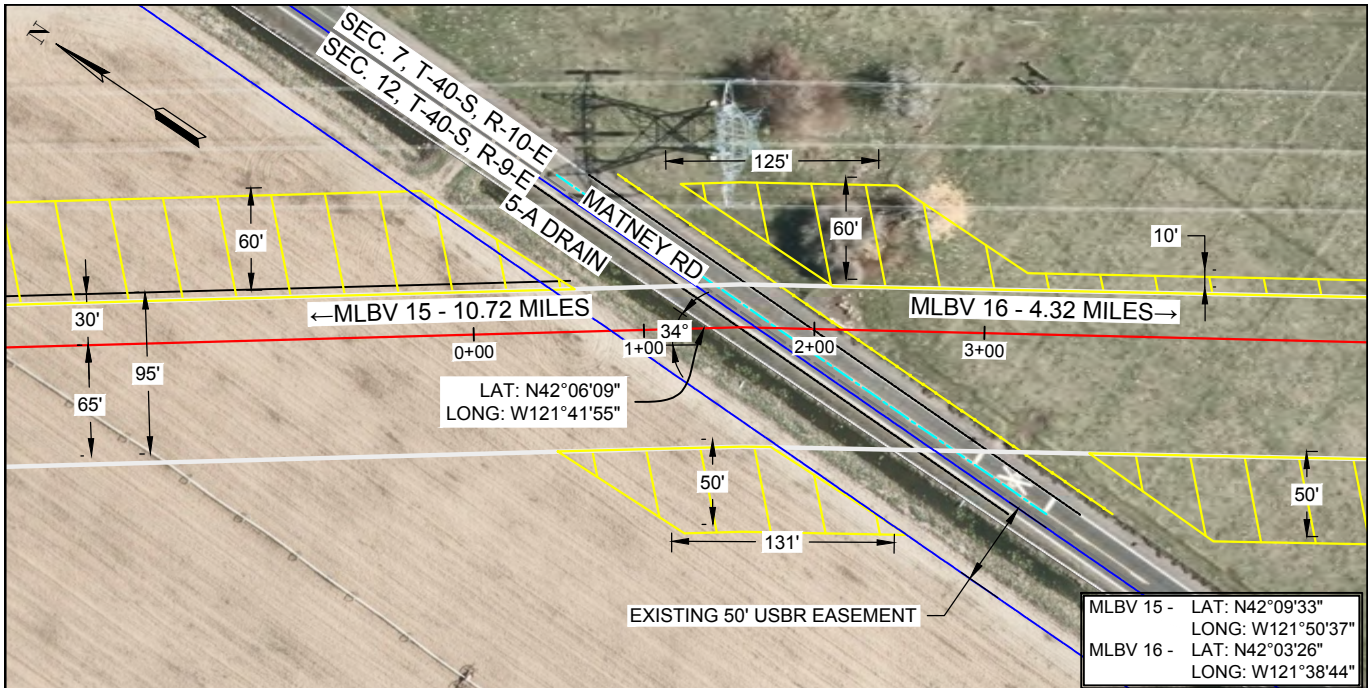
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #9 - 5-A-1 DRAIN - PCGP M.P. 207.11
SEC 12, T-40-S, R-9-E
KLAMATH COUNTY, OREGON

REVISIONS							DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:	
4	01-22-2016	JCP	REISSUED FOR PERMIT	1026555	TEG	TEG	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-125	SHEET 1
5	12-08-2017	AWL	UPDATE PIPE DATA	1026555	JW	TB				OF 1
6	1-15-2018	AWL	UPDATED METHOD OF INSTALL FROM OPEN CUT TO BORE		JW	TB				

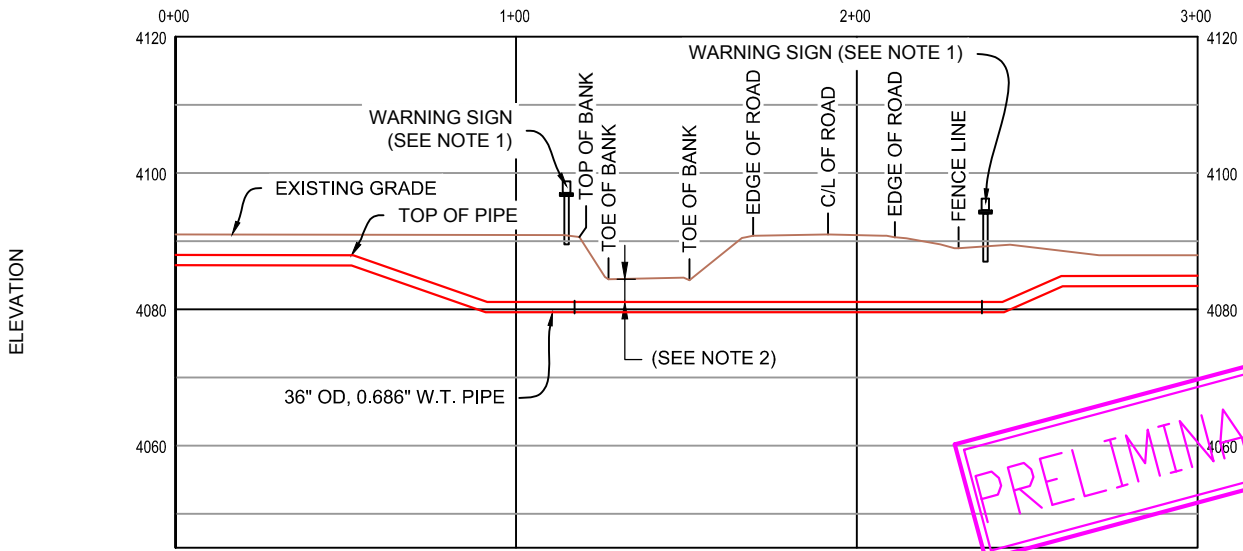


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.686" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.6
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)

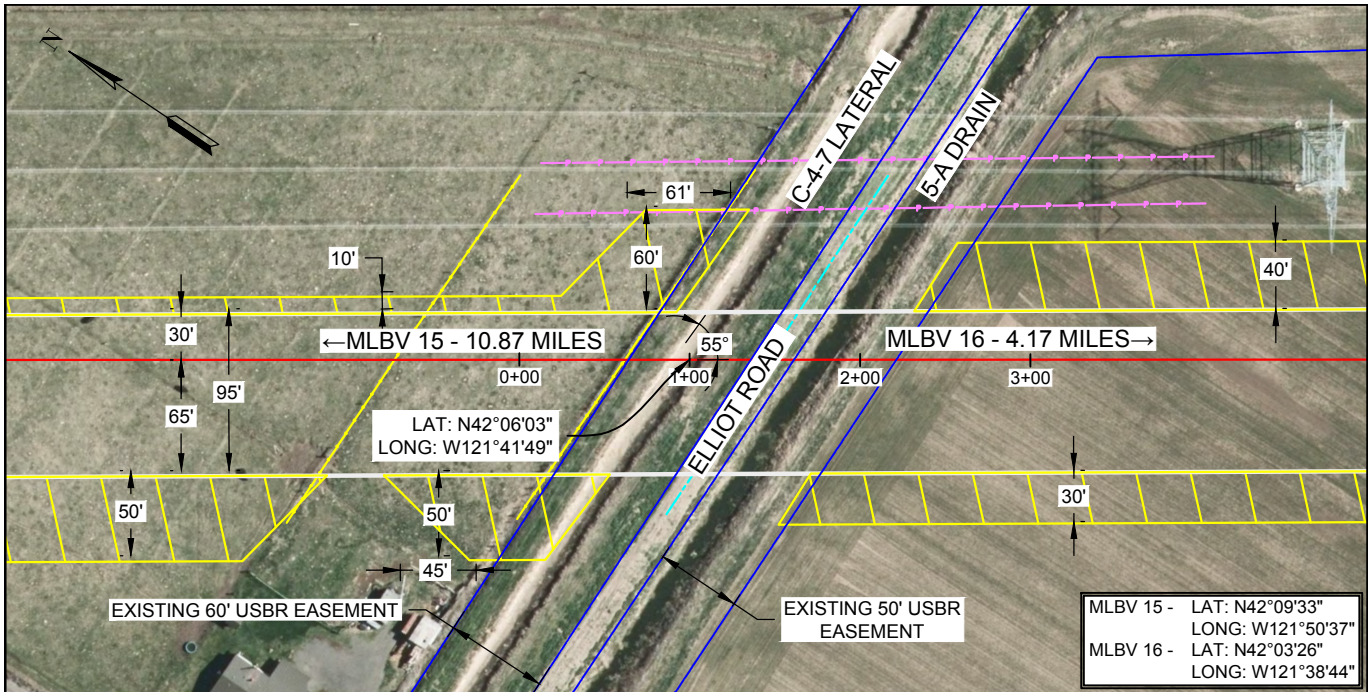


PRELIMINARY

REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #10 - 5-A DRAIN/MATNEY ROAD - PCGP M.P. 207.26
SEC 12, T-40-S, R-9-E
KLAMATH COUNTY, OREGON

REVISIONS				DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE		
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
5	10-27-2015	JTS	REISSUED FOR PERMIT	52408	BSB	NJL	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-126
6	01-22-2016	JCP	REISSUED FOR PERMIT	1028555	TEG	TEG			
7	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			

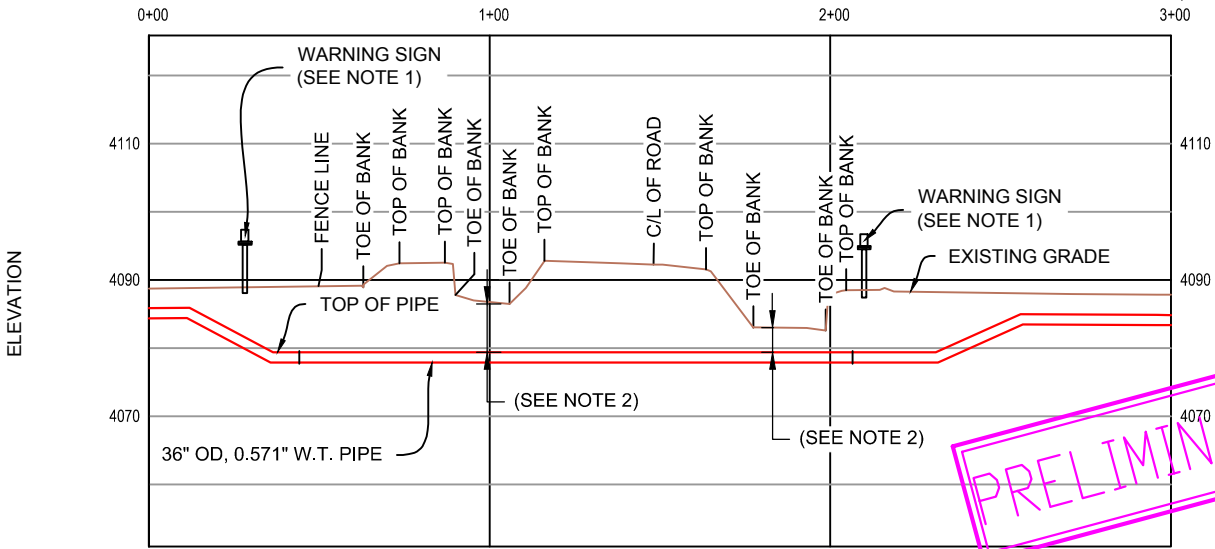


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



REFERENCE DRAWINGS

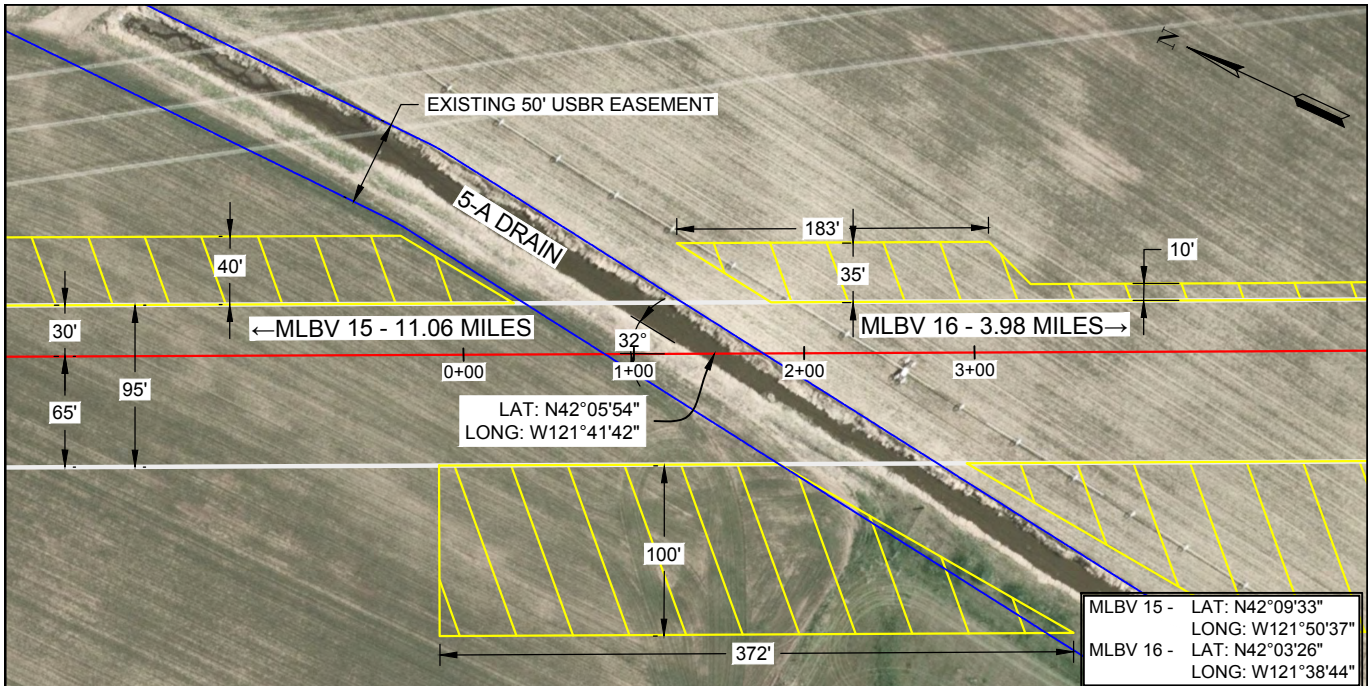
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #11/12 - C-4-7 LATERAL/5A DRAIN - PCGP M.P. 207.40
SEC 7, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
8	9-27-2016	JCP	ADDED ELLIOT ROAD TEXT	1026555	KLL	BAB
9	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB

DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:	
APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-127 & 128	SHEET 1 OF 1

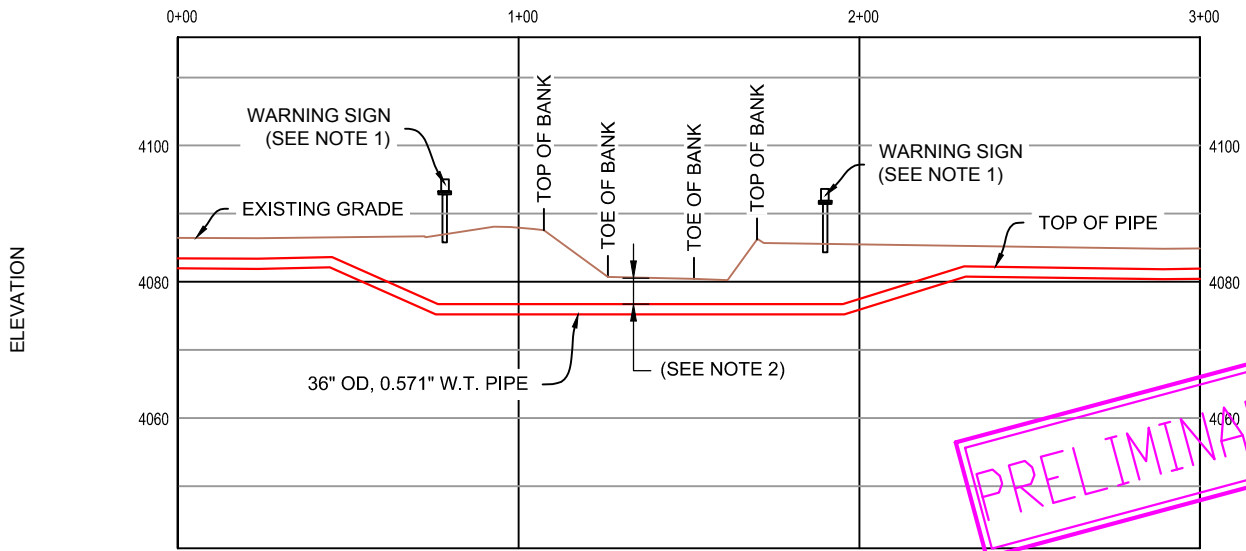


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 15-20 MILS FBE
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)

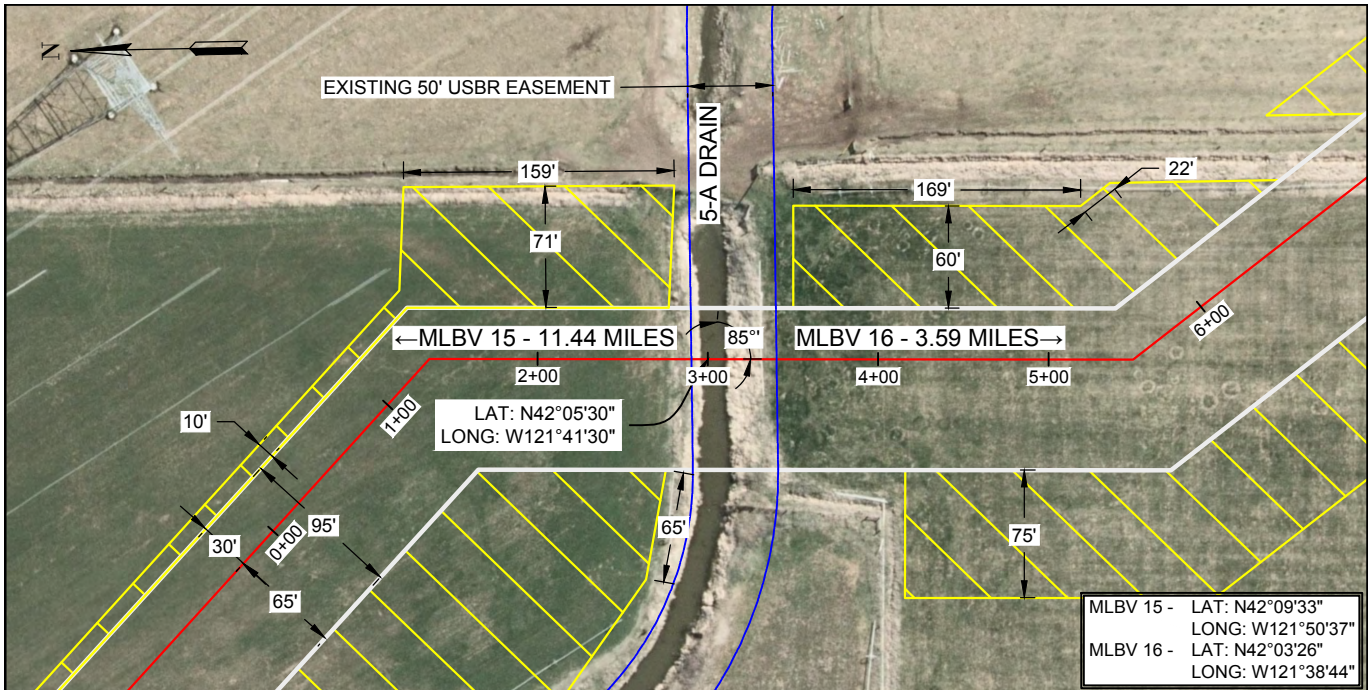


PRELIMINARY

REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #13 - 5-A DRAIN - PCGP M.P. 207.60
SEC 7, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

REVISIONS				DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE			
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:	SHEET 1 OF 1
6	01-22-2016	JCP	REISSUED FOR PERMIT	1026555	TEG	TEG	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-129	
7	12-08-2017	AWL	UPDATE PIPE DATA		JW	JW				
8	1-15-2018	AWL	UPDATED METHOD OF INSTALL FROM OPEN CUT TO BORE		JW	JW				



MLBV 15 - LAT: N42°09'33"
LONG: W121°50'37"
MLBV 16 - LAT: N42°03'26"
LONG: W121°38'44"

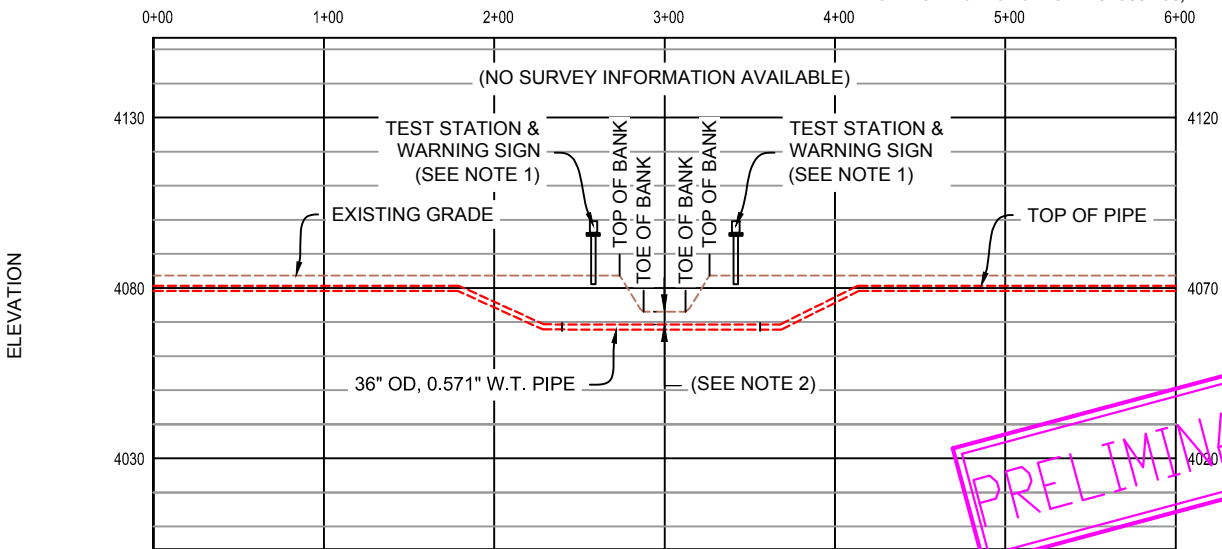
CROSSING PIPE SPECIFICATIONS:

36" O.D. 0.571" W.T. API-5L X-70
EXTERNALLY COATED - 15-20 MILS FBE
TYPE OF PIPE: WELDED STEEL
METHOD OF INSTALLATION: BORE
DESIGN FACTOR: 0.72
CLASS LOCATION: 1
MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
MAXIMUM TEST PRESSURE: 2444 PSIG
CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

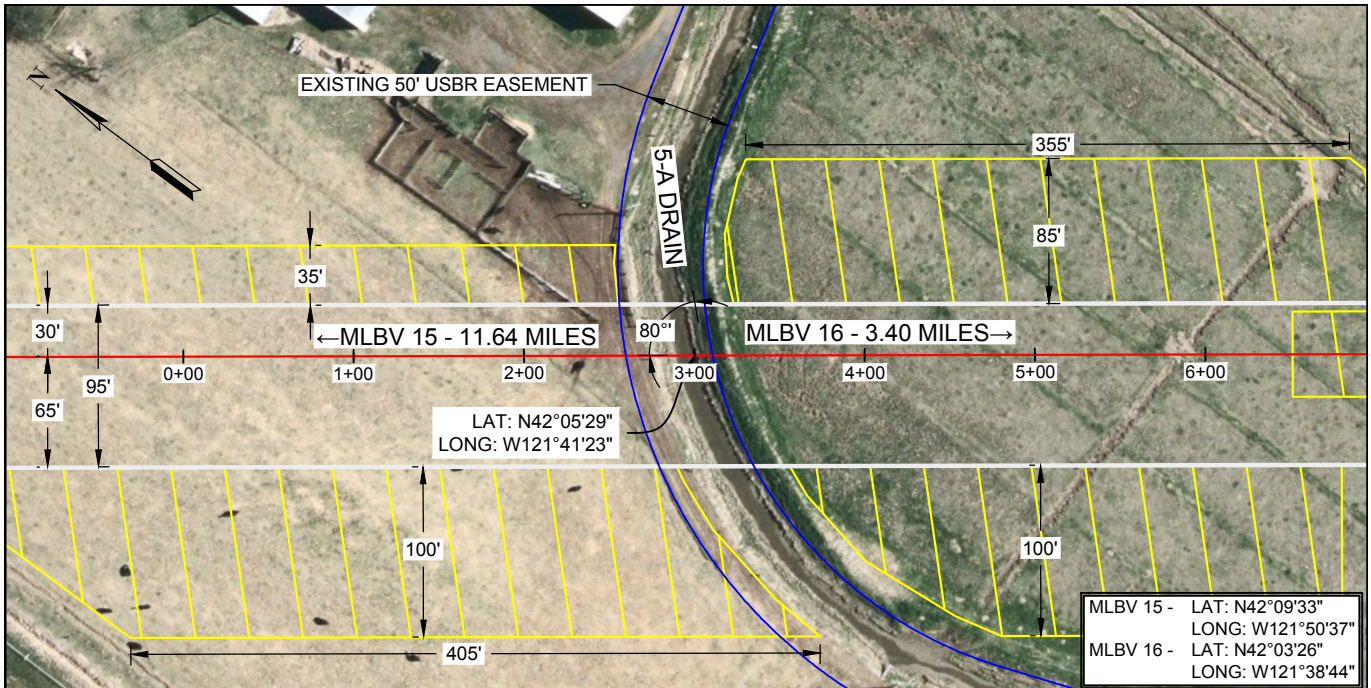
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #14 - 5-A DRAIN - PCGP M.P. 207.98
SEC 18, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
6	03-30-2016	JTS	REISSUED FOR PERMIT	1026555	TEG	TEG	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-130
7	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			
8	1-15-2018	AWL	UPDATED METHOD OF INSTALL FROM OPEN CUT TO BORE		JW	TB			

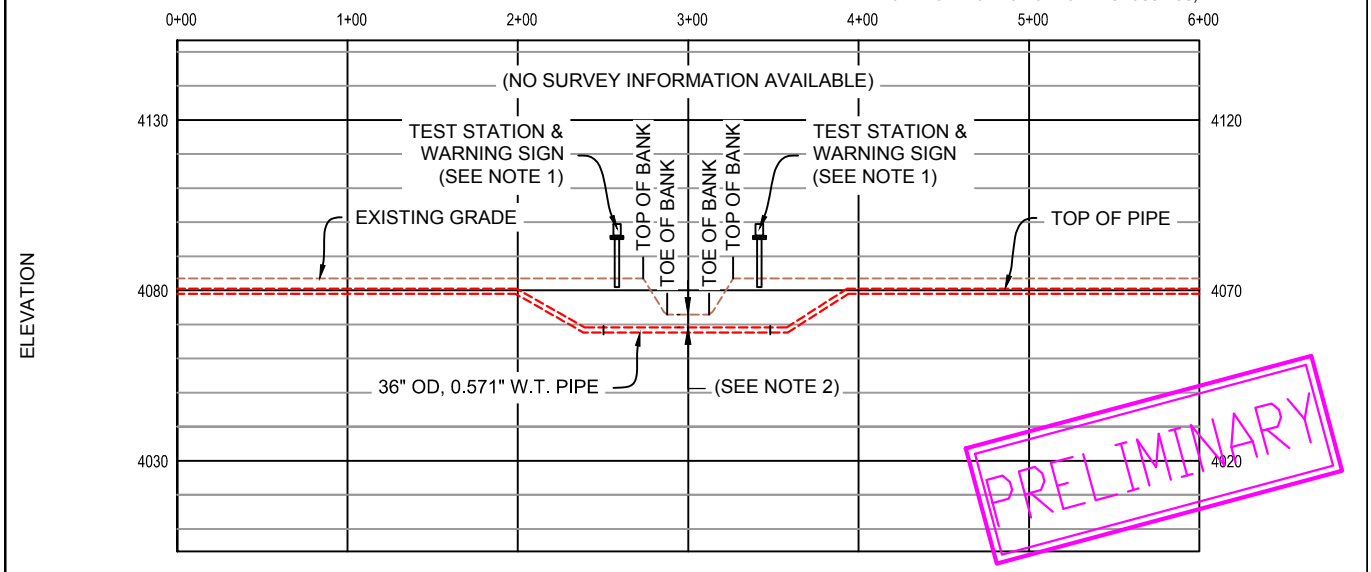


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 15-20 MILS FBE
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

- GENERAL NOTES:**
- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
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 - 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
 - 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)

MLBV 15 - LAT: N42°09'33"
 LONG: W121°50'37"
 MLBV 16 - LAT: N42°03'26"
 LONG: W121°38'44"



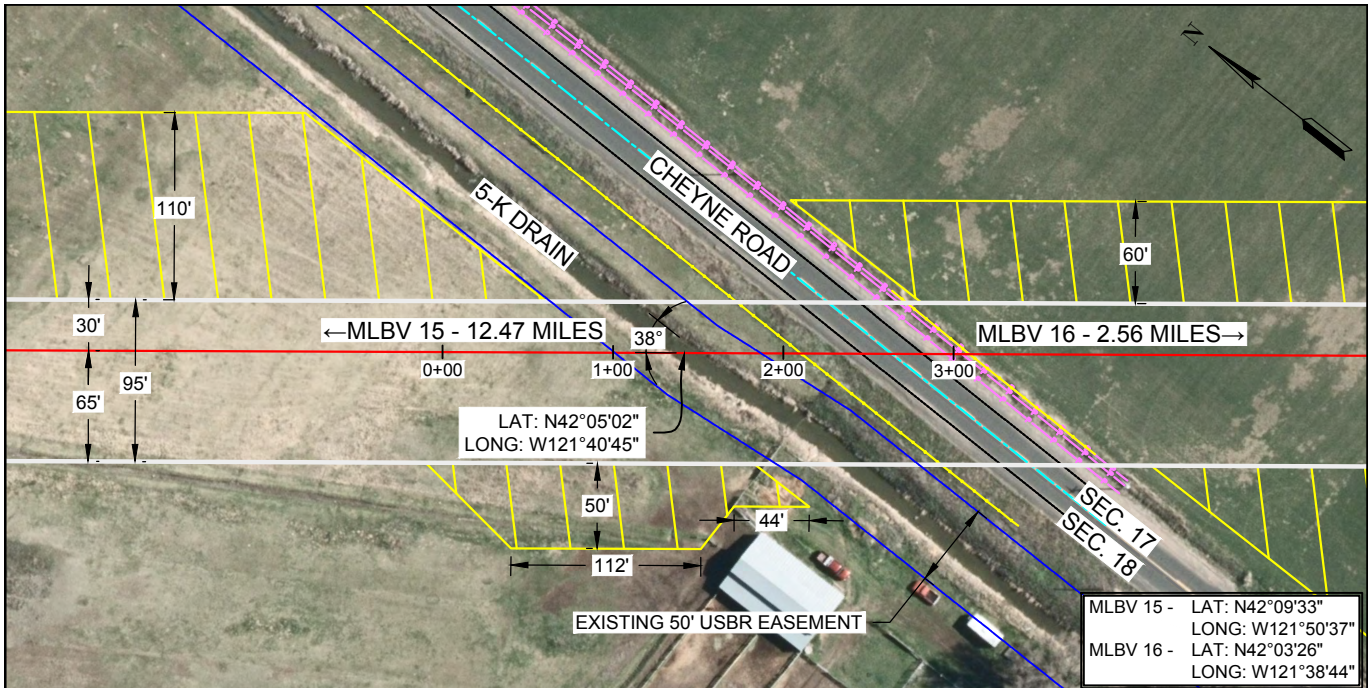
PRELIMINARY

REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #15 - 5-A DRAIN - PCGP M.P. 208.18
SEC 18, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

Pacific Connector
GAS PIPELINE

REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
5	01-22-2016	JCP	REISSUED FOR PERMIT	1026555	TEG	TEG	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-131
6	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			
7	1-15-2018	AWL	UPDATED METHOD OF INSTALL FROM OPEN CUT TO BORE		JW	TB			

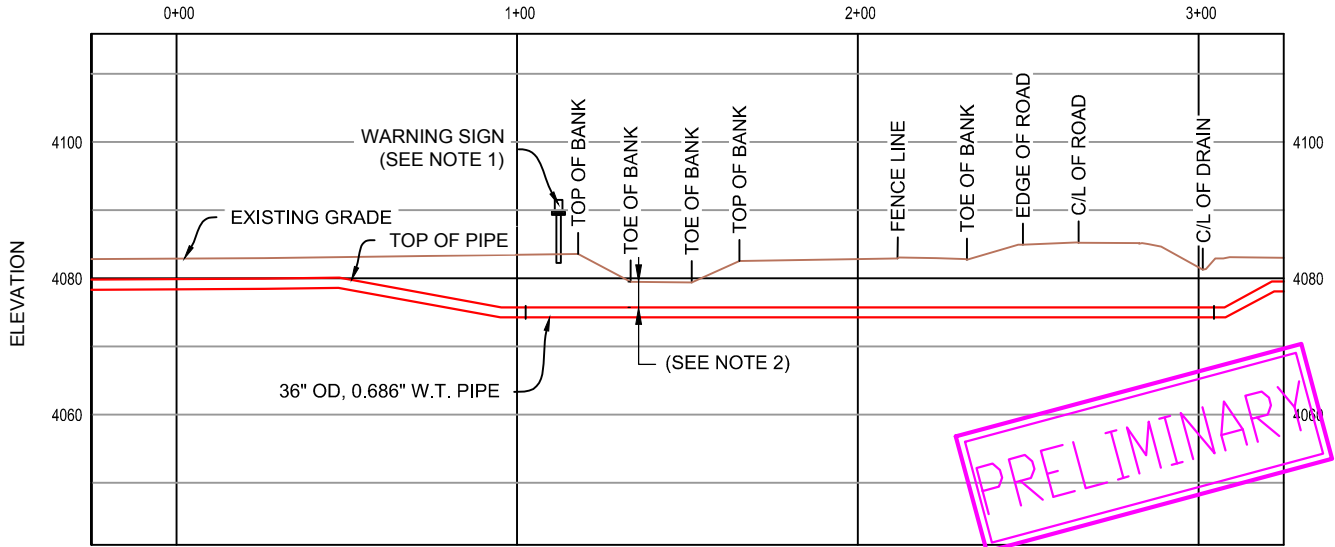


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.686" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.60
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #16 - 5-K DRAIN - PCGP M.P. 209.02
SEC 18, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

Pacific Connector
GAS PIPELINE

REVISIONS					DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE	
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
6	10-27-2015	JTS	REISSUED FOR PERMIT	52408	BSB	NJL	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-132
7	01-22-2016	JTS	REISSUED FOR PERMIT	1026555	TEG	TEG			
8	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			

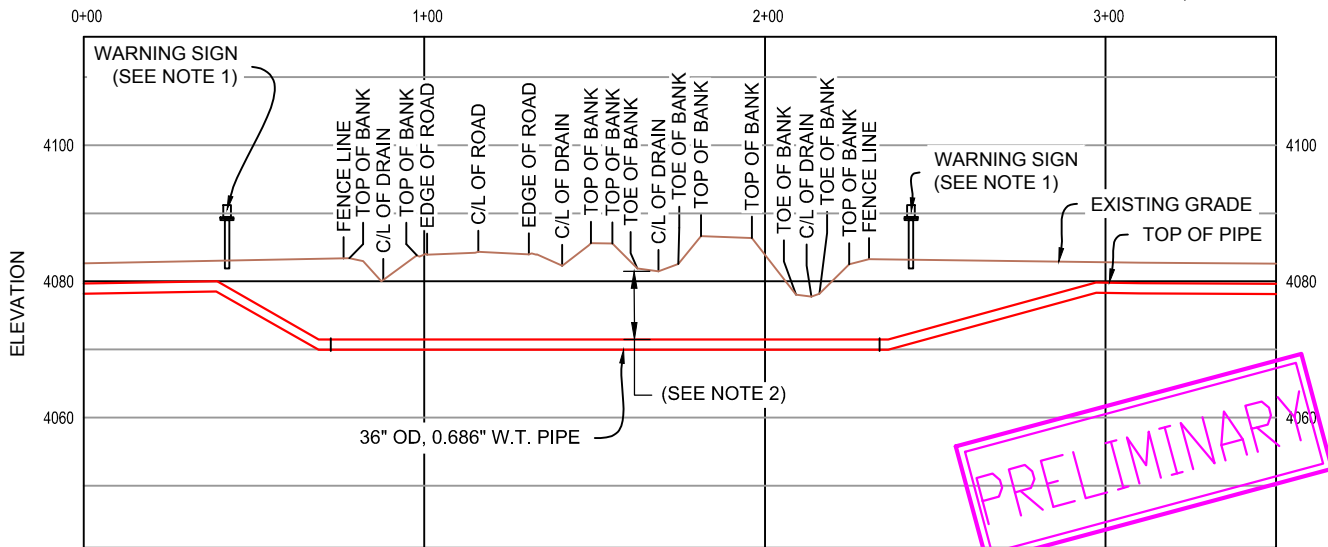


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.686" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.60
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
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- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #17 - C-9 LATERAL - PCGP M.P. 209.15
SEC 20, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
5	10-27-2015	JTS	REISSUED FOR PERMIT	52408	BSB	NJL	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-133
6	01-22-2016	JCP	REISSUED FOR PERMIT	1028555	TEG	TEG			
7	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB			

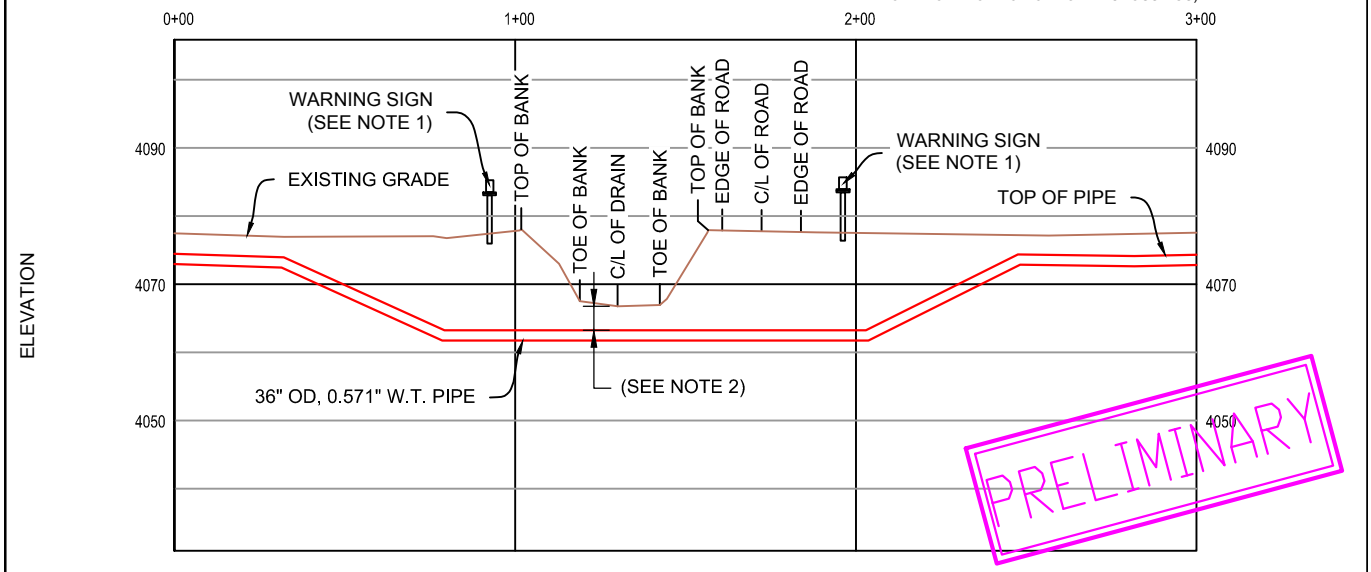
SHEET 1 OF 1



CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 15-20 MILS FBE
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

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- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
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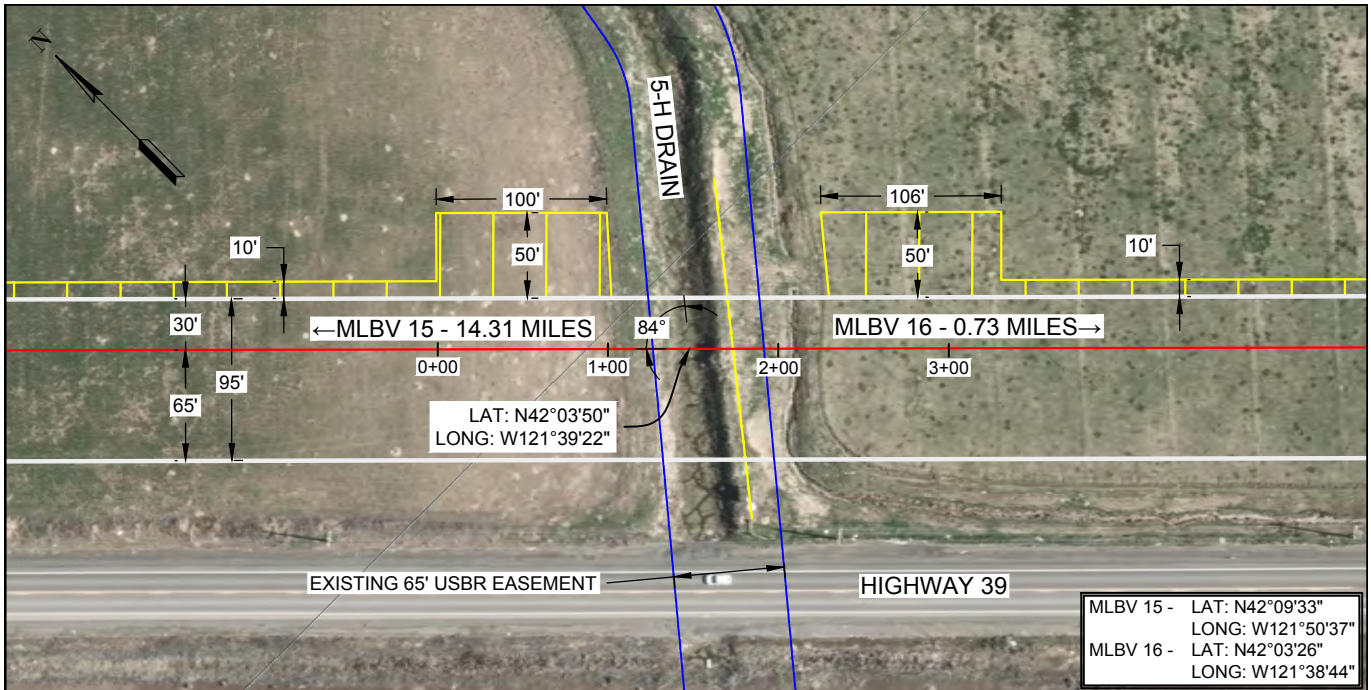
PRELIMINARY

REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #18 - NO. 5 DRAIN - PCGP M.P. 210.26
SEC 20, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

Pacific Connector
GAS PIPELINE

REVISIONS							DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:	
7	01-22-2016	JCP	REISSUED FOR PERMIT	1026555	TEG	TEG	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-134	SHEET 1
8	12-08-2017	AWL	UPDATE PIPE DATA		JW	TB				OF 1
9	1-15-2018	AWL	UPDATED METHOD OF INSTALL FROM OPEN CUT TO BORE		JW	TB				

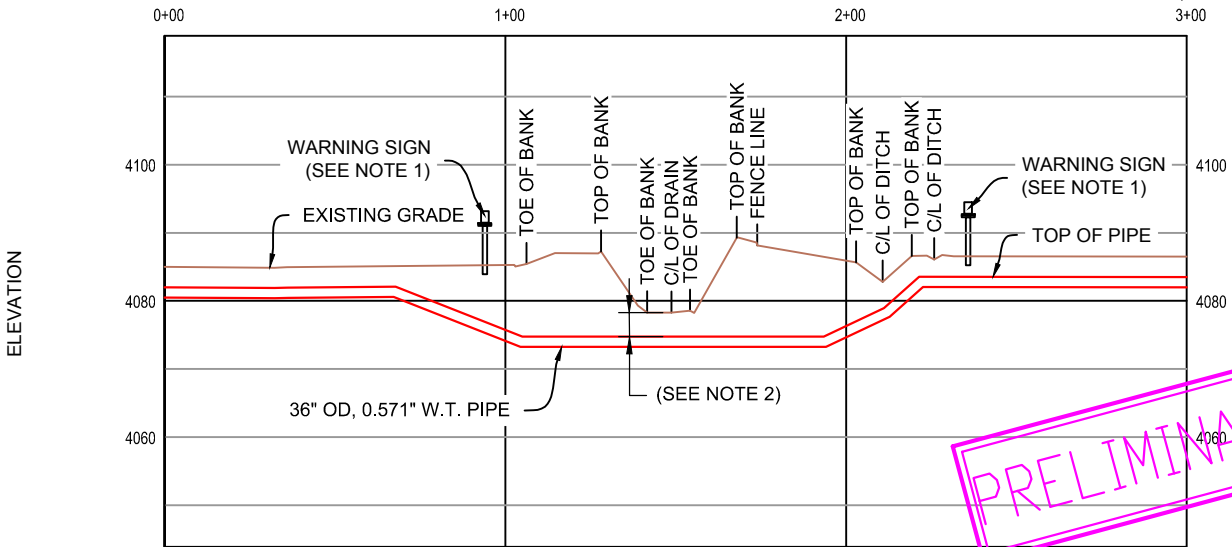


CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 15-20 MILS FBE
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
- 3.) CROSSING PIPE SHALL EXTEND 1' MIN. BEYOND CANAL EASEMENT - BOTH SIDES.
- 4.) 3" MINIMUM WIDTH, DETECTABLE BILINGUAL YELLOW WARNING TAPE READING "CAUTION BURIED GAS LINE" SHALL BE INSTALLED IN TRENCHED AREAS OF RECLAMATION EASEMENTS. (CANNOT BE INSTALLED ACROSS THE BORE HOLE PORTION OF BORED CROSSINGS)



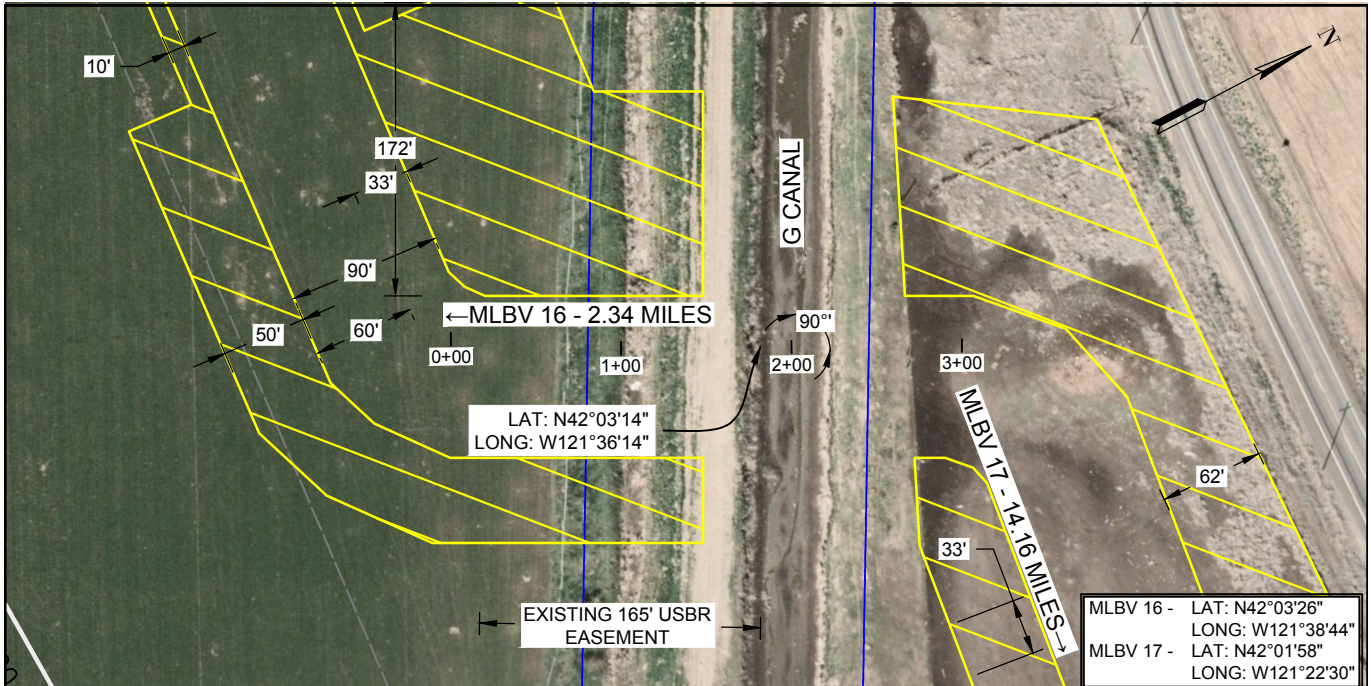
PRELIMINARY

REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #19 - 5-H DRAIN - PCGP M.P. 210.85
SEC 28, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

Pacific Connector
GAS PIPELINE

REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
6	01-22-2016	JTS	REISSUED FOR PERMIT	1026555	TEG	TEG	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-135
7	12-08-2017	AWL	UPDATE PIPE DATA	1026555	JW	TB			SHEET 1
8	1-15-2018	AWL	UPDATED METHOD OF INSTALL FROM OPEN CUT TO BORE						OF 1



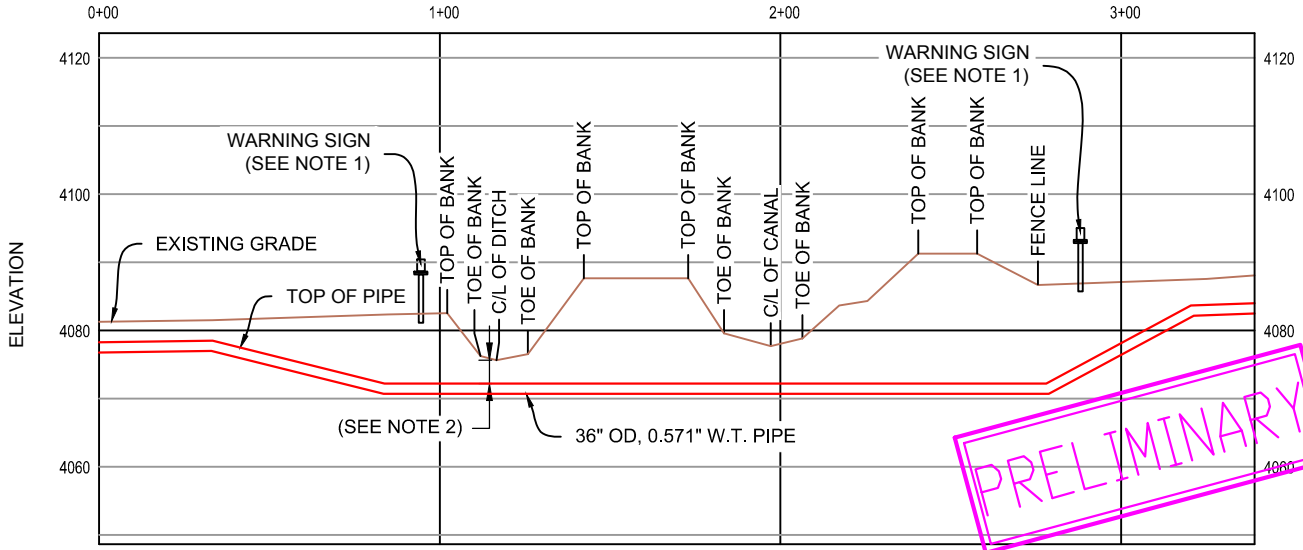
MLBV 16 -	LAT: N42°03'26"
	LONG: W121°38'44"
MLBV 17 -	LAT: N42°01'58"
	LONG: W121°22'30"

CROSSING PIPE SPECIFICATIONS:
 36" O.D. 0.571" W.T. API-5L X-70
 EXTERNALLY COATED - 8-10 MILS FBE & 40 MILS ARO
 TYPE OF PIPE: WELDED STEEL
 METHOD OF INSTALLATION: BORE
 DESIGN FACTOR: 0.72
 CLASS LOCATION: 1
 MAXIMUM ALLOWABLE OPERATING PRESSURE: 1600 PSIG
 MAXIMUM TEST PRESSURE: 2444 PSIG
 CODE: B 31.8, CFR 49, AND ALL OTHER APPLICABLE CODES.

- PROPOSED CENTERLINE
- CONSTRUCTION R.O.W.
- ROAD C/L
- EDGE OF ROAD
- OVERHEAD POWERLINE
- FENCE LINE
- T.E.W.A.

GENERAL NOTES:

- 1.) INSTALL PIPELINE MARKER SIGNS ON BOTH SIDES OF CROSSING AT FENCE LINE OR EASEMENT BOUNDARY.
- 2.) DEPTH OF COVER SHALL BE NO LESS THAN 5' AT THE LOWEST ELEVATION WITHIN RECLAMATION EASEMENT.
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REFERENCE DRAWINGS	
DRAWING NO.	TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
KLAMATH PROJECT FACILITY CROSSING PLAN/PROFILE
CROSSING ID #23 - G CANAL - PCGP M.P. 213.87
SEC 26, T-40-S, R-10-E
KLAMATH COUNTY, OREGON

REVISIONS						DRAWN BY: JTS	DATE: 11-12-2014	ISSUED FOR BID:	SCALE: NOT TO SCALE
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	CHECKED BY: BSB	DATE: 11-12-2014	ISSUED FOR CONSTRUCTION:
7	10-03-2016	JCP	REVISED SECTION NUMBER	1026555	KLL	BAB	APPROVED BY: NJL	DATE: 11-12-2014	DRAWING NUMBER: 3430.5-X-140
8	12-08-2017	AWL	UPDATE PIPE DATA & CROSSING LOCATION		JW	TB			

ATTACHMENT 2

Site Photos of Selected Facility Crossings



Crossing 1, No. 1 Drain looking east (left image) and north (right image)



Crossing 1, No. 1 Drain looking southeast



Crossing 4, C-4-F Lateral looking west (left image) and Crossing 5, No.3 Drain looking east (right image)



Crossing 6, C-4-C Lateral looking north (left image) and Crossing 8, D-2 Lateral looking south (right image)



Crossing 7, C Canal looking southeast (left image) and southwest (right image)



Crossing 10, 5-A Drain looking east (left image) and Crossing 12, 5-A Drain looking northwest (right image)



Crossing 15, 5-A Drain looking southeast



Crossing 17, C-9 Lateral panorama looking west, Matney Way to the right



Crossing 18, No. 5 Drain looking west



Crossing 19, 5-H Drain looking northeast



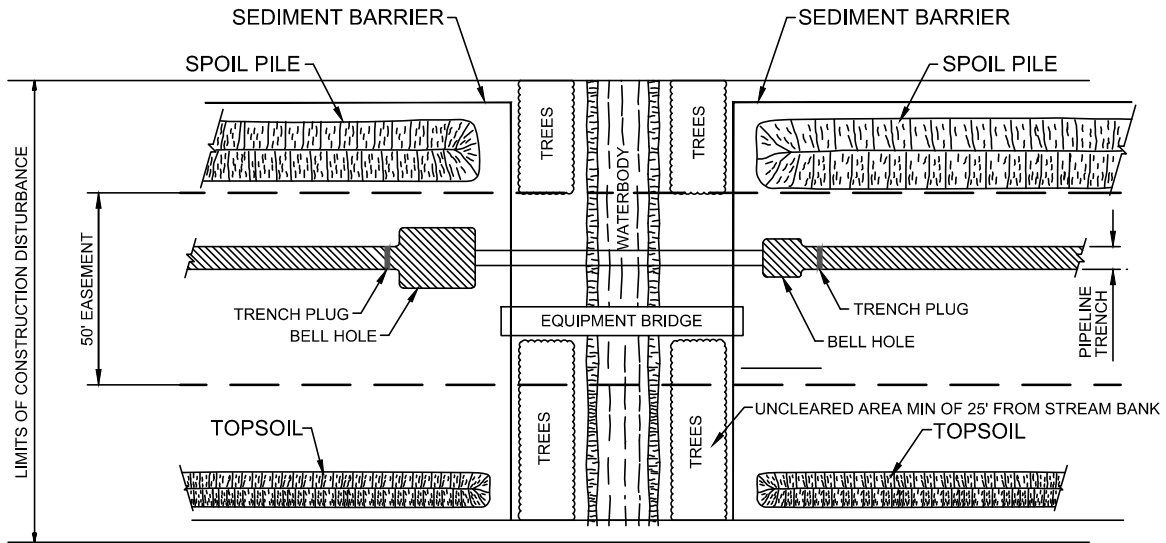
Crossing 21, D-3-A Lateral looking southeast. Image was taken approximately 650-ft northwest of the proposed crossing location.



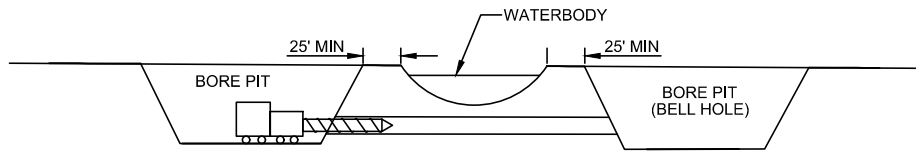
Crossing 23, G Canal looking northeast (left image) and east (right image)

ATTACHMENT 3

Typical Drawings



PLAN




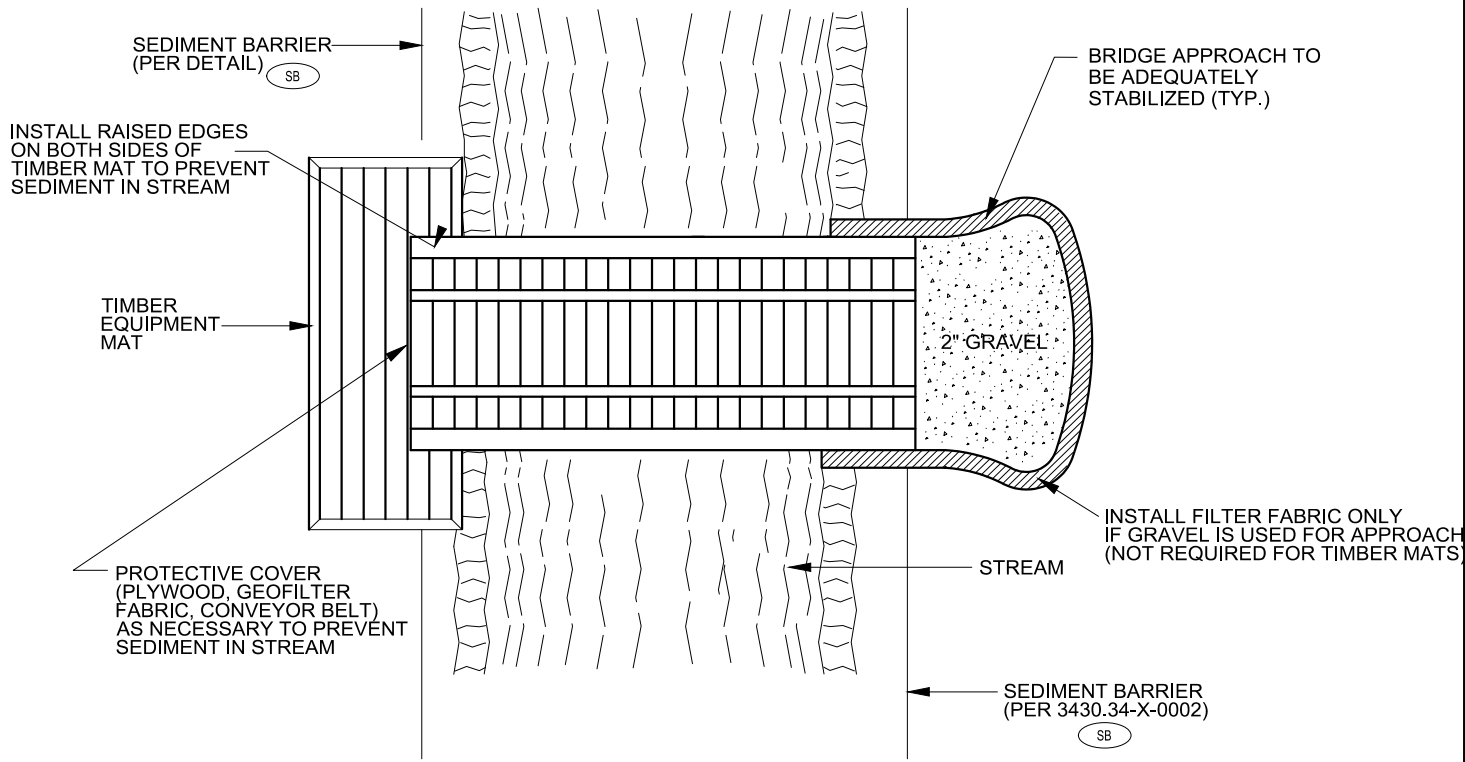
PROFILE

BORE NOTES:

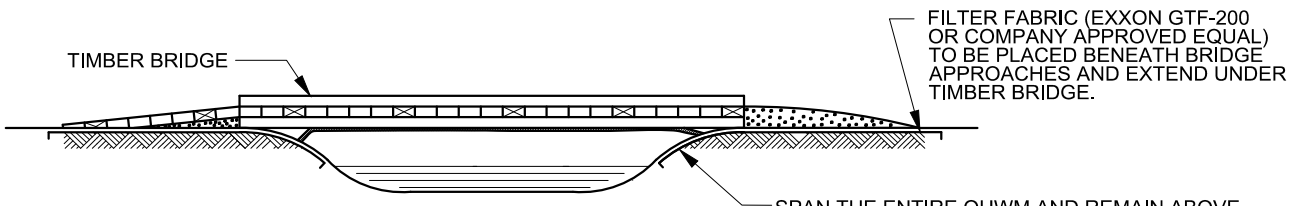
1. CONTRACTOR SHALL INSTALL SEDIMENT BARRIERS AT THE BASE OF SLOPES ADJACENT TO STREAM CROSSINGS WHERE VEGETATION IS DISTURBED, TO INTERCEPT SURFACE RUNOFF.
2. CONTRACTOR SHALL INSTALL SEDIMENT BARRIERS TO PROTECT SPOIL PILES WHERE SEDIMENT BARRIERS ACROSS THE ENTIRE DISTURBED AREA ARE NOT REQUIRED.
4. MAINTAIN A MINIMUM 10 FEET VEGETATIVE BUFFER ALONG BOTH SIDES OF THE WATERBODY IF POSSIBLE.
5. THE SIDES OF THE BORES PITS, SHALL BE SLOPED BACK TO A STABLE CONFIGURATION, UNLESS SHORING IS NECESSARY. INSTALL SAFETY FENCE AROUND BORE PITS AS NECESSARY.
6. DEWATER BORE PIT TO CONTROL SEEPAGE WATER INFLOW. WATER REMOVED FROM BORE PIT AND BELL HOLE SHALL BE FILTERED THROUGH A TRENCH DEWATERING FACILITY (TDW), TO PREVENT ENTRY OF UNCONTROLLED WATER INTO WATERBODY. MINIMIZE DRAW DOWN OF WATERBODY AND MAINTAIN STEAM FLOW.
7. UPON COMPLETION OF PIPE INSTALLATION AND TIE-INS, BACKFILL AND COMPACT THE BORE PITS.

REVISIONS			SCALE		N.T.S.
NO.	DATE	DESCRIPTION	DRAWN	AWL	DATE
A	12/18/17	ISSUED FOR INFORMATION ONLY	CHK'D		12/18/17
			APPROVED		DATE
			EMS JOB NO.		
			AFE/P.O.NO.		
			CLIENT FILE NO.		
			EMS FILE NO.		
			6793-1000-9801.dwg		

Pacific Connector Gas Pipeline, LP 	
TITLE WATER BODY CROSSING TYPICAL CONVENTIONAL BORE	
NO. 6793-1000-9801	REV. A




PLAN



PROFILE

MINIMUM PERFORMANCE/DESIGN STANDARDS:

1. TIMBER BRIDGES SHALL BE ADEQUATELY ANCHORED AT ONE END.
2. BRIDGE APPROACHES SHALL BE EITHER COARSE AGGREGATE OR TIMBER EQUIPMENT MATS.
3. SEDIMENT AND DEBRIS SHALL NOT ENTER WATERBODY. PROVIDE RAISED EDGES ON BOTH BRIDGE EDGES AND PROTECTIVE COVER (PLYWOOD, GEOFILTER FABRIC, CONVEYOR BELT), AS NECESSARY, TO PREVENT SEDIMENT IN STREAM.
4. PERIODICALLY CHECK BRIDGE INSTALLATION AND REMOVE BUILD-UP OF SEDIMENT OR DEBRIS ON BRIDGE.
5. MATERIALS PLACED ALONG STREAM CHANNEL SHALL BE COMPLETELY REMOVED DURING FINAL CLEAN-UP. REMOVAL OF THIS STRUCTURE IS NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION.
6. THE TIMBER BRIDGE SHALL BE DESIGNED TO SPAN THE ENTIRE OHWM OF THE WATERBODIES AND REMAIN ABOVE THE WATER SURFACE ELEVATION AT ALL TIMES. ODFW RECOMMENDS 3-FT OF FREEBOARD FROM THE OHWM/ACTIVE CHANNEL TO THE BOTTOM OF THE BRIDGE.
7. CONTRACTOR MAY USE MANUFACTURED PORTABLE BRIDGES OR RAIL CAR BRIDGES AS SUBSTITUTES FOR THE MEASURES SHOWN, IF APPROVED BY COMPANY REPRESENTATIVE.
8. MID-STREAM BRIDGE SUPPORTS PIERS OR CULVERTS SHALL BE USED TO PREVENT SETTLEMENT OF THE BRIDGE, IF NECESSARY. WHERE PIERS/CULVERTS ARE USED TO SUPPORT BRIDGES THEY SHALL NOT RESTRICT FLOW AND SHALL BE DESIGNED TO WITHSTAND AND PASS THE HIGHEST FLOW THAT WOULD OCCUR WHILE THE BRIDGE IS IN PLACE.
9. USE OF MID-STREAM BRIDGE SUPPORTS PIERS/CULVERTS WILL TRIGGER ODFW FISH PASSAGE PERMIT REQUIREMENTS AND APPROVALS BEFORE INSTALATION.

DRAWING NO.		REFERENCE TITLE		PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP TYPICAL PORTABLE BRIDGE CROSSING (PB)						
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-0010	SHEET 2 OF 2



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Leave Tree Protection Plan

Pacific Connector Gas Pipeline Project

September 2019

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2.0 Preconstruction Survey 1
3.0 Forest/Timber Clearing 1
4.0 Uncleared Storage Areas 3

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- Attachment 1 Uncleared Storage Areas Typical Best Management Practices
- Attachment 2 Tree and Log Crib Wall for Spoils Retention

1.0 INTRODUCTION

The intent of this plan is to describe the measures that will be implemented during construction of the Pacific Connector Gas Pipeline Project (Pipeline or Pipeline Project) to identify, conserve and protect selected trees (living and snags) within or along the edges of the Pipeline Project's certificated work limits (i.e., construction right-of-way, uncleared storage areas (UCSAs) and temporary extra work areas (TEWAs). This plan describes the preconstruction surveys that will be completed to clearly mark the boundaries of the Pipeline Project's certificated working limits; the procedures that will be conducted to identify individual trees within or along the edges of the certificated work limits that can be conserved or left standing; and the measures that would be employed to ensure these trees are saved and protected from clearing activities. This plan describes the Best Management Practices (BMPs) that would be employed to minimize damage to trees within UCSAs, where slash, stumps or other materials may be temporarily stored. This Plan is intended to describe the measures that will be used to protect trees not removed from the construction right-of-way and TEWAs and protect trees within UCSAs on federal lands.

PCGP will be required to purchase all timber located within the construction right-of-way clearing limits and all trees outside of the construction clearing limits that are damaged excessively by clearing and construction activities (including road construction, renovation and repair), as determined by the authorized representative of the BLM or USFS. If PCGP damages any BLM trees outside of the authorized clearing area and the UCSAs, PCGP may be subject to trespass under BLM regulations and Oregon Revised Statutes.

2.0 PRECONSTRUCTION SURVEY

Prior to construction, the certificated construction right-of-way limits, including the boundaries of UCSAs, TEWAs, temporary disposal sites, temporary and permanent access roads, and other areas of ground-disturbing activities, as shown on the Environmental Alignment Sheets, will be surveyed and clearly marked with stakes and flagging in accordance with stipulations found within the Right-of-Way Marking Plan (see Appendix T to the POD).

3.0 FOREST/TIMBER CLEARING

Prior to clearing operations and before or concurrently with timber cruising, the EI or PCGP's authorized representative in conjunction with the construction contractor will identify and flag existing snags on the edges of the construction right-of-way or TEWAs where it is feasible to save/conservate them from clearing operations (approximately 10 federal working days prior to clearing on NFS lands). These snags will be saved as mitigation to benefit primary and secondary cavity nesting birds, mammals, reptiles, and amphibians. In addition, during this process the EIs will identify and flag other large-diameter trees (e.g., large, 'woolly' trees in riparian areas, near NSO activity centers or MAMU stands) on the edges of the construction right-of-way and TEWAs that can be saved/protected as green recruitment or as habitat/shade trees. Some of these trees would be girdled to create snags to augment the number of snags along the right-of-way providing habitat structures. The feasibility to salvage snags and trees on the edges of the construction right-of-way and TEWAs will be based on the ability to not hinder construction activities or the potential safety of construction personnel. This decision will ultimately be made by PCGP's Chief Inspector if there is disagreement between inspectors. During EI training, held prior to construction, Forest Service will provide criteria to the EIs about the kind/type of trees that would be preferred as 'leave' and girdled trees on NFS lands. As

required by Oregon's regulations, PCGP will cut hazard/danger trees¹ that have been designated by PCGP's professional forester and/or certified arborist that may be on the edges of the certificated construction work limits. PCGP has requested a Danger/Hazard Tree Modification to FERC's Upland Plan (see Table A.1-1 in Appendix A.1 to Resource Report 1).

The specific method to mark snags or trees to be conserved/saved will be determined prior to clearing operations based on PCGP's consultation with the clearing contractors. The selected marking method will be a common method that will be used on all construction spreads and will be selected based on the clearing contractor's experience to ensure maximum protection as well as marking efficiency. PCGP's EI or authorized representative would prioritize evaluating the trees that can be saved/conserved (within the certificated working limits) that are within or adjacent to sensitive areas including riparian areas, wetlands, northern spotted owl (NSO) home ranges and marbled murrelet (MAMU) stands (i.e., known occupied, and potential occupied stands).

During the process to identify the trees that can be conserved/saved within the construction working limits, the EI would identify trees that would be used for instream habitat structures or Large Woody Debris (LWD), which would be salvaged with the root wads attached. For NFS lands, the Forest Service would provide the applicable criteria during training to the EIs. These trees would be selected based on their site-specific use. For example, if these trees are to be used for on-site instream habitat, these trees would be selected based on their proximity to the stream to minimize hauling/moving requirements and based on the size of the specific stream where the LWD is to be placed. If LWD is required for use off-site, selected trees would be identified in areas near suitable landings, TEWAs, and ingress/egress locations to minimize moving the LWD and to improve the efficiency in storing and hauling this material. The specific method to mark trees within the construction right-of-way and TEWAs that would be used for various habitat purposes/LWD will be determined prior to clearing operation based on PCGP's consultation with the clearing contractors. The selected marking method will be a common method that will be used on all construction spreads and will be selected based on the clearing contractor's experience to ensure maximum protection as well as marking efficiency. Where LWD is acquired from the certificated construction limits, this material will be collected from areas outside riparian zones to maintain root structure within the riparian zone. The exception is where the LWD can be obtained from the trenchline or construction right-of-way cut areas where root systems would be removed during trench excavation or grading operations. Trees selected for LWD would be selected from the interior of the construction right-of-way or TEWAs, as much as possible, because pulling trees with root wads could extend disturbance off of the construction right-of-way or TEWAs, and a large depression, where the root wad was removed, may need to be filled during construction right-of-way restoration efforts. Any timber cleared from the construction right-of-way that will be used for instream or upland wildlife habitat diversity structures will be stored on the edge of the construction right-of-way or in TEWAs for later use during restoration efforts.

Once PCGP has selected the construction contractors and the pipeline centerline and construction limits have been surveyed and marked, the construction limits will be reviewed by the contractors and PCGP to determine if any TEWAs could be potentially eliminated or reduced in size to avoid tree clearing in these areas and minimize overall Pipeline Project effects. Where feasible, the review of the construction limits by the contractor would occur prior

¹ [OAR 437, Division 7 Forest Activities - Oregon OSHA](#): Danger tree – A standing tree, alive or dead, that presents a hazard to personnel due to deterioration or physical damage to the root system, trunk (stem), or limbs, and the degree and direction of lean.

to, or concurrently with the timber cruises so that these areas could be eliminated from the timber appraisals. However, if this review occurs after the timber cruises/forest appraisals, any areas of TEWAs that can be eliminated or reduced in size would be marked to be saved from clearing operations. The specific method to mark TEWAs that can be eliminated or reduced in size will be determined prior to clearing operation based on PCGP's consultation with the clearing contractors. The selected marking method will be a common method that will be used on all construction spreads and will be selected based on the clearing contractor's experience to ensure maximum protection of these eliminated areas. During clearing operations, PCGP's clearing inspectors or the construction contractors may also identify other trees on the edges of the construction right-of-way or within TEWAs that can be saved from clearing operations. In these situations, PCGP's clearing inspector would flag/mark these trees that can be saved/conserved, as previously noted in this Plan.

If PCGP's construction contractor determines that it is necessary to clear any of the identified/designated saved trees within the certificated working limits, the contractor would notify PCGP with the rationale to remove these trees. PCGP would review the contractor's rationale and confirm if any appropriate seasonal timing restrictions apply, such as a buffer (1/4 mile) from MAMU stands or NSO nest patches, prior to removing any of these trees in year two.

4.0 UNCLEARED STORAGE AREAS

The UCSAs will not be cleared of trees during construction. All UCSAs are shown on the Environmental Alignment Sheets. These areas will be used for temporary storage of equipment and construction spoils. In addition, these UCSAs will be used to store materials (e.g., forest slash, stumps, and dead and downed logs) generated during timber clearing and pipeline construction. These materials will be scattered back across the construction right-of-way after pipeline construction during restoration efforts. The amount of this type of material is expected to be large enough to hinder construction activities if it were stored within the 95-foot construction right-of-way.

Generally, the forests in these areas are characterized by mature trees that are spaced such that sufficient storage space is available between them to store forest slash, stumps, dead and downed logs, and spoil.

Vegetation disturbance within the UCSAs would generally depend on the site-specific vegetation characteristics – with younger precommercial forests being potentially more susceptible to damage (limb breakage or tree damage). However, use of UCSAs that contain precommercial size forest stands will be accredited special consideration and care when implementing the protection measures described below. PCGP Environmental Inspectors (EIs) or Utility Inspectors would monitor the use of UCSAs that are in a regenerating age class and which could be more susceptible to tree damage to ensure potential impacts from their use are minimized.

PCGP will implement protection measures to minimize damage to live trees in the UCSAs or on the edges of the construction right-of-way or TEWAs. Measures that will be employed to protect live trees located in the UCSAs or on the edges of the construction right-of-way or TEWAs would include, but are not limited to:

- PCGP's Chief and Environmental Inspectors will be trained on the importance of protecting live trees within UCSAs and on the edges of the construction right-of-way or TEWAs;

- PCGP's equipment operators will leave as much space between the stored material and live trees as practical within UCSAs, as depicted in Drawing 3430.34-X-0021 provided in Attachment 1;
- Train and educate the construction contractors and the equipment operators to place materials such that placement and retrieval will minimize potential impacts (i.e., soil compaction and bark damage);
- Train equipment operators to strategically place various slash materials using techniques to minimize resource damage within the UCSAs. These techniques would include sorting, sizing, stacking, or placing these materials to facilitate their use, retrieval, and redistribution back across the construction right-of-way;
- Haphazard dozing/pushing of slash materials off the construction right-of-way or TEWAs into UCSAs will not be allowed;
- Along steep and narrow ridgeline areas, logs, slash, and dead and downed material, or other materials, such as equipment mats may be used as cribbing to contain excavated materials during construction (construction right-of-way grading and trenching activities) (see Attachment 2);
- In limited locations, the UCSAs may be used to store spoil or to temporarily park equipment between the mature trees. However, storage and temporary parking of equipment/vehicles will not occur immediately adjacent to the tree to minimize soil compaction or tree damage; and
- PCGP's inspectors will ensure that the protective measures are followed during construction.

Following completion of construction, PCGP, BLM and USFS authorized representatives will assess tree damage (on their respective federal lands) within the UCSAs and other Pipeline Project areas for excessive live tree damage.

During restoration, some of the materials that are pulled out of the UCSAs may roll beyond the construction limits. In these circumstances, PCGP will act to retrieve as much of the overcast material as possible without undertaking additional tree clearing and grading to reach the overcast material, as determined appropriate by PCGP's EI, in coordination with a BLM/FS designated representative

During restoration, PCGP's EI, in coordination with a BLM/FS designated representative, will determine appropriate measures necessary to mitigate any Pipeline Project damage that may have occurred within the UCSAs, including scarification, reseeding, and replanting, as specified in the Erosion Control and Revegetation Plan (ECRP) provided as Appendix I to the POD.

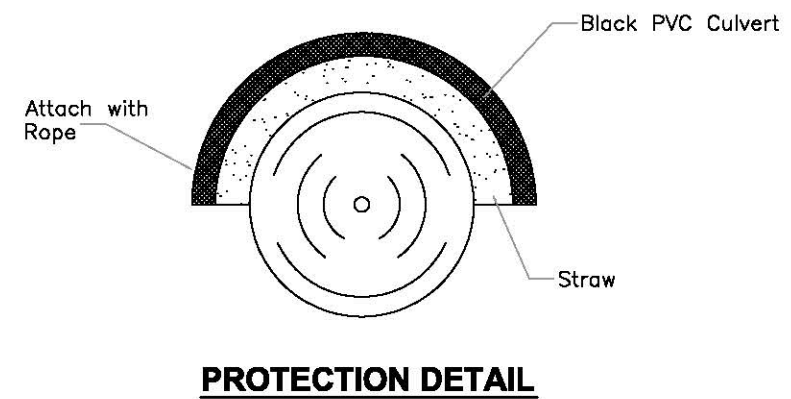
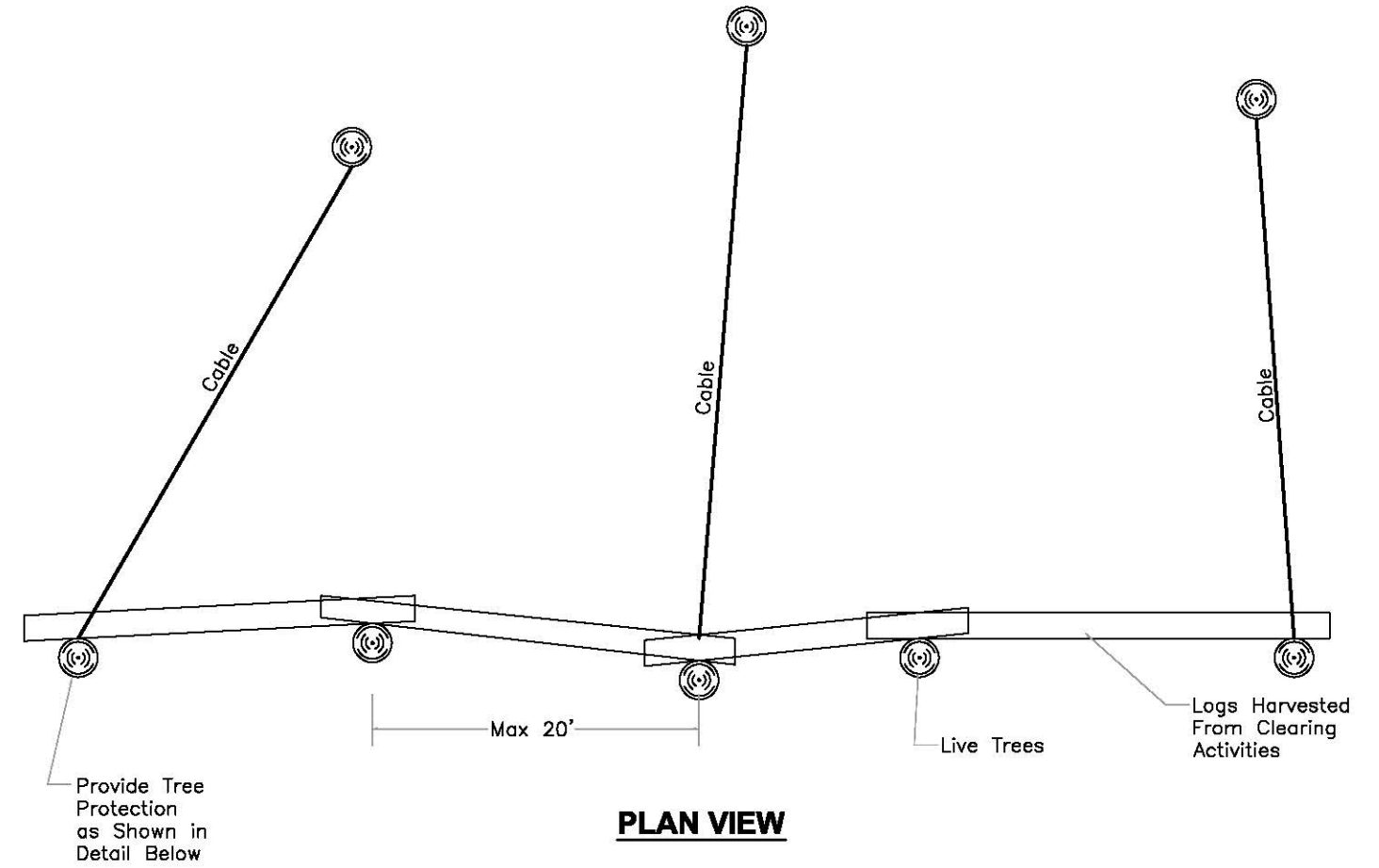
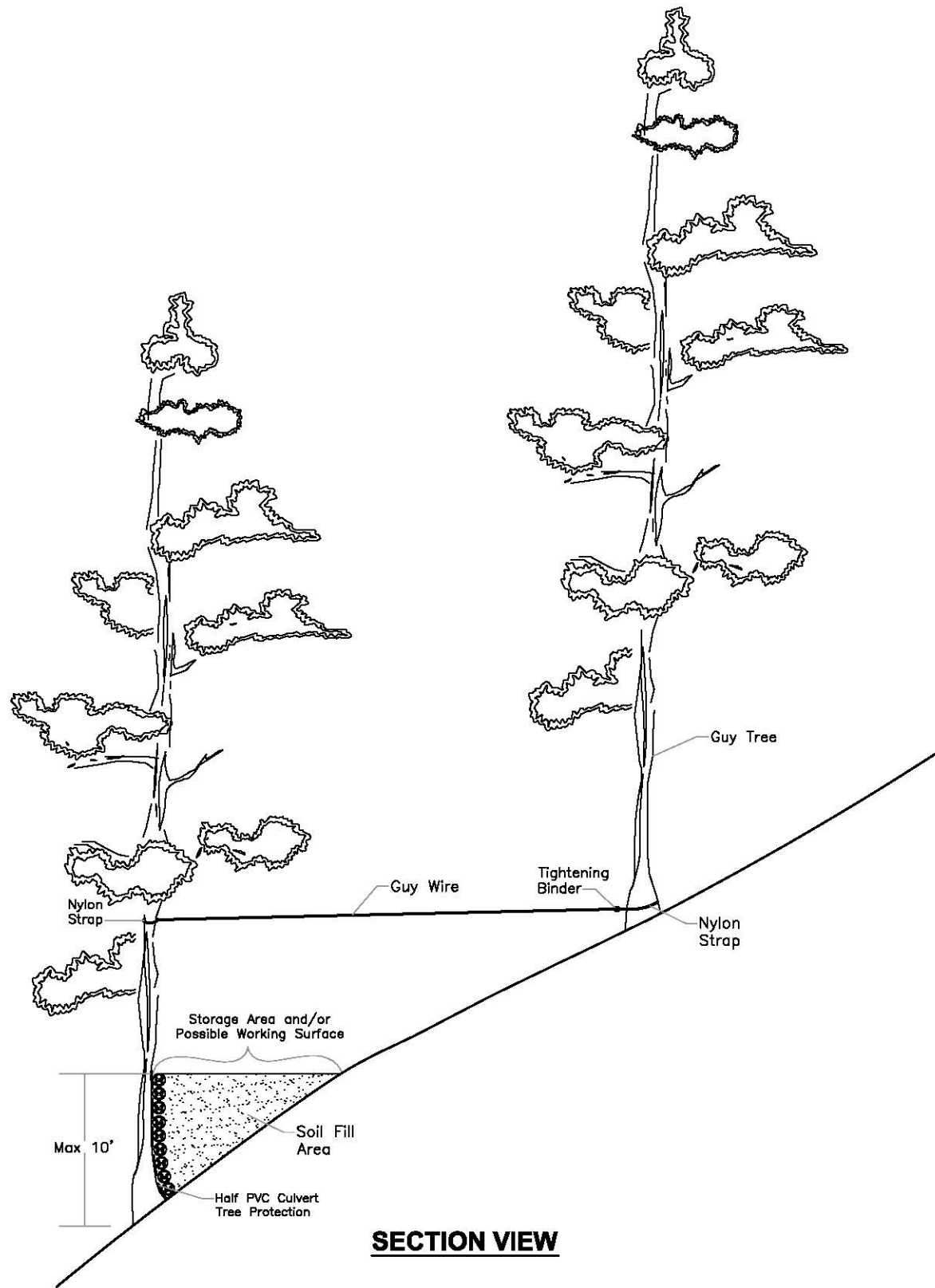
Attachment 1

**Uncleared Storage Areas
Typical Best Management Practices**

Attachment 2

Tree and Log Crib Wall for Spoils Retention

P:\1816902\114\CAD\CowCreek\Sheet C8.dwg TNH:MMJ 08/23/07



PRELIMINARY NOT FOR CONSTRUCTION

Tree and Log Crib Wall for Spoils Retention-South Slope
Pacific Connector Gas Pipeline Project
Douglas County, Oregon

C-8



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Overburden and Excess Material Disposal Plan

Pacific Connector Gas Pipeline Project

September 2019

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- Attachment A Table 1 - Rock Source and Permanent Disposal Sites Identified for Construction of the Pipeline Project on Federal Lands
- Attachment B Typical 1 – Sample Quarry Drawing for Permanent Disposal Sites
- Attachment C Site Maps

1.0 INTRODUCTION

The purpose of this Overburden and Excess Material Disposal Plan is to identify the proposed locations on federal lands that may be used for the permanent and temporary storage of excess rock, timber, and spoil generated during timber removal and pipeline construction of the Pacific Connector Gas Pipeline Project (Pipeline or Pipeline Project). Existing federal rock quarries and select temporary extra work areas (TEWAs) along the construction right-of-way have been identified for potential use as both permanent and temporary storage sites. These locations are listed in Attachment A - Table 1. Pacific Connector Gas Pipeline, LP (PCGP) will obtain federal Right-of-Way Grant approval prior to utilizing any of the existing quarries, pits or TEWAs for storage of excess materials.

2.0 ROCK SOURCE AND EXCESS MATERIAL DISPOSAL LOCATIONS

At existing federal rock quarries, excess rock, overburden and other materials removed from the construction right-of-way will be separated and stored based on the type, size, quality and quantity of material excavated. Details of the preconstruction survey and right-of-way marking are described in the Right-of-Way Marking Plan provided in Appendix T to the POD. PCGP is aware that some of the existing federal quarries identified for potential disposal storage may still contain high quality rock resources and the storage methodology will need to be approved by the land-managing agency prior to material placement to minimize potential encumbrance to the existing rock resources.

Large slash and timber debris, such as stumps or large wood debris (LWD) that may be removed from the construction right-of-way and decked in designated disposal sites may also occur at these disposal sites. This material would be of a size and quality that could be used in various habitat restoration projects or as OHV barriers as stipulated by the land-managing agencies. This excess timber material could also be of a size and quality that could be made available to the public.

PCGP will ensure that all drilling mud is disposed of in a state and/or local approved landfill (and not in the identified rock source/disposal locations for the Pipeline project).

Table 1 in Attachment A lists the rock source and disposal sites that have been identified for potential permanent or temporary use during construction of the Pipeline Project on federal lands. PCGP may need to use material sources on federal lands for the production of aggregate for road surfacing, pipe bedding, slope armoring, or other Pipeline Project needs, as stated in Section 3.2.3 of the Transportation Management Plan (TMP – Appendix Z to the POD). PCGP's contractor will abide by the applicable regulations (including 36CFR228 Subpart C & FSM 2850) and apply for the appropriate removal permits from the federal land-managing agencies for any material to be removed from a federal quarry for Pipeline Project use. Prior to use, PCGP shall prepare a Site Development and Reclamation Plan for agency review and approval for each source of mineral material for Pipeline Project use. PCGP does not plan to expand the existing quarry sites on federal lands beyond the previously disturbed footprints for material storage. Attachment C contains site maps identifying the footprints of the proposed TEWAs and quarries listed in Attachment A – Table 1.

Access to all temporary and permanent federal quarry disposal locations will utilize existing roads and in some cases the construction right-of-way. All proposed access roads are identified in the TMP. PCGP will determine the average daily traffic for the access roads and will be

responsible for the maintenance and upgrading activities based on the existing commensurate road share agreements.

2.1 ENVIRONMENTAL CONTROLS

For both temporary and permanent disposal sites, PCGP's Contractor will be responsible for installing appropriate environmental controls to prevent material transport outside the Pipeline Project or quarry boundaries, and to ensure potential sedimentation of area drainage does not occur from the material storage. Appropriate environmental controls may include among other best management practices (BMPs) adequate signing, placement, sloping, mulching, seeding, staking or fencing and the use of sediment barriers, berms, or diversion ditches where necessary. These erosion control measures will follow the BMPs outlined in the Erosion Control and Revegetation Plan (ECRP) provided in Appendix I to the POD or as determined necessary by PCGP's Environmental Inspector or an authorized Federal agency representative.

2.2 TEMPORARY DISPOSAL LOCATIONS

Temporary disposal sites will be needed to store rock, timber, and other material depending on the specific phase of the Pipeline Project. Appropriate environmental controls and BMPs will be used to ensure the temporary storage of materials will not cause sedimentation issues or other offsite impacts or interfere with other on-site users. PCGP will provide a Site Development and Reclamation Plan that will include surveyed drawings of the temporary disposal sites that identify the storage location of material based on material type and material size for agency approval. At the conclusion of the Pipeline Project, the temporary storage sites will be reclaimed to their previous condition as detailed in the ECRP, or as stipulated by an authorized Federal agency representative. Excess material that cannot be used by the Pipeline Project or redistributed across the construction right-of-way will be relocated to one of the approved permanent disposal sites, or potentially to a permanent disposal site located on private lands approved by FERC, or to a state-approved, offsite disposal site (i.e. landfill). Additionally, in areas where slash has been concentrated, such as on landings, and cannot be evenly scattered across the right-of-way according to the fuel loading standards, the slash may be mechanically or hand piled and burned according to state burning requirements and federal land-managing agency stipulations. PCGP has developed a Prescribed Burning Plan which is included as Appendix R to the POD that describes the proposed burning of forest slash as a disposal method.

2.3 PERMANENT DISPOSAL LOCATIONS

At permanent disposal sites, excess material will be deposited and treated in a manner that will be agreed upon with the corresponding federal land-managing agencies. PCGP will provide a Site Development and Reclamation Plan that will include surveyed drawings of the permanent disposal sites that identify the storage location of material based on material type and material size for agency approval. The disposal drawings will also show any temporary and/or permanent erosion control measures that may be required. Attachment B – Typical 1 shows the information that would be included in the sample quarry drawing for permanent disposal sites.

3.0 CONCLUSION

This Overburden and Excess Material Storage Plan shall be updated and finalized prior to construction based upon the Contractor(s) material quantity estimates and evaluation of the proposed disposal sites' proximities to the construction right-of-way. Draft proposed disposal

site-specific drawings and Site Development and Reclamation Plans, depicting maximum footprint impacted, type of materials to be stored, general storage locations within the overall footprint, typical placement methods and material treatment will be submitted to the federal land-managing agencies after PCGP selects the construction Contractor(s). Finalized site-specific drawings and plans will be submitted by the Contractor through PCGP to the federal agencies for final approval prior to actual use.

Attachment A

Table 1
Rock Source and Disposal Sites Identified for Construction of the Pipeline Project on Federal Lands

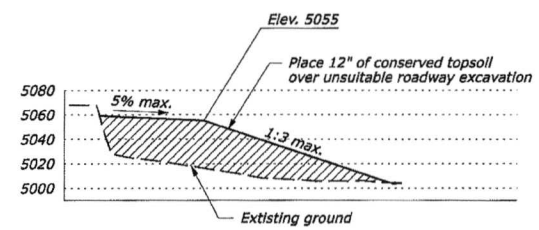
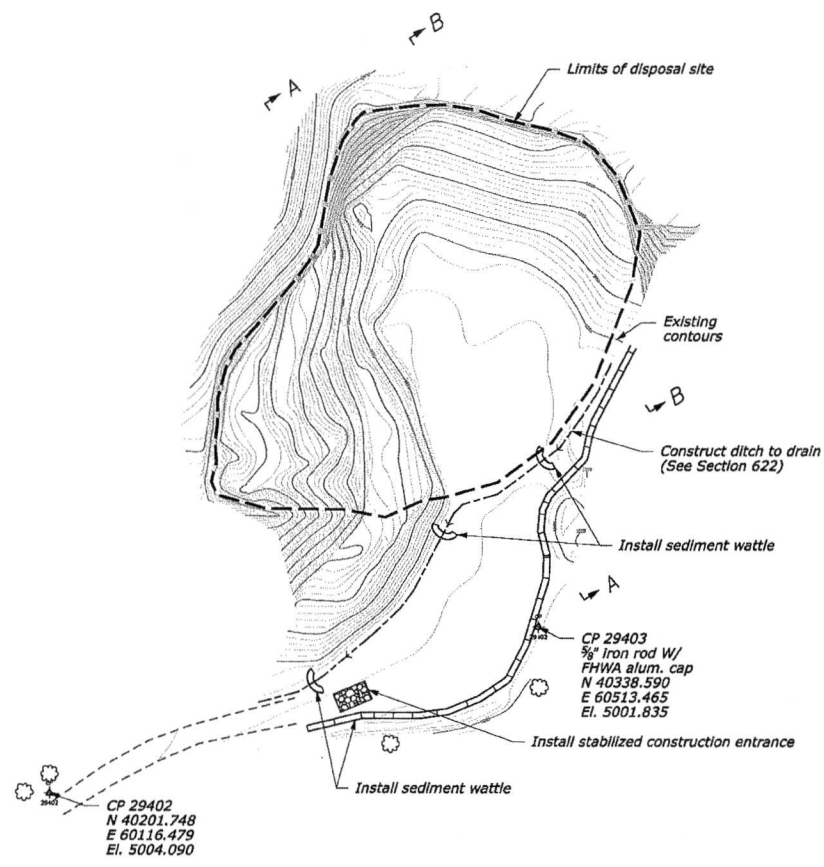
Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Permanent/Temporary Use	Vegetation	Access
Douglas County								
Signal Tree Road Quarry – Sec. 3 (3430.26-X-0004)	1.22	45.86	Rock source and overburden disposal; spoil storage, staging	BLM-Roseburg district	Quarries	Permanent or Temporary	Industrial, Douglas fir-W, Hemlock W., red cedar (regenerating)	Upper Signal Tree (BLM 28-9-35) 45.85 - 45.92 (3430-31-Y-008)
Signal Tree Road Quarry – Sec. 35 (3430.26-X-0002)	1.09	47	Rock source and overburden disposal	BLM-Coos Bay district	Quarries	Permanent or Temporary	Industrial, Douglas fir-W, Hemlock W., red cedar (regenerating)	Upper Signal Tree (BLM 28-9-35) 45.85 - 45.92 (3430-31-Y-008b)
Weaver Road Quarry Site 1 (3430.26-X-0003)	1.62	47	Rock source and overburden disposal	BLM-Coos Bay district	Quarries	Permanent or Temporary	Industrial, Douglas fir-W, Hemlock W., red cedar	Weaver Road (BLM 28-8-18) 42.03 – 42.50 (3430-31-Y-008b)
Weaver Road Quarry Site 2 (3430.26-X-0003)	1.30	47	Rock source and overburden disposal	BLM-Coos Bay district	Quarries	Permanent or Temporary	Industrial, Douglas fir-W, Hemlock W., red cedar	Weaver Road (BLM 28-8-18) 42.03 – 42.50 (3430-31-Y-008b)
Signal Tree Quarry Site – Sec. 15 (3430.26-X-0005)	1.75	47	Rock source and overburden disposal	BLM-Roseburg district	Quarries	Permanent or Temporary	Industrial, Douglas fir-W, Hemlock W., red cedar	Lower Signal Tree (BLM 29-9-36.0) 46.51 (3430-31-Y-008)
TEWA 79.85-N (BLM Quarry Site) ¹	3.61	79.85	Overburden disposal, PI, spoil storage, log landing, steep slope staging	BLM-Roseburg district	Transportation, communication, utilities corridors, regenerating evergreen forest land; quarries	Permanent or Temporary	Roads, corridors, Douglas fir dominant - mixed conifer	Pack Saddle Road (BLM 29-4-17) 79.89 - 80.42 & Construction Right-of-Way (3430-31-Y-013)
Hatchet Quarry MP 102.30 (3430.26-X-0016)	2.00	102.30	Log (mitigation) storage	FS-Umpqua	Strip mines, quarries, gravel pit and evergreen	Permanent	Industrial	FS 3220000 (3430-31-Y-016c)

Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Permanent/Temporary Use	Vegetation	Access
					forest.			
C&D Pit MP 104.12 (3430.26-X-0017)	3.36	104.12	Overburden disposal, log (mitigation) storage	FS-Umpqua/Private	Strip mines, quarries, and gravel pits, transportation, communication, utilities corridors, regenerating forest land	Permanent (on Private) or Temporary	Industrial, roads and corridors, Douglas fir dominant – mixed conifer	FS 3230135 & C&D Lumber (3430-31-Y-017)
Jackson County								
TEWA 110.73-W (Peavine Quarry) (3430.26-X-0019)	15.87	110.54	Staging, parking, overburden disposal, log (mitigation) storage	FS- Umpqua	Strip mines, quarries, gravel pit and evergreen forest	Temporary	Industrial and Douglas fir dominant - mixed conifer	South Fork Cow Creek FS 3232000 FS 3232895 (3430-31-Y-018)
TEWA 150.31-W (Heppsie Mountain Quarry) ¹	5.56	150.31	Ingress/egress, staging, parking, spoil storage, rock source and disposal	Private and BLM-Medford district	Mixed rangeland, strip mines, quarries, and gravel pits, evergreen forest land, mixed forest land, transportation, communication, utilities corridors, regenerating evergreen forest land, clearcut forest land, herbaceous rangeland	Temporary	Grasslands (W. Cascades), industrial, Ponderosa Pine/white oak, roads, corridors, grass-shrub-sapling or regenerating young forest	Heppsie Mountain Quarry Spur (BLM 37-2E-1.3 Includes BLM 37-2E-1.1) 150.35 - 150.64 & Construction Right-of-Way (3430-31-Y-024)
Rum Rye (3430.26-X-0026)	4.91	160.41	Log (mitigation) storage	FS-Rogue River-Siskiyou	Strip mines, quarries and gravel pits.	Permanent	Industrial	FS 3740000 FS 3740100 (3430-31-Y-041)
TEWA 160.54-W (Big Elk Cinder Pit) ¹	15.26	160.54	Log landing/decking / hauling, ingress/egress, staging, rock	FS-Rogue River-Siskiyou	Strip mines, quarries, and gravel pits, transportation, communication, utilities corridors, evergreen forest	Temporary	Industrial, grasslands (W. Cascades), roads, corridors,	FS 373000 (S. Fork Little Butte Creek Road) FS 3700130 FS3700133 FS 3700134

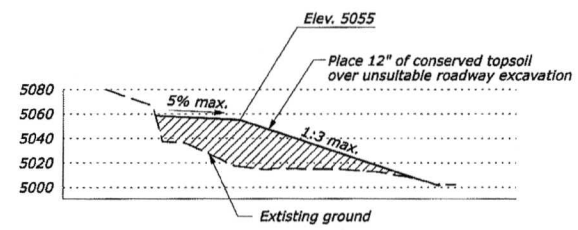
Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Permanent/Temporary Use	Vegetation	Access
			source and overburden disposal		land		true-fir hemlock montane, Douglas fir dominant - mixed conifer	& Construction Right-of-Way (3430-31-Y-025)
Total	57.55							
¹ Also shown on Environmental Alignment Sheets in Appendix AA to the POD.								

Attachment B – Typical 1
Foster Creek Disposal Area

10/2009 D:\8A M. Sweeney 09/2009 Checked by: 10/16/2009 Designed by: L:\Projects\SS\155\10-A\Roadway\Deliverables\grm\p\A70.mxd.dgn



SECTION B-B



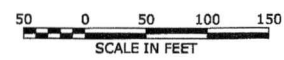
SECTION A-A

DISPOSAL QUANTITIES

ITEM	DESCRIPTION	QUANTITY
	Estimated disposal volume available (For Information only)	78,000 yd ³
15703-2500	Soil erosion control, mulching hydraulic method	2.0 acre
15705-1500	Soil erosion control, sediment wattle	500 In ft
15706-1600	Soil erosion control, stabilized construction entrance	1 each

NOTE:

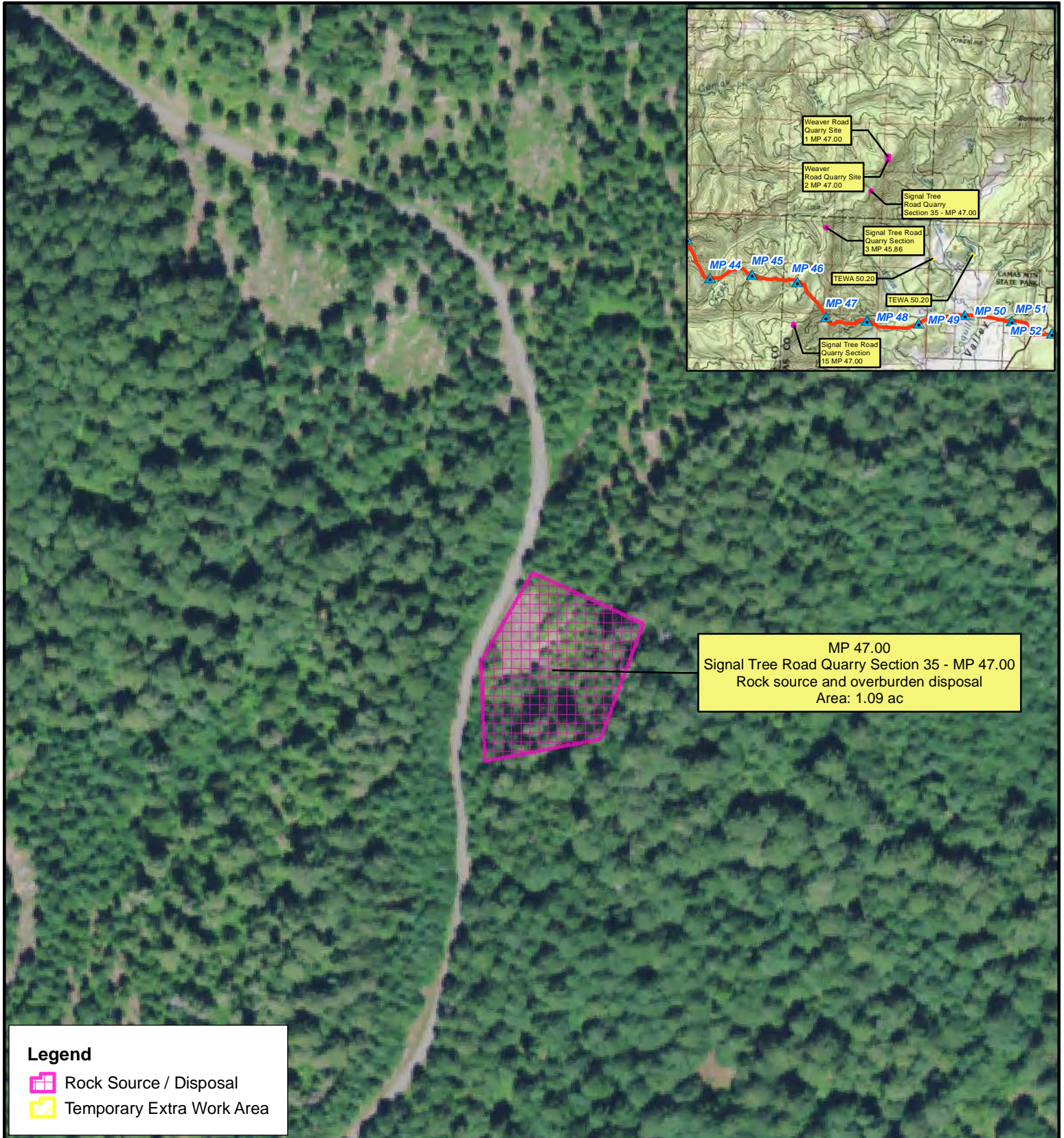
1. Install all erosion control devices prior to placing material in disposal site.
2. See vicinity map on Sheet A.4 for disposal site location.
3. Shape and contour the disposal area to avoid water pockets.
4. Permanent seeding, mulching, planting to be performed by others.



FOSTER CREEK DISPOSAL AREA



Attachment C


Site Maps

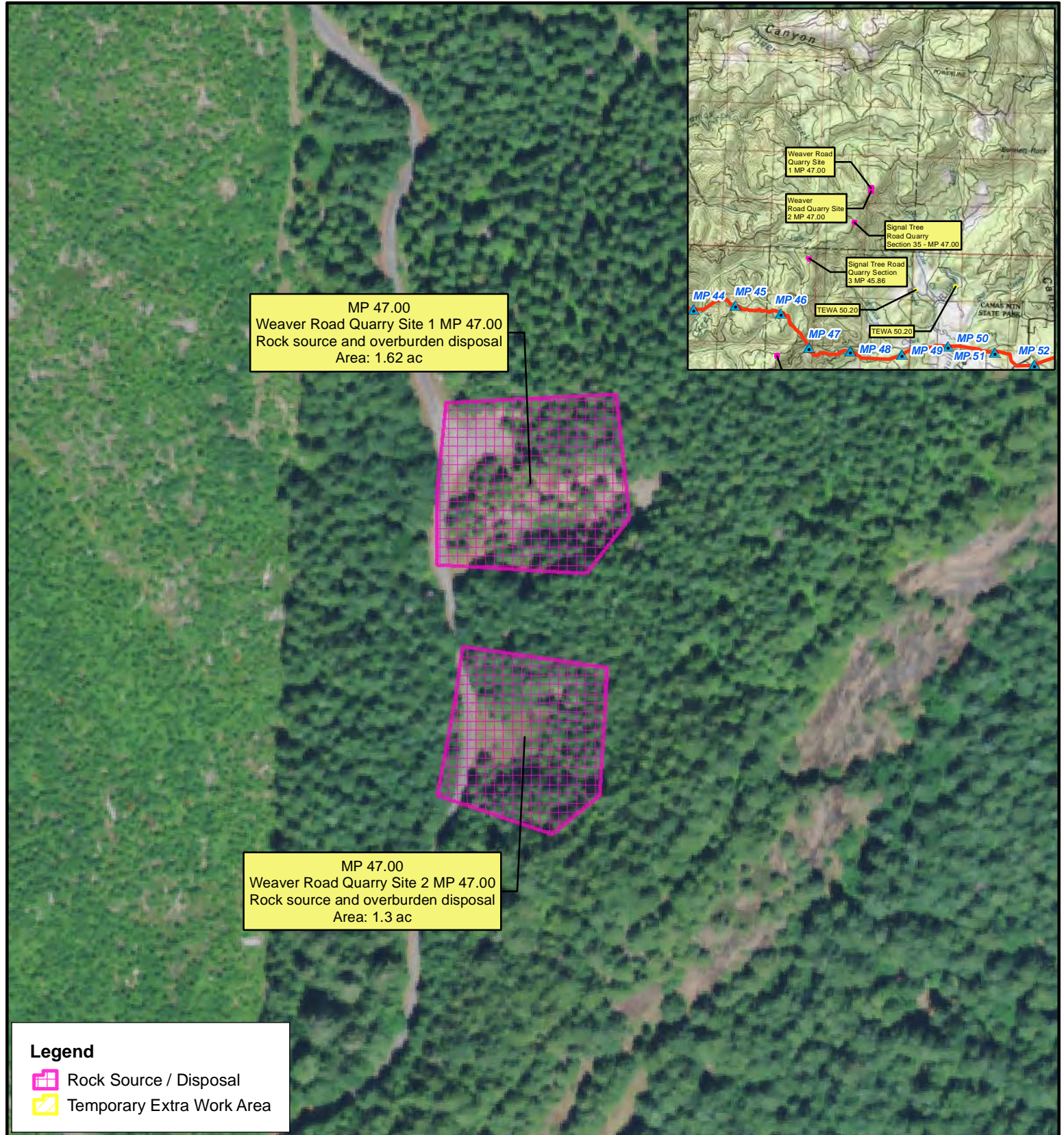


MP 47.00
Signal Tree Road Quarry Section 35 - MP 47.00
Rock source and overburden disposal
Area: 1.09 ac

Legend

-  Rock Source / Disposal
-  Temporary Extra Work Area



DRAWING NO.		REFERENCE TITLE			PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP OFF ALIGNMENT SHEET DETAIL TEMPORARY EXTRA WORK AREA OR ROCK DISPOSAL\SOURCE Signal Tree Road Quarry Section 35 M.P. 47 Section 35, T28S, R9W COOS COUNTY, OREGON					
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: SEPT 2017	ISSUED FOR BID:	SCALE: 1 inch = 200 feet
							CHK BY:	DATE:	ISSUED FOR CONTS:	
							APPR. BY:	DATE:	DRAWING NUMBER: 3430.26-X-0002	SHEET 2 OF 36




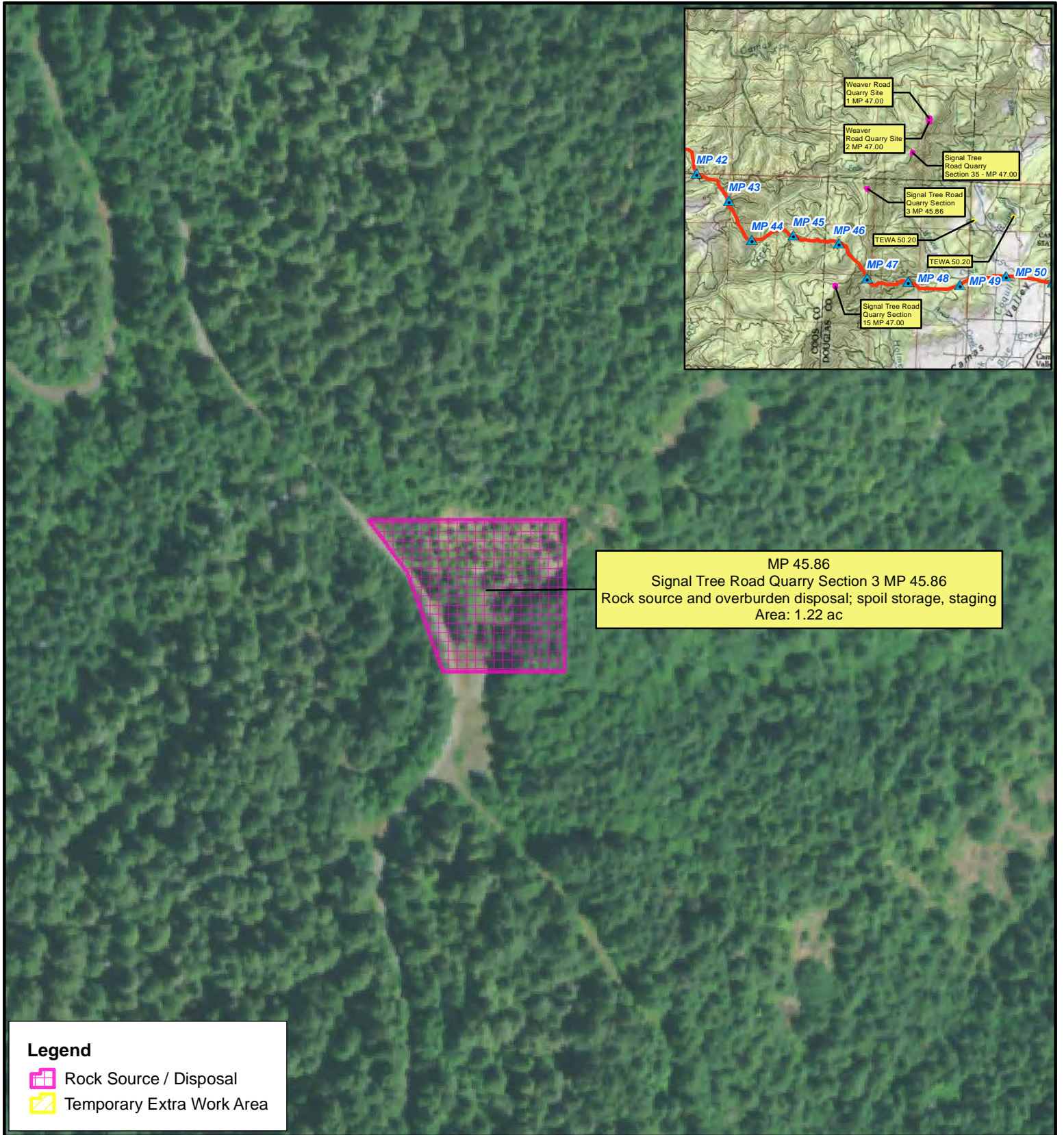
MP 47.00
 Weaver Road Quarry Site 1 MP 47.00
 Rock source and overburden disposal
 Area: 1.62 ac

MP 47.00
 Weaver Road Quarry Site 2 MP 47.00
 Rock source and overburden disposal
 Area: 1.3 ac

Legend



-  Rock Source / Disposal
-  Temporary Extra Work Area


DRAWING NO.		REFERENCE TITLE			PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP OFF ALIGNMENT SHEET DETAIL TEMPORARY EXTRA WORK AREA OR ROCK DISPOSAL\SOURCE Weaver Road Quarry Site 1 & 2 M.P. 47 Section 25, T28S, R9W COOS COUNTY, OREGON					
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: SEPT 2017	ISSUED FOR BID:	SCALE: 1 inch = 200 feet
							CHK BY:	DATE:	ISSUED FOR CONTS:	
							APPR. BY:	DATE:	DRAWING NUMBER: 3430.26-X-0003	SHEET 3
										OF 36

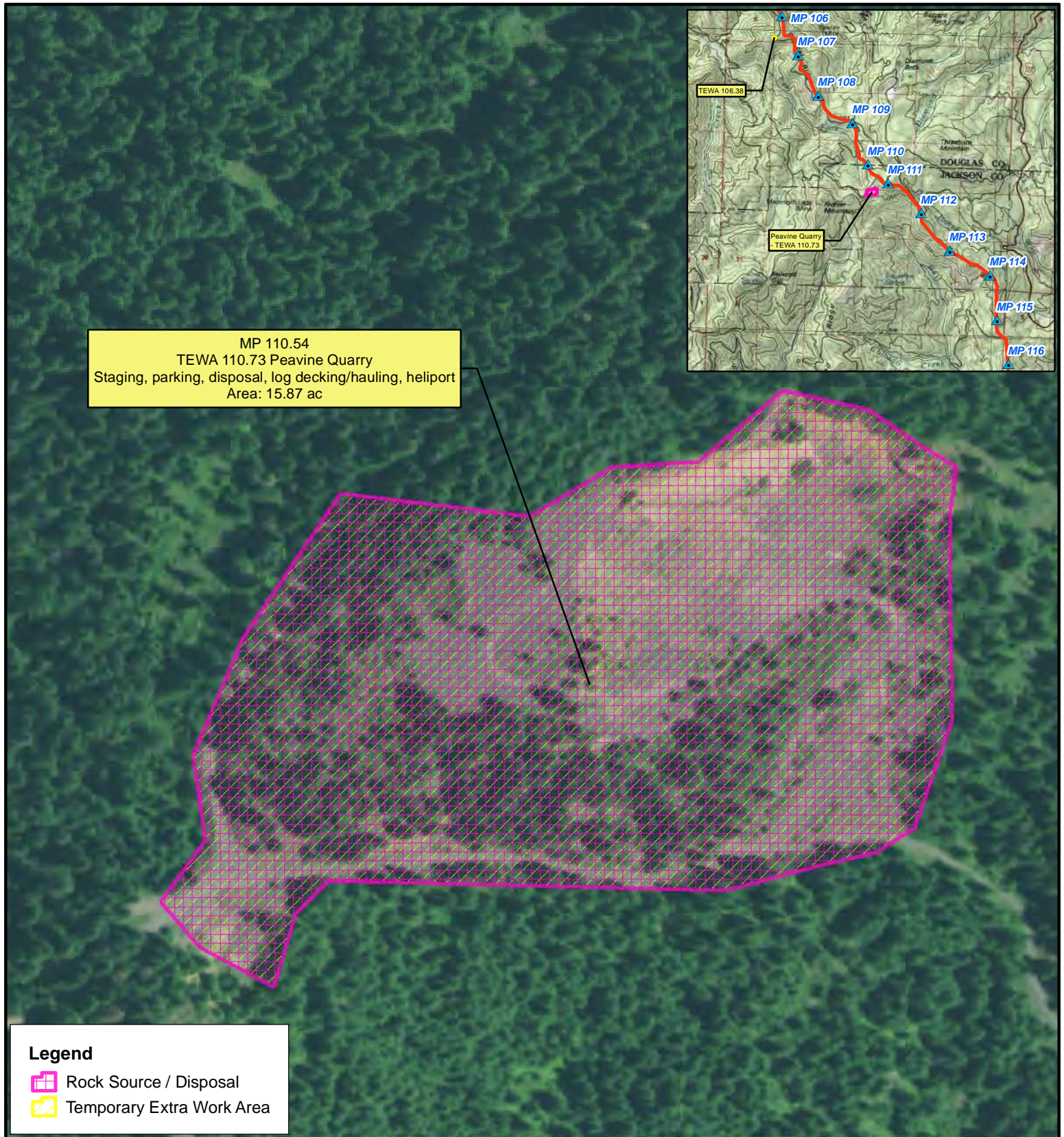


MP 45.86
 Signal Tree Road Quarry Section 3 MP 45.86
 Rock source and overburden disposal; spoil storage, staging
 Area: 1.22 ac

Legend



-  Rock Source / Disposal
-  Temporary Extra Work Area


DRAWING NO.		REFERENCE TITLE			PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP OFF ALIGNMENT SHEET DETAIL TEMPORARY EXTRA WORK AREA OR ROCK DISPOSAL\SOURCE Signal Tree Road Quarry Section 3 M.P. 45.86 Section 3, T29S, R9W DOUGLAS COUNTY, OREGON					
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: SEPT 2017	ISSUED FOR BID:	SCALE: 1 inch = 200 feet
							CHK BY:	DATE:	ISSUED FOR CONTS:	
							APPR. BY:	DATE:	DRAWING NUMBER: 3430.26-X-0004	SHEET 4 OF 36

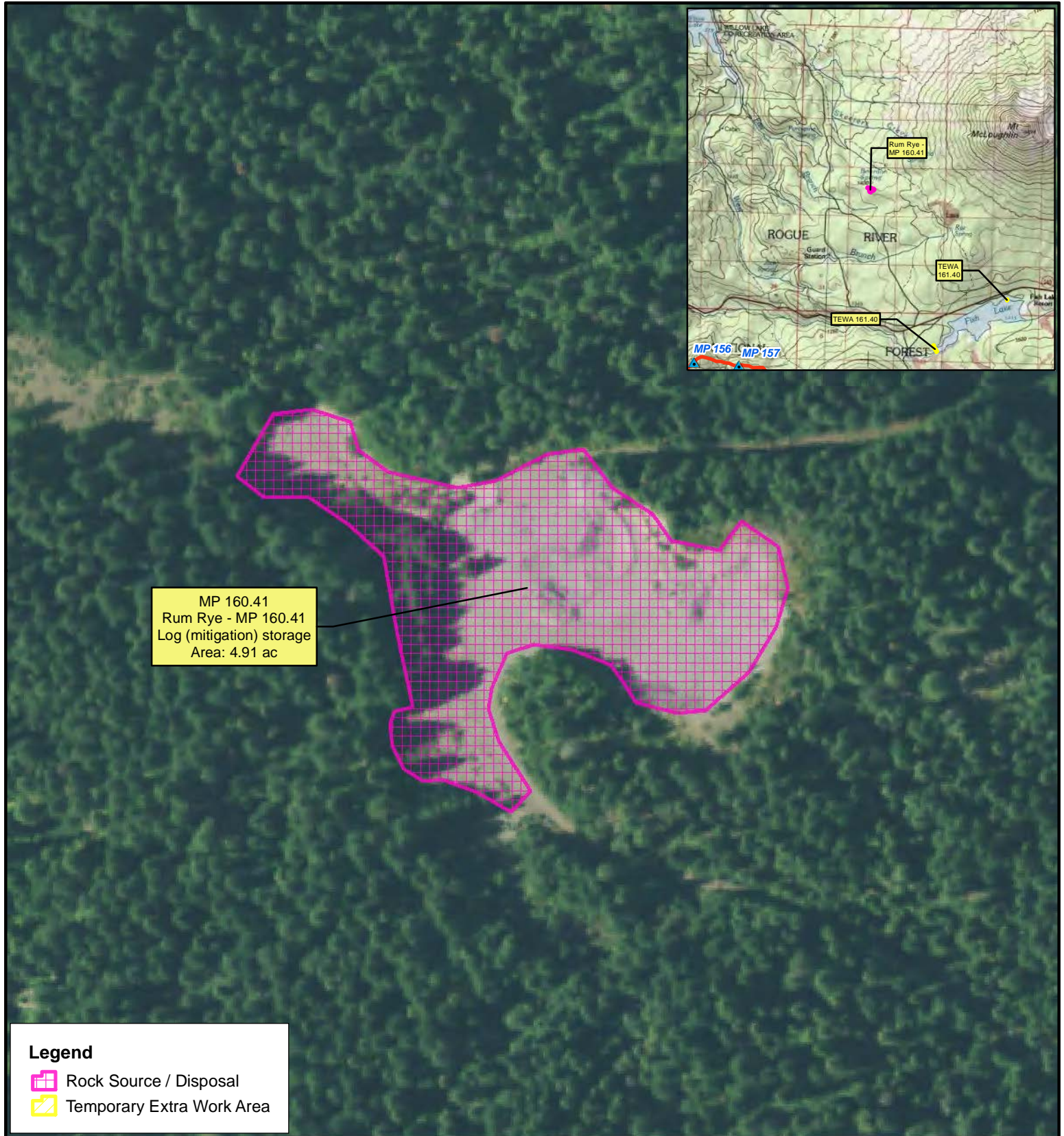


MP 110.54
 TEWA 110.73 Peavine Quarry
 Staging, parking, disposal, log decking/hauling, heliport
 Area: 15.87 ac

Legend



-  Rock Source / Disposal
-  Temporary Extra Work Area


DRAWING NO.				REFERENCE TITLE				PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP OFF ALIGNMENT SHEET DETAIL TEMPORARY EXTRA WORK AREA OR ROCK DISPOSAL/SOURCE TEWA 110.73 & Peavine Quarry M.P. 110.54 Section 27, T32S, R2W JACKSON COUNTY, OREGON					
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: SEPT 2017	ISSUED FOR BID:	SCALE: 1 inch = 200 feet			
							CHK BY:	DATE:	ISSUED FOR CONTS:				
							APPR. BY:	DATE:	DRAWING NUMBER: 3430.26-X-0019	SHEET 19 OF 36			



MP 160.41
Rum Rye - MP 160.41
Log (mitigation) storage
Area: 4.91 ac

Legend

-  Rock Source / Disposal
-  Temporary Extra Work Area

DRAWING NO.				REFERENCE TITLE				PACIFIC CONNECTOR GAS PIPELINE PROJECT PACIFIC CONNECTOR GAS PIPELINE, LP OFF ALIGNMENT SHEET DETAIL TEMPORARY EXTRA WORK AREA OR ROCK DISPOSAL\SOURCE Rum Rye M.P. 160.41 Section 20, T36S, R4E JACKSON COUNTY, OREGON					
NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.	DWG. BY: EE	DATE: SEPT 2017	ISSUED FOR BID:	SCALE: 1 inch = 200 feet			
							CHK BY:	DATE:	ISSUED FOR CONTS:				
							APPR. BY:	DATE:	DRAWING NUMBER: 3430.26-X-0026	SHEET 26 OF 36			



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Prescribed Burning Plan

Pacific Connector Gas Pipeline Project

September 2019

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Attachment H Prescribed Fire Plan for BLM and NFS

1.0 INTRODUCTION

Pacific Connector Gas Pipeline, LP (PCGP) developed this Prescribed Burning Plan according to the applicable protocols and Best Management Practices (BMPs) that would be implemented if it is necessary to burn excess forest slash generated from right-of-way clearing operations for the Pacific Connector Gas Pipeline Project (Pipeline or Pipeline Project). PCGP has determined that it may be necessary to dispose of forest slash in areas where this material exceeds the fuel loading specifications outlined by the Forest Service or Bureau of Land Management (BLM) in the Erosion Control and Revegetation Plan (ECRP – Appendix I to the POD). This Prescribed Burning Plan describes the protocols that PCGP would follow to obtain appropriate agency authorization on all lands (federal, state and private) crossed by the Pipeline, where it is necessary to dispose of forest slash by burning. This plan also outlines the appropriate BMPs that would be utilized to safely conduct slash burning operations. PCGP would not use burning as a method to dispose of any construction debris that may be generated during Pipeline Project activities.

Prior to harvesting or burning on private and BLM-managed lands, PCGP must first obtain a Notification of Operation/Application Permit (NOAP-Attachment A). The application can be obtained from the Oregon Department of Forestry (ODF) district offices along the Pipeline (see Table 1). The NOAP may have up to a 15-day waiting period unless waived by the ODF Forester. The NOAP must be renewed yearly for continuing operations. The ODF districts, through which the Pipeline crosses, may utilize different protocols (i.e., application forms/processes, notifications, BMPs, etc.); therefore, PCGP or PCGP's Contractor(s) will contact the appropriate district to obtain the applicable permit(s). Section 3.2 describes the burn permit process on Forest Service (USFS) lands.

Table 1
Agency Contacts

Agency	Phone Number
Coos Forest Patrol – Coos District	541-267-3161
Douglas Forest Protective Association	541-672-6507
Bureau of Land Management (BLM)	
BLM Coos Bay District	541-756-0100
BLM Lakeview District	541-947-2177
BLM Medford District	541-618-2200
BLM Roseburg District	541-440-4930
Oregon Department of Forestry (ODF)	
ODF Klamath Unit Office	541-883-5681
ODF Southwest Oregon District, Medford Unit	541-664-3328
U.S. Forest Service (USFS)	
USFS - Fremont-Winema National Forest, Lakeview Ranger District	541-947-3334
USFS - Rogue River-Siskiyou National Forest, High Cascades North Ranger District - Prospect	541-560-3400
USFS - Umpqua National Forest, Tiller Ranger District	541-825-3100

2.0 STATUTORY FRAMEWORK

2.1 Private Lands

ORS 477.552 Policy

It is the policy of the State of Oregon:

- 1) To improve the management of prescribed burning as a forest management and protection practice; and
- 2) To minimize emissions from prescribed burning consistent with the air quality objectives of the federal Clean Air Act and the State of Oregon Clean Air Act Implementation Plan developed by the Department of Environmental Quality under ORS 468A.035.

ORS 477.013 Smoke Management Plan

- 1) For the purpose of maintaining air quality, the State Forester and the Department of Environmental Quality shall approve a plan for the purpose of managing smoke in areas they shall designate. The plan shall delineate restricted areas to which this subsection applies. The plan shall also include but not be limited to considerations of weather, volume of material to be burned, distance of the burning from designated areas, burning techniques and provisions for cessation of further burning under adverse air quality conditions. All burning permitted within the restricted areas shall be according to the plan. The plan shall be developed by the State Forestry Department in cooperation with federal and state agencies, landowners and organizations that will be affected by the plan. The approved plan shall be filed with the Secretary of State and may thereafter be amended in the same manner as its formation.
- 2) The State Forester shall promulgate rules to carry out the provisions of the smoke management plan approved under this subsection.

477.560 Oregon Forest Smoke Management Account; moneys paid to account; use.

- 1) The Oregon Forest Smoke Management Account is established separate and distinct from the General Fund in the State Treasury.
- 2) The following moneys shall be credited to the Oregon Smoke Management Account:
 - a) Nonrefundable registration fees received by the State Forestry Department for Class I forestlands classified under ORS 526.324 to be burned west of the summit of the Cascade Mountains, not including Hood River.
 - b) Fees received by the State Forester for Class 1 forestland classified under ORS 526.324 and treated by a prescription burn method under ORS 477-515(1) west of the summit of the Cascade Mountains, not including Hood River.

- c) Fees for federal forestland included within the regulated area under ORS 477.013 to be treated by any prescription burn method subject to the provisions of the State of Oregon Clean Air Act Implementation Plan and the federal Clean Air Act received the State Forester.
- 3) The moneys in the Oregon Forest Smoke Management Account are appropriated continuously for all and shall be used by the State Forester exclusively for the administration of the Smoke Management Program under ORS 477.013 and 477.554.

477.515 Permits required for fires on forestlands; waiver; permit conditions; cooperative agreements for permit administration.

- 1) It is unlawful to set or cause to be set an open fire inside or within one-eighth of one mile of a forest protection district, either on one's own land or the land of another, without first securing a written permit for burning from the forester and complying with the conditions of the permit. In granting permits for burning:
 - a) The forester may waive the requirement that permits be secured prior to burning except during fire season or when required under rules promulgated pursuant to subsection (4) of this section.
 - b) The forester shall prescribe conditions necessary to be observed in setting fire and preventing it from spreading out of control.
 - c) The forester may prescribe conditions necessary to be observed in maintaining air quality.
- 2) Any permit obtained through willful misrepresentation is void.
- 3) To avoid confusion or duplication of administration and to promote government efficiency, the forester may enter into a cooperative agreement with a county, a city or a rural fire protection district that:
 - a) Allows the forester to administer the requirements of this section, in conjunction with the enforcement authority of ORS 477.980 (Enforcement Policy) to 477.993 (Penalties) on lands not otherwise subject to the requirements of this chapter; or
 - b) Allows the cooperating agency to administer the burning permit requirements of ORS Chapter 476 and 478, as appropriate, including applicable enforcement authority, on lands otherwise subject to the requirements of this chapter.
- 4) All burning allowed under this section shall comply with applicable rules that may be adopted by the State Board of Forestry and Department of Environmental Quality.
- 5) The provisions of this section do not apply to campfires.

2.2 Federally-Managed Lands

Federal Clean Air Act

- 1) Congress passed the Clean Air Act (CAA) in 1963, with major amendments in 1970 and 1990. The purpose of the act is to protect and enhance air quality while ensuring the protection of public health and welfare. The 1970 amendments established National Ambient Air Quality Standards (NAAQS), which must be met by most state and federal agencies, including the Forest Service.

State Guidance

- 2) In compliance with the Clean Air Act, the Forest Service is operating under the Oregon Administrative Rules OAR 629-048-0001 through OAR 629-048-0500 (Smoke Management rules) that apply to prescribed burning of Oregon's forested lands. The Forest Service is complying and will continue to comply with the requirements of the Oregon Smoke Management Plan (OSMP) which is administered by the Oregon Department of Forestry.
- 3) The Environmental Protection Agency has approved the OSMP as meeting the requirements of the Clean Air Act, as amended. The OSMP regulates the amount of emissions from forestry-related burning that can accumulate in an air shed at any one time. The amount of burning that can occur on any one day depends upon the specific type of burning, the tons of material to be burned, and the atmospheric conditions available to promote mixing and transportation of smoke away from sensitive areas.
- 4) Section 118 of the federal Clean Air Act provides for enforcement of state air quality regulations against federal agencies. It will be the policy of the Board of Forestry (BOF), in the event of a failure of a federal land management agency to comply with the smoke management plan, that the forester will first inform the responsible agency of the failure and coordinate efforts to ensure timely correction of any breakdowns in procedure that may have resulted in the failure. However, if this method does not appear in the judgment of the State Forester to result in necessary correction of procedures, or under other circumstances that in the judgment of the State Forester warrant further action, enforcement action may be taken as with any other responsible party.

Stat. Auth: ORS 477.013, 477.562 (Registration fee), 526.016 (General duties), 526.041 (General duties of State Forester).

Stats. Implemented: ORS 477.013, 477.515, 477.562.

3.0 PROTOCOL FOR PRESCRIBED BURNING

3.1 Private Lands and BLM Lands

Burning on federal lands would follow the Interagency Prescribed Fire Planning and Implementation Procedures Guide issued by the National Wildfire Coordinating Group in July 2017. The document addresses requirements for all Prescribed Fire Burn Plans for federal lands and can be found on-line at:(www.nwccg.gov/sites/default/files/publications/pms484.pdf) . Attachment H provides the Prescribed Fire Plan Template that would be utilized for Prescribed Fire Plans on federal lands. OAR 629-048-0020 (Necessity of Prescribed Burning)

Prescribed burning is used as a management technique to reduce forest fuels either as the primary mechanism such as in grass and brush areas for maintenance of grazing, and underburning of open forest stands for forest health purposes; or as a secondary fuel reduction method following thinning or final harvest. It is typically conducted at a time and under planned fuel and weather conditions whereby the fine fuels that more readily ignite and carry fire across the landscape are consumed but the larger fuels are consumed to a lesser degree than in a wildfire. Resulting emissions are both reduced overall when compared to wildfire, and more likely carried into higher altitudes and dissipated by high level winds, away from concentrations of people.

When adequate forest fuel reduction can be achieved economically without the use of burning, because of other fire associated risks, that choice is usually favored. Even so, there are often silvicultural or agricultural advantages to prescribed burning such as site preparation, nutrient cycling and reduction of pests and disease that may not be achieved by simply removing the forest fuels. For these reasons, the Oregon Legislative Assembly (ORS 477.552) and the Board of Forestry have found it necessary to maintain the viability of prescribed burning as a forest management practice. Refer to OAR 629-615-0300 Prescribed Burning of the Oregon Forest Practices Act (see Attachment B).

1) Process

- a) In all instances of prescribed burning on forestland within a protection district, the operator, federal land manager, landowner, or timber owner must first register with Oregon Department of Forestry (State Forester) all forestland debris that is intended to be burned. Burn registration must be completed at least seven days before the first day of ignition.
- b) The State forester may waive the seven day waiting period required upon the forester's approval of a burn plan or conditions of federally prescribed fire policies having already been met.
- c) Information provided for burn registration must be complete and recorded in a standard format approved by the State forester (see Attachment C for background information on fire season).
- d) Any prescribed burning on forestland requires payment of a non-refundable registration fee of \$.50/acre.
- e) Burn fees for all forms of prescribed burning, including but not limited to, broadcast burning and burning of piles shall be assessed.

- f) If only land or right-of-way piles are burned, the burn fee shall be \$.50/acre. Subsequent attempts to improve accomplishment only in the landing or right-of way piles in the same unit, in the same calendar year or the two following calendar years, shall not incur additional fees.
 - g) If subsequent to burning only landing or right-of-way piles, the first time fire is applied to any other portion of a registered unit an additional burn fee of \$2.60 per acre shall be required.
 - h) Obtain a burn permit/plan. A burn permit is required for debris created by forest management activities (see Attachment D – Westside and Attachment E – Eastside).
 - i) For a single unit, the burn permit/plan will cover; for multiple units, ODF will complete a Unit Worksheet and note on the Burn permit/plan that the attached Unit Worksheet will be covered under this plan (see example and form in Attachment F).
 - j) Once ODF receives the burn permit/plan (see Attachment F for applications for private lands and Attachment H for application on BLM lands) and if applicable the Unit Worksheet, the information will be entered into the Oregon Smoke Management Database and fee system. On BLM lands, the BLM Line Officer must approve the burn permit/plan application before it is submitted to ODF (see Attachment H). As previously noted, the BLM does not submit burn plans to ODF; for reporting prescribed fire activities to ODF on BLM lands, the BLM uses a “Fastrax” system.
 - k) When planning to burn you are required to call the day prior to the burn to obtain clearance. There are occasions when clearance cannot be granted, which is normally based upon weather and smoke dispersion issues.
 - l) Once the burn is completed the permit holder must call the appropriate district with estimated ‘accomplishments.’ This information is then entered by the district into the database for tracking and fee purposes (see Attachment G).
- 2) Burning Factors
- a) Weather: Extra caution is needed when weather conditions are unstable. Wind, humidity and temperature play the biggest roles when determining the best time to burn debris. High temperatures result in low humidity, which increases the chances of a fire starting and spreading.
 - b) Time: Depending on the severity of fire season, the time of day in which burning is conducted may be restricted to morning and evening hours. Relative humidity tends to be at it’s highest during these hours allowing for better control.
 - c) Site Preparation: The steps needed to prepare the burn site are determined by the type of materials that are to be burned and the fuels in the surrounding

area. A fire trail must be clear of all flammable debris. Trails must encircle the entire burning area and must meet the approval of the Fire Warden

- d) Fire Suppression Equipment: The permit holder must have a shovel and a supply of water on hand at the burn site or other equipment or manpower as outlined in the permit and slash burn plan.
 - e) Burning prescriptions will be strictly adhered to on highly sensitive soils. These soils include: shallow, rocky soils on 70 percent or greater slopes with south or west aspects. The same kinds of soils on extremely steep (80 percent or greater), and north and east aspects.
- 3) Alternatives to Burning:
- a) When planning forest management prescriptions owners are encouraged to use practices that will eliminate or significantly reduce the volume of prescribed burning necessary to meet their management objectives.
 - Maximize the cost-effective use of woody material for manufacture of products.
Where cost-effective, using wood or other biomass for energy production or mulch.
Biomass contactors may also be available such as Biomass One of White City, Oregon (541-826-9422, www.biomassone.com).
 - Lopping and scattering limbs and other woody material.
 - Re-arranging woody materials, as necessary to accomplish reforestation through the slash.
- 4) Burn Procedures:
- a) Before any prescribed burning is initiated, PCGP's burn bosses should have a well thought-out plan that takes into account:
 - How weather will be monitored and changes in conditions will be communicated;
 - Resources necessary to accomplish ignition and ignition sequences;
 - Resources and methodology necessary to contain and control the fire and prevent its escape, including communications to access additional resources, if necessary; and
 - How the burn will be conducted to avoid smoke from entering smoke sensitive areas and to minimize smoke effects on other communities.
 - b) On BLM lands, the BLM may elect to have an agency Burn Boss retain oversight or responsibility or have a presence during prescribed burns for slash disposal. Further, as indicated in the Interagency Prescribed Fire Planning and Implementation Procedures Guide (2017) and in Attachment H, the BLM Line Officer must sign a "Go/No-Go" checklist prior to ignition.
 - c) Burn Accomplishments for both BLM and ODF Protected lands need to be reported within 24 hours to the Oregon Department of Forestry District office.

3.2 BLM and USFS Lands

Authorization to burn on BLM and USFS lands will be granted through the development and approval of a Prescribed Fire Plan (see Attachment H). All burning activities will be conducted in compliance with the approved Prescribed Fire Plan. Burning on BLM and USFS Lands will also include continued efforts to meet the National Ambient Air Quality Standards, Prevention of Significant Deterioration, and the Oregon Visibility Protection Plan and Smoke Management Plan goals.

The BLM and USFS will obtain all necessary air pollutant emission permits and approvals from the State of Oregon prior to initiating a prescribed burn. The agency will follow and implement the terms of the interagency Oregon Smoke Implementation Plan and MOU as well as any site-specific open burning permit.

Burn plans associated with Pipeline Project activities would be written and reviewed by qualified personnel, and a local qualified Agency Administrator would assign the burn plan and approve the prescribed burn. Primary responsibility for Burn Plan preparation, burn coordination and implementation would be at the discretion of the associated Federal agency based on workforce capacity at that time. If the USFS prepares and/or conducts the prescribed burn, arrangements for associated cost collections would be made.

All personnel involved in burning on federal lands must meet minimum requirements under the NIMS Wildland Fire Qualification System Guide 310-1 (October 2017). This guide can be accessed at <https://www.nwccg.gov/publications/310-1>.

The Oregon Department of Forestry's (ODF) smoke management section has developed two computer aids to calculate fuel consumption for the Oregon Smoke Management system. They are Automatic Calculation of Slash Tonnage (ACOST) and Pile Calculation of Slash Tonnage (PCOST). The USFS is required to input these spreadsheets to the Salem Office of ODF.

PCOST uses pile shape codes found in the Oregon Smoke Management directive, pile dimensions, wood species, piles per acre and unit acres. The program uses this information to calculate tons per pile and unit total tons. ACOST and PCOST can be accessed at: www.odf.state.or.us/Divisions/protection/fire_protection/Daily/ACOST/ACOST.HTM.

Washington State University has developed a 'Piled Fuels Biomass Calculator.' Refer to: <https://depts.washington.edu/nwfire/piles/>.

The numbered bullets below summarize the requirements to prepare a Burn Plan. Detailed requirements are found in the Interagency Prescribed Fire Planning and Implementation Procedures Guide and the 2019 Interagency Standards for Fire and Fire Aviation Operations (aka Red Book).

- 1) When the decision to use prescribed fire is made, a prescribed fire burn plan must be created. It is important to include input from other resource specialists in preparation of the burn plan because prescribed burning can benefit or impact other resource objectives such as silviculture, range, wildlife, archeology, aesthetics, air, soil, and water quality.
- 2) The Burn Plan prepared would define specific parameters for burning operations. These parameters include acceptable ranges for weather conditions during

ignition (temperature, relative humidity, wind direction and wind speed ranges), forecasted weather conditions, fuel moisture in the pile, and fuel moisture in adjacent fuels (Attachment H).

- 3) The Burn Plan would also specify personnel needs, equipment needs, and contingency plans in order to conduct safe, efficient and effective burning operations.
 - 4) The Burn Plan preparation process:
 - a) Review.
 - All federal burn plans must receive a technical review before final approval by a qualified Agency Administrator.
 - Technical Reviewer qualifications and responsibilities are outlined on pages 9 and 10 of the Interagency Prescribed Fire Planning and Implementation Procedures Guide at:
<https://www.nwcg.gov/sites/default/files/publications/pms484.pdf>
 - b) Pre-burn checklist,
 - Every burn plan should include a checklist to be reviewed immediately prior to ignition. The checklist should include the factors essential to safe execution of the burn project, and a list of points to review with the crew during the pre-burn briefing.
- Operations,
- The burn plan must describe in detail how fire will be used.
 - Safety. Include provisions to be made to ensure the safety of the crew.
 - Communications. How will the crew communicate with each other, and with dispatch or emergency support.
 - Equipment and Personnel. What resources are needed to effectively accomplish the burn and how will they be deployed.
 - Fire lines. If required what is the width and condition of the existing fire line(s).
 - Ignition Pattern and Sequence. Describe how the burn will be ignited.
 - Holding. Determine how the fire will be kept within its predetermined boundaries. Determine how snags will be dealt with.
 - Mop-up. Determine resources needed to extinguish the fire and determine what standard will be used to determine the fire is safe to leave.

Accomplishment must be reported to the Oregon Department of Forestry, Fire Protection Program: 503-945-7451 or through the Fastrax system.

4.0 REFERENCES

Bureau of Land Management: www.blm.gov

Coos Forest Protective Association: www.coosfpa.net

Douglas Forest Protective Association: www.dfpa.net

Leuschen, Tom; Dale Wade; Paula Seamon. 2001. Fire Use Planning. Smoke Management Guide for Prescribed and Wildland Fire. National Wildfire Coordinating Group. Accessed at: www.fs.usda.gov/treesearch/pubs/7174.

Oregon Administrative Rule (OAR) and Revised Statute (ORS) citations:

OAR 629-048-0230(4) and 629-048-0300 – Register burns prior to ignition

OAR 629-048-0230(2) and 629-043-0026(4) – Obtain approval for and follow a burn plan.

OAR 629-048-0230(5) and ORS 477-515 – Obtain a burn permit and comply with any conditions included therein.

OAR 629-048-0230(6) – Obtain and comply with daily smoke management instructions and updates.

OAR 629-048-0210(4) - Comply with restriction regarding use of polyethylene covers on burn piles.

OAR 629-048-0100(4) and 629-048-0230(10) – Cease burning when directed by the forester.

OAR 629-048-0320 – Report accomplishments.

OAR 629-048-0310 – Pay fees.

Oregon Department of Forestry: www.oregon.gov/ODF

Klamath Falls unit office: www.oregon.gov/ODF/AboutODF/Pages/MapOffices.aspx

Grants Pass unit office: www.oregon.gov/ODF/AboutODF/Pages/MapOffices.aspx

National Wildfire Coordinating Group (NWCG). 2017. Prescribed Fire Complexity Rating System Guide. PMS 424. July. Accessed at:

<https://www.nwcg.gov/sites/default/files/publications/pms424.pdf>.

NWCG. 2017. Interagency Prescribed Fire Planning and Implementation Procedures Guide. PMS 484. July. Accessed at:

<https://www.nwcg.gov/sites/default/files/publications/pms484.pdf>.

NWCG. 2017. NIMS Wildland Fire Qualification System Guide. PMS 310-1. October. Accessed at: <https://www.nwcg.gov/publications/310-1>.

Prichard, Susan., Roger Ottmar, Gary Anderson. 2013. Consume 3.0 User's Guide. Pacific Wildland Fire Sciences Laboratory. USDA Forest Service. Pacific Northwest Research Station. Accessed at:

www.fs.fed.us/pnw/fera/research/smoke/consume/consume30_users_guide.pdf

USDA Forest Service website: www.fs.fed.us

Umpqua National Forest: www.fs.usda.gov/umpqua

Rogue Siskiyou National Forest: www.fs.usda.gov/rogue-siskiyou

Fremont-Winema National Forest: www.fs.usda.gov/fremont-winema

USDI/USDA. 2005. Wildland Fire Use. Implementation Procedures Reference Guide. May. Accessed at:

<http://www.wilderness.net/toolboxes/documents/fire/Wildland%20Fire%20Use%20-%20Implementation%20Procedures%20Reference%20Guide.pdf>.

Attachment A
Notification Application Forms



NOTIFICATION OF OPERATION/APPLICATION FOR PERMIT

OREGON DEPARTMENT OF FORESTRY

OREGON DEPARTMENT OF REVENUE



Filing this notification does not grant permission to remove forest products! First obtain permission from the landowner and timber owner.

For activities or operations within an urban growth boundary, the applicant is advised to contact the appropriate local government regarding land use regulations which may apply to the future use or development of this site.

On-site inspections may be conducted by Oregon Department of Forestry (ODF) employees to ensure compliance with all the laws and rules governing fire protection and forest practices on private land.

File a new Notification of Operation/Application for Permit form at an ODF office if any of the following conditions apply:

- Your operation area is new.
- You are adding a new activity to the operation.
- You are changing or increasing the area involved in an existing operation.
- It is after February 28, and you are continuing an operation that has been idle since the end of the previous calendar year and you have not informed ODF you intend to continue the operation before now.

ODF must also be informed in writing of any other changes in the information on an existing notification, but completion of a new form may not be required.

Provide PHOTOCOPIES of the completed original notification form and map to the local offices of the Water Resources Department and the Oregon Department of Fish and Wildlife ONLY IF you plan to use on-site water to mix pesticides or to control slash burns.

Multiple harvest units may be listed on one notification. BUT, if HARVEST units are separated by a mile or more (in a straight line) or are in different counties, file separate notifications for each unit. An operation can be any combination of forest activities. See OAR 629-605-0140 for a complete list. OAR 629-600-0100 defines "operation," "commercial," and "unit."

The instructions are printed in italics. Please print or type the information on the form. [. CJ! \41/fliiJ, Ji cii{ iiJ; jtl
File notice with the State Forester at least 15 days prior to the date you would like to start operating. A notification is not considered accepted until it is properly filled out, has a map attached, and is received by the appropriate ODF office. Mail, fax, or deliver the form to one of the Oregon Department of Forestry offices that accepts notifications.

COUNTY (Enter only one) :

NOTIFICATION NUMBER (Office Use)

NOTICE & PERMIT TYPE

- 2A Notice to the State Forester that an operation will be conducted on lands described here (ORS 527.670). **15 day waiting period required, unless waived.**
- 28 Application for permit to operate power driven machinery (ORS 477.625). **Expires at end of calendar year.**
- 2C Notice to the State Forester and the Dept. of Revenue of the **intent to harvest timber** (ORS 321.550).

DATE RECEIVED: _____

TIME RECEIVED: _____ INITIALS: _____

DISTRICT: _____

OFFICE: _____

Enter name & phone number of person to be contacted in case of fire emergency. This person should know what resources they have available for fire and have the authority to commit these resources in case of fire.

REPRESENTATIVE: _____

AREA CODE: _____ PHONE NUMBER: _____

DATE OF CORRECTION: _____

Check the appropriate box as to who is completing this form:

- Operator Landowner Timber Owner

CORRECTION: _____

TIMBER SALE NAME AND/OR NUMBER (If applicable):

Enter the Operator information

OPERATOR

Name: _____

Business Name: _____

Mailing Address: _____

City, State, & Zip Code: _____

Area Code: _____

Phone No.: _____

Codes: _____

UDF1: _____

UDF2: _____

UDF3: _____

UDF4: _____

UDF5: _____

ATTENTION:

If you are conducting timber harvesting or road construction within 100 feet of overhead or underground utility lines, call the Oregon Utility Notification Center at 1-800-332-2344. Request that the owner of the line be notified, and record the number issued to you by the Oregon Utility Notification Center here:

LANDOWNER
RC/EG/S Codes

Information about the forest landowner in Recipient Class (RC), Ethnic Group (EG), and Land Ownership-Size (S) is needed for annual reports. We ask you to voluntarily enter this information.

RC: **(Recipient Class)** Check the box that best identifies the **landowner**:

E.G. **(Ethnic Group)** Check the box that best identifies the **landowner** (Codes 2-7 apply to recipient class 4 [individual] only):

S: **(Land Ownership Size)** Check the box that best identifies the total forest ownership of the **landowner**:

- 1. Local Government
- 2. State Government
- 3. Federal Agency
- 4. Individual/Non-industrial private
- 5. Partnership/Corporation/Industrial
- 6. Other private (church, nonprofit organization, etc.)

- 1. Does not apply
- 2. White
- 3. Black
- 4. Hispanic
- 5. American Indian/Alaskan Native
- 6. Asian/Pacific Islander
- 7. All other

- 1. Does not apply
- 2. 0-9 acres
- 3. 10-99 acres
- 4. 100 - 499 acres
- 5. 500 - 999 acres
- 6. 1,000-4,999 acres
- 7. 5,000 + acres

(Landowner is responsible for reforestation)

Name: _____

Business Name: _____

Mailing Address: _____

City, State, & Zip Code: _____

Area Code _____ Phone No _____

ATTENTION: Timber harvesting may result in a tree planting requirement on the landowner. The landowner has the responsibility to reforest if the harvest results in an under stocked condition.

Landowner Codes: UDF1: _____ UDF2: _____ UDF3: _____ UDF4: _____ UDF5: _____

Enter the Timber Owner and Tax

TIMBER OWNER AND TAXPAYER

(Responsible for paying the harvest and, if applicable, severance taxes)

Name: _____

Business Name: _____

Mailing Address: _____

City, State, & Zip Code: _____

Area Code: _____ Phone No _____

ATTENTION: You are required to provide a Timber Owner Employer Identification Number OR a Social Security Number by the Oregon Department of Revenue's Statute ORS 321.015. **The Social Security Number will be used ONLY for the purpose of identifying you to the Dept. of Revenue for the collection of timber tax.** The Social Security number will be held in confidence.

Enter the Timber Owner Employer Identification No. OR a Social Security No. in the box: _____

Timber Owner Codes: UDF1: _____ UDF3: _____ UDF4: _____ UDF5: _____

Enter Unit No. If more than one unit, use Unit Addendum Sheets. Check appropriate box(es) & fill in acres/feet/etc.

Check appropriate box(es) & fill in acres, etc.

ACTIVITY CODE METHODS USED

D 1A COMMERCIAL THINNING, SELECTIVE CUTTING (leaving most of the _____)

Methods: Cable Ground Other (explain) _____

ACTIVITY CODE METHODS USED

D 5 CHANGING LAND USE to a non-forest use (house site, agricultural, etc.)

WARNING: Local government land use approval may be required. A land use change



7 PRE-COMMERCIAL

D Mechanical

1B CLEAR-CUT, OVERSTORY

merchable timber on the unit after harvesting) _____ Acres

D 6 TREATMENT OF _____ Acres

SLASH _____ Acres

Methods: Manual Burning

ESTIMATED MBF REMOVED: _____

D REMOVAL (most or all of the merchable timber will be removed during harvesting) _____ Acres

Methods: Cable Ground Other (explain) _____

D THINNING _____ Acres

D 8 OTHER (any noncommercial activities, i.e., rockpits, etc.) **Explain on line below**

ESTIMATED MBF REMOVED: _____

Enter starting and ending dates.

ESTIMATED STARTING DATE: _____
 (Must be 15 days after the appropriate office receives notification)
 ESTIMATED ENDING DATE: _____

(Expires _____)

D 1C FELLING only _____ Acres

Check the appropriate Waters, Topography, and Soil site codes. One of each code must be checked on each unit.

D 10 OTHER HARVEST TYPES not covered in 1A or 1B (wind storm salvage, hauling r/w logs, selling chips, etc.) _____ Acres

Explain on lines below _____

WATERS

D W100 Within 100' of any lake or stream, (a channel that carries flowing surface water during some time of the year)

D W300 Within 300' of any estuary or any wetland greater than 8 acres

D WNA Waters not applicable

ESTIMATED MBF REMOVED: _____

TOPOGRAPHY (over the steepest third of operation)

D 1E SORT YARD

D 2A ROAD CONSTRUCTION _____ Feet _____ Est MBF

Methods: Dozer Backhoe Other (explain)

D T1 Slope of 0% to 35%

D T2 Slope of 36% to 65%

D T3 Slope greater than 65%

D 2B ROAD RECONSTRUCTION _____ Feet _____ Est MBF

Methods: Dozer Backhoe Other (explain)

SOIL

D 51 No evidence of mass soil movement (slips, landslides, etc.)

D 52 Evidence of old slides, small failures

D 53 Recent or active movement; wet areas

D 3 SITE PREPARATION (Do not use for building construction site) _____

Methods: Manual Mechanical Burning

APPLICANT REMARKS: Please describe the intent of the operation, what equipment will be used and any other information that may be

CAUTION: Fill out Methods Used for each type of chemical application.

_____ Acres

relevant to the Stewardship Forester.

D 4A HERBICIDE application
_____ Acres

D 4B INSECTICIDE application
_____ Acres

D 4C RODENTICIDE application
_____ Acres

D 4D FERTILIZER application
_____ Acres

D 4E FUNGICIDE application
_____ Acres

D 4F REPELLENT application
_____ Acres

on Next

D Aerial

D Ground

~~D Pressurized &
Broadcast~~

D Other methods

~~Write in common name, brand
name (if known), carrier,
additives, or, for fertilizer only,
the application rate. For
triclopyr and 2,4-D only,
specify whether amine or
ester formulation:~~

on Next Page)

CONCERNS

Check any **Concerns** that you are aware of in the boxes below.

- ARC** Archaeological site
- CGG** Columbia Gorge General management area
- CGS** Columbia Gorge Scenic management area
- SH** Scenic Highway (operation near a FPA scenic highway)
- SW** Operation near a state Scenic Waterway
- UGB** Operation takes place within an Urban Growth Boundary
- WG** Operation takes place in the Willamette Greenway

STREAM NAME and/or SIZE, TYPE, & WATERSHED CODE

WATERS

Check any of the **Water** codes that you are aware of in the boxes below.

- DWS** Domestic Water Supply
- LL** Lake greater than 8 acres
- OTHER LAKES** Less than 8 acres
- OTHER WETLANDS** Less than 8 acres
- WETLANDS** Bog, estuary, significant wetland (>8 acres), important springs in E. Oregon

(Continue to Next Column)

RESOURCES

Check any of the **Resources** that you are aware of in the boxes below.

- BEN** Bald Eagle Nesting site
- BEP** Bald Eagle Perch and foraging Site
- BER** Bald Eagle Roosting site
- 810** Biological site of a rare life form or community
- BPS** Band-tailed Pigeon mineral, watering, or springs site
- CC** Operation will result in a single clear-cut or continuation of contiguous clear-cuts that exceed 120 acres
- CWO** Columbia Whitetail Deer
- GBH** Great Blue Heron nest site
- GLD** Golden eagle nest site
- HLH** High Landslide Hazard Location
- MUR** Marbled Murrelet nest site
- NSO** Northern Spotted Owl site
- OSP** Osprey nest site
- RAP** Other Raptor nest site
- SBS** Sensitive Bird nesting, roosting, or watering site
- T&E** Threatened or Endangered species site

(Continue to Legal Description)

Rule: _____ Stat. WP: _____ AP: _____ Rule: _____ Non stat. WP: _____ Stat. WP: _____ AP: _____

LEGAL DESCRIPTION

Check each 1116 of every section that applies. Enter information for government lots (if applicable), section, township, and range. If more space is needed use a **Legal Description Addendum Sheet**.

Govt. Lot# if outside std section	SW												SE		S E C	T W P	R G E	REGULATED USE AREA
	NE											SE						
	D	D	D	D	D	D	D	D	D	D	D	D	D	D				
	D	D	D	D	D	D	D	D	D	D	D	D	D	D				
	D	D	D	D	D	D	D	D	D	D	D	D	D	D				
	D	D	D	D	D	D	D	D	D	D	D	D	D	D				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

Subscriber:	Subscriber:	W. R. Subscriber:	AAccmp <input type="checkbox"/>
Subscriber:	Subscriber:	W. R. Subscriber:	

There is a 15 day waiting period in effect unless otherwise informed by the Stewardship Forester.

Check this box if a waiver of the 15 day waiting period is requested:
Checking the box does not necessarily mean a waiver will be granted.

Waiting period waived by: _____
Date: _____

Print name of applicant in box below.

X _____

I (applicant) certify that all information I have provided is true & correct.
Signature: _____ Date: _____

ATTACH MAP AND/OR AERIAL PHOTOS (The notification form is NOT complete unless a map or aerial photo of the operation area is attached. Either one of these must show the operation area, access route, north arrow, scale, etc.)

NOTIFICATION OF OPERATION/APPLICATION FOR PERMIT

REGON DEPARTMENT OF REVENUE

Notification Number.

10 100 10 J



DEPARTMENT OF FORESTRY

STATE OF OREGON

DEPARTMENT OF REVENUE

STEWAROSHIP IN FORESTRY

FILING THIS NOTIFICATION DOES NOT GRANT PERMISSION TO REMOVE FOREST PRODUCTS! FIRST OBTAIN PERMISSION FROM THE LANDOWNER AND TIMBER OWNER.
ON-SITE INSPECTIONS MAY BE CONDUCTED BY THE STATE FORESTER/FOREST PRACTICES FORESTER TO ENSURE COMPLIANCE WITH ALL THE LAWS AND RULES GOVERNING FIRE PROTECTION AND FOREST PRACTICES ON PRIVATE LAND.

Geographic Area: _____

Date Received: _____ Time: _____

Initials: _____

District: _____ Office: _____

Correction: _____

1. COUNTY Write in one county name

2. NOTICE AND PERMIT TYPE
Check Appropriate Boxes (2A, 2B, and/or 2C). **a**
2C NOTICE TO THE STATE FORESTER THAT OPERATION WILL BE CONDUCTED ON LANDS DESCRIBED ON REVERSE (ORS 527.670). APPLICATION FOR PERMIT TO OPERATE POWER DRIVEN MACHINERY (ORS 477.625). NOTICE TO THE STATE FORESTER AND THE DEPARTMENT OF REVENUE OF THE INTENT TO HARVEST TIMBER (ORS 321.550).

3. REPRESENTATIVE: **PLEASE PRINT!** Person to be contacted in case of Fire Emergency (Designated Representative). Area Code & Phone No.

4. Timber Sale Name and/or Number:

CHECK ONE SHADED BOX BELOW TO INDICATE WHO FILED OUT THE APPLICATION.

5. OPERATOR
ATTENTION If you are conducting timber harvesting or road construction within 100 feet of overhead or underground utility lines, call the Oregon Utility Notification Center at 1 800 332-2344. Request that the owner of the line be notified, and record the number issued to you by the Oregon Utility Notification Center here.

Name _____
Business Name _____
Mailing Address - Street Address _____
City, State and Zip Code _____ Area Code & Phone No. _____

6. LANDOWNER
Timber harvesting may result in a tree planting requirement on the landowner. The landowner has the responsibility to reforest if the harvest results in an understocked condition. Call a Department of Forestry office for more information.

For activities or operations within an urban growth boundary, the applicant is advised to contact the appropriate local government regarding land use regulations which may apply to the future use or development of this site.

Name _____ RC: _____
Business Name _____ EG: _____
Mailing Address - Street Address _____ S: _____
City, State and Zip Code _____ Area Code & Phone No. _____

7. WESTERN OREGON PRIVATE LAND ONLY None Part All Is any timber being harvested certified under the Western Oregon Small Tract (WOSTOT) program? If you have checked "Part" or "All" please list the number in the "WOSTOT" Certificate Number box to the right. WOSTOT Certificate

8. TIMBER OWNER AND TAX PAYER

You are required to provide a Social Security number OR Taxpayer Identification number by the Oregon Department of Revenue's statute ORS 321.015. The Social Security number will be used ONLY for the purpose of identifying you to the Department of Revenue for the collection of Timber Tax.

Name _____
Business Name _____
Mailing Address - Street Address _____
City, State and Zip Code _____ Area Code & Phone No. _____
Timber Owner Employer Identification Number _____ Or _____ Social Security Number _____

Please describe the intent of the operation, and any other information that may be relevant to the Forest Practices Forester.

APPLICANT REMARKS:

NOTIFICATION OF OPERATION/APPLICATION FOR PERMIT

STATE OF OREGON
DEPARTMENT OF FORESTRY
DEPARTMENT OF REVENUE

Notification Number: _____

PP ITO ILO

Geographic Area _____

FILING THIS NOTIFICATION DOES NOT GRANT PERMISSION TO REMOVE FOREST PRODUCTS! ARST OBTAIN PERM\$SION FROM THE LANDOWNER AND TIMBEROWNER .

Date Received: _____

Time Received: _____

Initials: _____

District: _____

Office: _____

Date of Correction: _____

Correction: _____

1. COUNTY (Enter only one):

Clackamas

2. NOTICE AND PERMIT TYPE

2A
 2B
 2C

Check Appropriate Boxes (2A, 2B, and/or 2C).

NOTICE TO THE STATE FORESTER THAT OPERATION WILL BE CONDUCTED ON LANDS DESCRIBED ON REVERSE (ORS 527.670).
APPLICATION FOR PERMIT TO OPERATE POWER DRIVEN CHINERY (ORS 77.625). Exp(res at end of eakndar year.
NOTICE TO THE STATE FORESTER AND THE DEPARTMENT OF REVENUE OF THE INTENT TO HARVEST TIMBER (ORS 321.550).

3. REPRESENTATIVE:

PLEASE PRINT! Person to be contacted in case of Fire Emergency (Designated Representative).
Joe Smith

Area Code & Phone Number
503 777-7722

4. Timber Sale Name and/or Number:

CHECK ONE BOX IN THE FAR LEFT COLUMN TO INDICATE WHO FILLED OUT THE APPLICATION

5. OPERATOR

Name

Jim Clark

Business Name

Logging, Inc.

Mailing Address - Street Address

1432 SE Boon Ave.

City, State and Zip Code

Molalla, OR 97308

Area Code & Phone No.

503-888-8888

On-site inspections may be conducted by the State Forester/Forest Practices Forester to ensure compliance with all the laws and rules governing fire protection and forest practices on private land.

APPLICANT REMARKS:

6. LANDOWNER

Name

Jane Mackie

4
RC:

Business Name

Lazy Acres

2
EG:

Mailing Address - Street Address

32076 SE 1st. Ave.

3
S:

City, State and Zip Code

Darwin, OR 97001

Area Code & Phone No.

541 333-8989

7 WESTERN OREGON PRIVATE LAND ONLY

None Part Air _____
Irs any timber being harvested certified under the Western Oregon Small Tract (WOSTOT) program? If you have checked "Part" or "All please list the number in the "WOSTOT" Certificate Number box to the right

WOSTOT Certificate t

8. TIMBER OWNER AND TAX PAYER

Name

Same as Landowner

Business Name

Mailing Address - Street Address

City, State and Zip Code

Area Code & Phone No.

Timberowner Employer Identification Number

OR

Social Security Number

I

656-66-6666

Timber harvesting may result in a tree planting requirement on the landowner. Call a Department of Forestry office for more information.

You are required to provide a Social Security number or Taxpayer Identification number by the Oregon Department of Revenue's statute ORS 371.015. The Social Security number will be used ONLY for the purpose of identifying you to the Department of Revenue for the collection of Timber Tax.

Provide PHOTOCOPIES of the completed notification form and map to the local offices of the Water Resources department and the Oregon Department of Fish and Wildlife IF AND ONLY IF you plan to use on-site water to mix pesticides or to control slash burns. In the applicant remarks section of the notification form identify the proposed water source. Addresses of the Water Resources and ODF&W offices are available in each Forestry office.

A notification is not considered accepted until it is received by the Forestry office that handles the location of your planned activity. Mail, fax or hand-deliver the notification form to the offices whose addresses are shown below.

For assistance filling out the notification form, contact your local ODF office.

OFFICE	COUNTIES COVERED	ADDRESS	PHONE NO.	FAX NO.
ASTORIA	Clatsop	92219 Hwy #202, 97103	503-325-5451	503-325-2756
BAKER CITY	Baker	2995 HUGHES LANE, 97814	541-523-5831	541-523-5874
CENTRAL POINT	Jackson	5286 TABLE ROCK ROAD, 97502	541-664-3328	541-776-6184
COLUMBIA CITY	Columbia, Clatsop	405 E STREET, 97018	503-397-2636	503-397-6361
COOS BAY	Coos, Curry, Douglas	63612 FIFTH STREET, 97420	541-2674136	541-269-2027
DALLAS	Polk, Yamhill	825 OAK VILLA ROAD, 97338	503-623-8146	503-623-9034
FOREST GROVE	Tillamook, Wasco, Clatsop, West Multnomah, Yamhill	801 GALES CREEK ROAD 97116-1199	503-357-2191	503-3574548
FOSSIL	Wheeler, Morrow, Gilliam	45945 HWY 19, 97830	541-763-2575	541-763-2027
GRANTS PASS	Josephine	5375 MONUMENT DRIVE, 97526	541-474-3152	541-474-3158
JOHN DAY	Grant	PO BOX 546 97845 (400 NW 9 th)	541-575-1139	541-575-2253
KLAMATH FALLS	Klamath, Lake	3200 DELAP ROAD 97601	541-883-5681	541-883-5555
LAGRANDE	Baker, Malheur, Union	611 20TH STREET, 97850	541-963-3168	541-962-1058
LAKEVIEW	Lake, Klamath	2290 NORTH 4TH STREET, 97630	541-947-3311	541-947-3078
MEHAMA	Linn, Marion	22965 N. FORK ROAD SE, LYONS 97358	503-859-2151	503-859-2158
MOLALLA	Clackamas, East Multnomah	14995 S.HWY 211, 97038	503-829-2216	503-8294736
MONUMENT	Grant, Wheeler	PO BOX 386, 97864 (MAY STREET)	541-934-2300	541-934-2301
PENDLETON	Umatilla, Grant, Morrow	1055 AIRPORT ROAD 97801	541-276-3491	541-276-0710
PHILOMATH	Benton	24533 ALSEA HWY, 97370	541-929-3266	541-929-5549
PRINEVILLE	Crook, Deschutes, Jefferson	3501 NE 3RD, 97754	541-447-5658	541-447-1469
ROSEBURG	Douglas	1758 NE AIRPORT ROAD, 97470-1499	541-440-3412	541-440-3424
SPRINGFIELD	Lane	3150 E.MAIN STREET, 97478	541-726-3588	541-726-2501
SWEET HOME	Linn	4690 HWY 20, 97386	541-367-6108	541-367-5613
THE DALLES	Hood River, Sherman, Wasco	3701 W.13TH ST., 97058	541-2964626	541-2984993
TILLAMOOK	Tillamook	5005 THIRD STREET, 97141-2934	503-842-2545	503-842-3143
TOLEDO	Lincoln	763 NW FORESTRY ROAD, 97391	541-336-2273	541-336-5261
VENETA	Lane, Douglas	PO BOX 157, 97487 (87950 TERRITORIAL HWY)	541-935-2283	541-935-0731
WALLOWA	Wallowa	802 WEST HWY 82, 97885	541-886-2881	541-886-9085

PLEASE PRINT OR TYPE INFORMATION ONTO THE FORM. Please don't write in shaded areas. The instructions are numbered to match numbered areas on the notification form.

Instructions For Filling Out The Notification Of Operation/Application For Permits form 629-2-1-002A

File notice with the State Forester at least 15 days prior to the date you would like to start operating.

File a notification (form 629-2-1-002A) at an Oregon Department of Forestry (ODF) office if any of the following conditions apply:

- Your operation area is brand new.
- You are adding a new activity to the operation.
- You are changing or increasing the area involved in an existing operation.
- It is after February 28, and you are continuing an operation that has been idle since the end of the previous calendar year and you have not informed ODF you intend to continue the operation before now.

1. "COUNTY (Enter only one)." Fill in the county name where the operation will take place. If an operation spans two or more counties, file a separate notification for each county. The address list shows which counties are handled by which offices.
2. "NOTICE AND PERMIT TYPE" Check Appropriate Boxes (2A, 2B and/or 2C). Checkmark in the boxes next to the notices you are giving and/or the permit you need. Anyone filing a notification for hauling only should check box 2B.
3. "REPRESENTATIVE" The person ODF should contact in case of fire emergency. Print the name and phone number. This person must know what resources you have available to fight the fire and have the authority to commit those resources.
4. "Timber Sale Name and/or Number: This information is required for all state and federal sales and is optional for private land sales.
"CHECK ONE BOX NEXT TO 5, 6, OR 7 TO INDICATE WHO FILLED OUT THE APPLICATION."
5. "OPERATOR" The name, address and phone of the person or company who is doing the work.
6. "LANDOWNER" The name, address and phone of the person who owns the land. Harvesting timber may result in a tree planting requirement for the landowner. RC (Recipient Class) EG (Ethnic Group) and S (Size of land ownership) boxes gather information about the landowner. We ask you to voluntarily enter this information which we will use for annual reports. In these reports, no names are connected with the codes.

Recipient Class	Ethnic Group	Size
1. Local Government	1. Does not apply	1. Does not apply
2. State Government	2. White	2. 0-9 acres
3. Federal Government	3. Black	3. 10-99 acres
4. Individual/Non-industrial Private Forest Landowner (someone who owns 5,000 or fewer acres of forest land, and makes less than 50% of his or her annual income from the primary processing of forest products.)	4. Hispanic	4. 100-499 acres
5. Partnership/Corp. Industrial Forest Landowner	5. American Indian/Alaskan Native	5. 500-999 acres
6. Other (private landowner such as a church or non-profit organization.)	6. Asian/Pacific Islander	6. 1,000-4,999 acres
No number seven.	7. All Other	7. 5,000 + acres

7. "TIMBER OWNER AND TAX PAYER" Enter the name of the person or company, their address and phone number. Fill in EITHER the timber owner's Employer Identification number OR the timber owner's Social Security number. The Social Security number will be held in confidence. The party who owns timber at the point of first measure is the timber owner, and is responsible for paying the harvest and, if applicable, severance taxes.

8. "TYPE OF ACTIVITY." "UNIT NUMBERS" Assign a unit number between 1 and 99. A unit can be:
- A single operating area within a continuous boundary; or
 - An operating area with a state or federal sale unit number; or
 - A separate area within your total operation area on which you plan to conduct a single type of activity (for example, 30 acres of harvest type 3 only).

Multiple harvest units may be listed on one notification. BUT, if HARVEST units are separated by a mile or more (in a straight line), file separate notifications for each unit.

In all cases, all activities you plan on that unit should be listed beside the unit number. For example, road construction activity needed prior to starting a commercial timber harvest should be described along with the harvest activity. Multiple lines may be used for each unit to describe the activity.

Activity Code	Methods Used	Activity Code	Methods Used
1a. Commercial Thinning. Most of the conifer timber or large hard woods will remain uncut on the unit after harvesting (such as commercial thinning or selective cutting).	Cable/Ground/Other	2a. Road Construction 2b. Road Reconstruction 3. Site Preparation. (Do not use for building site preparation, this is preparing for planting.)	Dozer/Backhoe/Other Dozer/Backhoe/Other Manual/Mechanical/ Burning (not slash)
1b. Most, or all, conifer timber or large hardwoods will be cut and removed from the unit during harvesting (such as in clearcuts, shelterwood, and seed tree harvests).	Cable/Ground/Other	4a. Herbicide Application 4b. Insecticide Application 4c. Rodenticide Application 4d. Fertilizer Application 4e. Fungicide Application 4f. Repellent Application	Ground or Aerial/Common Name/Brand Name/ Carrier/Additives/ Application Rate (For fertilizer application only list all of the above plus the application rate)
1c. Felling only (no yarding or decking involved).		5. Land Use Change Planned <ul style="list-style-type: none"> • to agricultural use • to residential use • to other uses Local government land use approval may be required.	
1d. Other Harvest Type not covered in 1a. or 1b. Describe in applicant's remarks box. (Examples are removal of just cedar timber from a mixed conifer stand, or creating salable chips.)	Other	6. Treatment of Slash	Manual/Chemical/ Burning/Mechanical
1e. Sort Yard. A single location where woods-direct logs are stored prior to being taken to a mill.		7. Pre-commercial Thinning	
		8. Others	Explain: EXAMPLES: rockpits used in roadway construction and chiooina.

"Quantity by Unit." Enter either the acres (A) or lineal feet (F) involved in the activity.

"Approximate Thousand Board Feet (MBF) Removed." List the approximate MBF to be removed, for each unit with commercial timber harvesting. For example 50 MBF = 50,000 Board Feet.

9. The starting date must be at least 15 days after the date the notification form is received by the appropriate ODF office.

10. "Site Codes." You must enter the W, S, and T conditions code(s) for each unit. Fill in concerns, waters, and resources code(s) when known. We are asking for your assistance in identifying units with characteristics that we are bound by law to protect. If you don't know whether any of these characteristics exist, go to item 12.

CONDITIONS		CONCERNS	WATERS	RESOURCES	
W100	Within 100 feet of any lake, stream (a channel flowing surface water during some part of the year).	ARC(haeological) site. CGG Columbia Gorge Generalmanagement area. CGS Columbia Gorge Scenic management area.	SIGNIF. WET. A wetland 8+ acres. OTHER WET (land). LAKE 8+ acres. OTHER LAKES STREAM A channel flowing surface water during some part of the year. EOS, important spring in Eastern Oregon. BOG Any size Bog. ES(tuary) A type of bay. DWS Domestic Water Supply. SEEP Water seeps out of ground, no flow evident.	BEN Bald Eagle Nesting site. BEP Bald Eagle foraging site. (A perch.) BER Bald Eagle Roosting site. BIO(logical) site of a rare life form or community: example, a rare snake pit. BPS Band-tailed Pigeon Spring. CC The operation will result in a single ClearCut or continuation of contiguous clearcuts that exceed 120 acres. CWO Columbia White Tail Deer. GBH Great Blue Heron nest site. GLD Golden eagle nest site. HLH High Landslide Hazard Location. MUR Maribled Murrelet nesting site. NSO Northern Spotted Owl nesting sites. OSP Presence of Osprey nest and key components. RAP Other Raptor nests. SBS Sensitive Bird roosting, nesting, watering site. TorE Threatened or Endangered species.	
W300	Within 300 ft. of any estuary or any wetland greater than 8 acres.	SH Scenic Highway. The operation takes place near a FPA Scenic Highway.			
WNA	Waters Not Applicable.	SW The operation takes place near a state Scenic Wale			
51	No evidence of mass soil movement (landslides, slips, slumps).	UGB The operation takes place within an Uriban Growth Boundary.			
52	Evidence of old slides, small failures.	WG The operation takes place in the Willamette Greenway.			
53	Recent or active movement; wet areas.				
T1	is a slope of 0 to 35%				
T2	is a slope of 36% to 65%				
T3	is a slope greater than 65%				

11. "Government Lot Numbers." Special numbers for map locations that do not fit the standard Township/Range grid.
12. "Location of Operation." If the activities codes description for a unit takes up several lines, REPEAT THE CODES ON EACH LINE: DO NOT REPEAT THE LEGAL DESCRIPTION.
13. To request a waiver of the 15-day waiting period, check the box and contact the Stewardship Forester (SF) at the ODF office where the notification is filed. The SF will decide if a waiver will be granted.
14. Print your name in 14a.; sign your name and write the date in 14b.
15. ATTACH MAP AND/OR AERIAL PHOTOS!" The notification form is **NOT** complete unless a map or aerial photo of the operation area is attached.

On-site inspections may be conducted by the Stewardship Forester to ensure compliance with state laws and rules governing fire protection and forest practices on private land.

Attachment B

OAR 629-615-0300

Attachment B

629-615-0300

Prescribed Burning

- (1) Prescribed burning is a tool used to achieve reforestation, maintain forest health, improve wildlife habitat and reduce wildfire hazard. Prescribed burning is to be done consistent with protection of air and water quality, and fish and wildlife habitat. The purpose of this rule is to ensure that necessary prescribed burning is planned and managed to maximize benefits and minimize potential detrimental effects.
- (2) When planning and conducting prescribed burning, operators shall:
- (a) Comply with the rules of Oregon's "Smoke Management Plan."
 - (b) Adequately protect reproduction and residual timber, humus and soil surface.
 - (c) Consider possible detrimental effects of prescribed burning upon riparian management areas, streams, lakes, wetlands, and water quality, and how these effects can be best minimized.
 - (d) Lay out the unit and use harvesting methods that minimize detrimental effects to riparian management areas, streams, lakes, wetlands, and water quality during the prescribed burning operation.
 - (e) Fell and yard the unit to minimize accumulations of slash in channels and within or adjacent to riparian management areas.
 - (f) Minimize fire intensity and amount of area burned to that necessary to achieve reforestation, forest health, or hazard reduction needs.
- (3) When burning within 100 feet of Type F and Type D streams, within 100 feet of large lakes, and within 300 feet of significant wetlands, operators shall describe in the written plan how detrimental effects will be minimized within riparian management areas; especially when burning on highly erosive soils, for example decomposed granite soils and slopes steeper than 60 percent.
- (4) During prescribed burning operations, operators shall protect components such as live trees, snags, downed wood, and understory vegetation required to be retained by OAR 629-635-0310 through 629-650-0040. When the operator has taken reasonable precautions to protect the components, but some detrimental effects occur, the intent of the rule is met if the overall integrity of the riparian management area is maintained. Operators shall not salvage trees killed by prescribed fire in a riparian management area if the trees were retained for purposes of 629-635-0310 through 629-655-0000.
- (5) When the need for prescribed burning outweighs the benefits of protecting components required to be left within the riparian area, aquatic area and wetlands, protection requirements may be modified through a plan for an alternate practice. Approval of such a plan shall consider the environmental impacts and costs of alternative treatments.
- (6) (For information only) When water is to be withdrawn from the waters of the state for use in mixing pesticides or for slash burning, ORS 537.141 requires operators to notify the Water Resources Department and the Department of Fish and Wildlife. Notification to the State Forester does not satisfy this requirement.

Stat. Auth.: ORS 527.710

Stats. Implemented: ORS 527.674 & 527.715

History:

DOF 1-2017, f. 6-9-17, cert. ef. 7-1-17

DOF 2-2013, f. 7-11-13, cert. ef. 9-1-13

DOF 8-2005, f. 12-13-05, cert. ef. 1-1-06

DOF 6-2005(Temp), f. & cert. ef. 8-2-05 thru 1-27-06

FB 9-1996, f. 12-2-96, cert. ef. 1-1-97, Renumbered from 629-024-0302
FB 3-1994, f. 6-15-94, cert. ef. 9-1-94

Available at: <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=162542>

Attachment C
Burn, Data Reporting, Slash Burn Fees Instructions



"STEWARDSHIP IN FORESTRY"

Oregon Department of Forestry

Southwest Oregon District

Fall 2009 & spring 2010

Smoke Management

Information & Processes Guide

Contents

- ~ Introduction
- ~ Southwest Oregon District Smoke Management Directory
- ~ Process
- ~ Unit Worksheet Instructions
- ~ Burn Fee Information
- ~ Information Sources
- ~ Forms

Introduction

The Oregon Department of Forestry, Southwest Oregon District, provides the enclosed instructions, and information documents to assist you in the Smoke Management processes, rules and regulations.

The Southwest Oregon District will operate under the Smoke Management Plan.

It is our intent to continue to:

- To protect public health
- Provide a quality service to our customers wishing to utilize the Smoke Management Plan to burn debris caused by the harvesting and growing of timber.
- As a result of such burning, prevent smoke from being carried to or accumulating in designated areas and other areas sensitive to smoke.
- To provide maximum opportunity for burning while coordinating with other state and federal smoke management programs and users.
- To conform to state and federal air quality and visibility requirements.
- To encourage the reduction of emissions with alternative methods.

Southwest Oregon District – Directory

Southwest Oregon District – 541-664-3328 Fax 776-6184

Business Hours: Monday – Friday 0800-1700

District Forester

Dan Thorpe

Medford Unit – 541-664-3328 Fax 776-6184

Business Hours: Monday – Friday 0800-1700

Unit Forester

* Stewardship Forester

Protection Supervisor

Protection Supervisor

Greg Alexander

Bob Marcu

Tyler McCarty

Bill Smith

Grants Pass Unit – 541-474-3152 Fax 474-3158

Business Hours: Monday – Friday 0800-1700

Unit Forester

* Stewardship Forester

Protection Supervisor

Protection Supervisor

Rick Dryer

Steve Wetmore

Aaron Whiteley

Karl Witz

* = Stewardship foresters are the primary contact to obtain slash burning permits.

Smoke Management Coordinators

There are specific hours when you may call either office to plan or accomplish a burn. These are established so that we can accomplish our other tasks during the day.

Established hours are 8:30 to 9:30 a.m. and between the hours of 3:00 and 4:00 p.m. Monday through Friday.

***** Burns to be conducted in Jackson County - Medford ODF Unit Dispatch office.**

Kristina Sheppard – Dispatch Supervisor

Matt Fumasie - Dispatcher

Mailing Address: Medford Unit, 5286 Table Rock Road, Central Point OR 97502

Business Number: 664-3328 ask for dispatch Fax Number: 776-6260

Email Address: ksheppard@odf.state.or.us cmarshall@odf.state.or.us

***** Burns to be conducted in Josephine County - Grants Pass Unit Dispatch office.**

Shelly Hoffer – Dispatch Supervisor

Sandy Schwab – Dispatcher

Mailing Address: Grants Pass Unit, 5375 Monument Drive, Grants Pass OR 97526

Business Number: 471-2855

Fax Number: 471-3892

Email address:

shoffer@odf.state.or.us

sschwab@odf.state.or.us

Process

Obtain a burn permit/plan; A burn permit is required for debris created by Forest Management activities which are the growing and harvesting of timber.

For a single unit the Burn permit/plan will cover; for multiple units, complete a Unit Worksheet and note on the Burn permit/plan that the attached Unit Worksheet will be covered under this permit.

Once we receive the Burn permit/plan and if applicable, Unit Worksheet, the information will be entered into the Oregon Smoke Management database and fee system.

When you plan on burning, you are required to call the day prior to the burn to obtain clearance. There are occasions when clearance can not be granted, which is normally based upon weather and smoke dispersion issues. At this time the unit(s) you plan on burning will be “planned” in the Oregon Smoke Management database. This will allow Salem and others to pull reports on current planned burns.

Once you have completed your burn, even if you have still more to burn, call in your “accomplishment” the working day after you have burned. This information will also be entered into the database for tracking and fee purposes.

Registrations. Required Form(s) and Burn Permits/Plans

Landing and Piled debris: The Landing and Piled Units Worksheet (instructions below & Worksheet attached) shall be completed. After the worksheet(s) has been received and reviewed, a Burn Permit may be created and either faxed, mailed or personally picked up.

NOTE: Please make every attempt to have your Worksheets into us 7 days prior to requesting to burn. This helps us audit the information, make corrections and coordinate the issuing of a permit. We understand there are times when this timeframe can not be met; we just ask that you make that the exception, not the rule.

The information will be entered into the Smoke Management computer tracking system. Once entered, registered units requiring burn fees will be gathered and processed by the Oregon Department of Forestry Finance Section in Salem Oregon.

Broadcast and Underburn Units: These units require additional paper work and closer coordination than other burning. If you have a unit in which you want to broadcast or underburn, please contact either the Forest Practice Forester or Protection Supervisor in which the Unit resides to receive further direction.

Planning to Burn

The afternoon prior to the day you would like to burn, call the appropriate office between the hours of 3:00 p.m. and 4:00 p.m. Monday - Friday.

The information needed at the time you call in, will be; Unit name (if available), where the unit is (legal location) and how much tonnage you are requesting to burn.

Accomplishments

Burning accomplishments must be reported the following workday after the burn!

Unit Worksheet Instructions

<u>Unit Number (Facts #):</u>	This is the 12-digit number assigned to the Unit from ODF.
<u>District/Forest ID</u>	711 = Medford Unit 712 = Grants Pass Unit
<u>Owner Name</u>	Name of the company/landowner
<u>Ownership</u>	P = Private S = State, local government
<u>FPE Number</u>	Optional
<u>Sale Name:</u>	Enter the name of the Unit.
<u>Sale Unit Number (Unit #):</u>	IF available, enter the number of the unit.
<u>Legal Description (T) (R) (S):</u>	Enter location by Township, Range and Section. If a 1/2 township, enter it as .5 (example; 35.5 = township 35 1/2)
<u>County Number (Co.#):</u>	15 = Jackson County 17 = Josephine County
<u>Distance from nearest SSRA:</u>	SSRA=Smoke Sensitive Receptive Area i.e. old Designated Area. # of miles from the boundary
<u>Special Protection Zone:</u>	M = Medford N = None
<u>Acres in Unit:</u>	Total acres in the harvest/treatment unit.
<u>Date when 70% of the cutting was completed (Cutting Date):</u>	Enter the month and year (example; March 1997 = 0397). For Natural Fuels, or no cutting enter "9999".
<u>Minimum Harvest Log Diameter:</u>	2 = Whole Tree Yarding 4 = 4 inches 6 = 6 inches 8 = 8 inches 9 = Other 1 = Not Applicable
<u>Elevation of the burn (Elev.):</u>	Use the average elevation to the nearest 100 feet.
<u>Slope (% Slope):</u>	Enter the actual average slope.
<u>Average Duff Depth:</u>	in 1/10 th of an inch without the decimal i.e. 1.6 inches of duff would = 16

Type of Burn: B = Broadcast Activity Underburn Activity = U
R = Right-of-way Broadcast Natural = F
L = Landing only H = Handpile
G = Grapple Pile S = Rangeland
T = Tractor Pile

Predominant Species of Fuel: D = Douglas Fir, Cedar P = Ponderosa Pine
M = Mixed Conifer H = Hardwood
B = Brush G = Grass

Fuel Loading Method: C = Ocular R = Random Sample
Photo Series T = Transect

Landing & Right-of-way Acres: Enter the acres from which material was gathered.

Landing & Right-of-way Piles: Total TONS of material in landing and Right-of-way from the entire unit.

Other Acres: Acres of in-unit piles, broadcast, and/or Underburn.

Unit Pile Tons: Total tons in unit piles

Broadcast/Underburn loading: tons per acre by size class, round to whole tons,

Acres in the Unit: Enter the actual number of acres to be treated.

Piled acres, enter the total # of acres from which the material was collected.

Landing acres, enter the # of landings for the unit.
Example; you have a 20 acre unit with 3 landings, the acres entered would be 3.

Landing Piles (Landing Tons): Enter the total tons.

Piled Burns (Piled Tons): Enter the total tons.

Primary Reason for the Burn: H = Hazard Reduction S = Silviculture
R = Other B = Hazard & Silviculture

We have received direction through Salem ODF to use the attached form which will standardize the forms used across the state for those of you working with more than one District.

The Unit Worksheet can be completed electronically and e-mailed to the appropriate dispatch office if you prefer the electronic method. If you do not already have the new form, e-mail your host dispatch and they can reply with a copy of the form.

Burn Fees

Broadcast Burns / Under Burns / Tractor Piles / Hand Piles / Grapple Piles

<u>Acres</u>	<u>Registration Fee</u>	<u>Burn Fee</u>	<u>Notes</u>
8 acres or less	\$5.00	\$25.00	= \$30.00 minimum
9 acres or more	\$.50	\$ 3.10	per acre

Landings

<u>Acres</u>	<u>Registration Fee</u>	<u>Burn Fee</u>	<u>Notes</u>
29 acres or less	\$15.00	\$15.00	= \$30.00 minimum
30 acres or more	\$.50	\$.50	per acre

Combined Registrations

If a unit is initially registered as a Landing Unit and then within the 3 year timeframe has piled or broadcast tons added to it, once burned an additional burn fee of \$2.60 per acre based upon the accomplished acres is then billed to bring it up to the \$3.10 per acre burn fee for piles and broadcast burning.

Fees are good for 3 years per Unit.

Information Sources

Smoke Management Instruction Internet Address:

http://www.odf.state.or.us/DIVISIONS/protection/fire_protection/smoke/smkcst.asp

Land Management Forecast Internet Address:

<http://nimbo.wrh.noaa.gov/Medford/fire/>

Smoke Management Plan, Burn Fee Rules and much more

http://www.odf.state.or.us/DIVISIONS/protection/fire_protection/smp/smokemgt_onthe_web.asp

ODF, Southwest Oregon District, Medford Unit

<http://oregon.gov/ODF/FIELD/MED/aboutus.shtml>

ODF, Southwest Oregon District, Grants Pass Unit

<http://oregon.gov/ODF/FIELD/GP/aboutus.shtml>



Smoke Management Burn Procedures Data Reporting and Consumption Estimation (Level 1 Regulated Areas)

Accurate, timely reporting of smoke management data is essential. Information in the data system is used to manage daily burning to; avoid impacting Smoke Sensitive Receptor Areas and overloading the airshed with particulates, facilitate coordination of burning between adjacent districts and landowners, enable calculation of emissions from burns, administer the fee program, and respond to enquiries about burning.

Fuel Loading and Consumption Estimation

The first step in the reporting burning activities is determining the amount of material that will be burned. Accurate estimation of pre-burn fuel loading is essential. Numerous techniques are available to assist in making accurate estimates of the amount of material available to be burned. A number of photo series publications have been developed to assist in this need. Links to on-line versions of these publications can be accessed from: <http://oregon.gov/ODF/FIRE/SMP/FLET.shtml>.

The publications referenced above may also be used after a unit is burned to help estimate consumption. In addition computer applications for calculating consumption are also available via the Internet, at: http://www.odf.state.or.us/DIVISIONS/protection/fire_protection/Daily/ACOST/ACOST.htm.

Reporting Requirements

Once the amount of material to be burned has been determined, this and other pertinent information must be reported. This is divided into three areas:

Registration: All units intended to be burned must be pre-registered in the Forestry smoke management data system. Units should be registered through the ODF district or the federal data system, FASTRAXS.

Planning: The day prior to ignition, a plan for the unit(s) to be burned is entered into the data system. This plan includes the location, an estimation of the amount of material intended to be burned and planned time for ignition. This facilitates coordination with adjacent landowners.

Accomplishment: The business day after the burn, the actual amount of material consumed and other pertinent data needed to produce emissions estimates is entered into the data system.

Specific requirements for data reports are contained in the smoke management directive. Approved data collection forms are available either on paper or electronically. Invoices for burn fees are based on the reports submitted, so accurate reporting of burning cannot be overemphasized.

Changes That Impact Data Reporting

Landings represent the most significant change in the data reporting system.

- The acres reported for landings are the acres that the material came from, not the area covered by the pile(s). Thus, unless additional material is yarded to the landing, the reported acres for landings will normally be the same as the harvested acres in the unit.
- Piles that include additional material yarded to the landing site (e.g., YUM) are not considered landing piles but are classed as "in-unit" piles.
- Landings must be registered in the data system, prior to burning.
- Landings are no longer fee exempt but will be charged both registration and burning fees.

Small units are no longer exempted from reporting or fees. If the burning is related to harvesting and replanting, the unit is reported regardless of size.



Smoke Management Burn Procedures Data Reporting and Consumption Estimation (Level 2 Regulated Areas)

Accurate, timely reporting of smoke management data is essential. Information in the data system is used to manage daily burning to; avoid impacting Smoke Sensitive Receptor Areas and overloading the airshed with particulates, facilitate coordination of burning between adjacent districts and landowners, enable calculation of emissions from burns, and respond to enquiries about burning.

Fuel Loading and Consumption Estimation

The first step in the reporting burning activities is determining the amount of material that will be burned. Accurate estimation of pre-burn fuel loading is essential. Numerous techniques are available to assist in making accurate estimates of the amount of material available to be burned. A number of photo series publications have been developed to assist in this need. Links to on-line versions of these publications can be accessed from: <http://oregon.gov/ODF/FIRE/SMP/FLET.shtml>.

The publications referenced above may also be used after a unit is burned to help estimate consumption. In addition computer applications for calculating consumption are also available via the Internet, at: http://www.odf.state.or.us/DIVISIONS/protection/fire_protection/Daily/ACOST/ACOST.htm.

Reporting Requirements

Once the amount of material to be burned has been determined, this and other pertinent information must be reported. There are two reports that are required for burning in areas of level 2 regulation:

Registration: All units intended to be burned must be registered in the Forestry smoke management data system through the ODF district or the federal data system, FASTER.

Planning: Planning prior to the actual burn is not required for areas under level 2 regulation but may be done if desired. This plan includes the location, an estimation of the amount of material intended to be burned and planned time for ignition. Entering plans the afternoon before ignition will aid coordination with other burning.

Accomplishment: On the first business day of the week after the burn, the actual amount of material consumed and other pertinent data needed to produce emissions estimates is entered into the data system.

Specific requirements for data reports are contained in the smoke management directive. Data collection forms are available either on paper or electronically through the local ODF district.

Changes That Impact Data Reporting

Landings represent the most significant change in the data reporting system.

- The acres reported for landings are the acres that the material came from, not the area covered by the pile(s). Thus, unless additional material is yarded to the landing, the reported acres for landings will be the same as the harvested acres in the unit.
- Piles that include additional material yarded to the landing site (e.g., YUM) are not considered landing piles but are classed as "in-unit" piles.
- Landings only units are no longer exempt from reporting but must be entered into the data system as is done for any other type of burn.

Small units are no longer exempted from reporting. If the burning is related to harvesting and replanting, the unit is reported regardless of size.



Smoke Management Fees

(Level 1 Regulated Areas)

Smoke management fees are assessed to nearly all burning conducted in areas under Level 1 regulation. This includes federal forest land statewide and Class 1 forestland in western Oregon.

Fee structure

The basic fees are assessed against the number of acres registered to burn. Thus, the burn fees are assessed for the number of acres registered, regardless of the area actually burned.

Type of Burn	Registration	Burn (Accomplishment)
Landing, Right-of-Way Piles	\$.50/acre	\$.50/acre
Forest Health Maintenance *	\$.50/acre	\$.50/acre
In-unit piles	\$.50/acre	\$3.10/acre
In-unit piles (landings already burned)	\$.50/acre (if registered separately from landing acres)	\$2.60/acre
Broadcast/underburn	\$.50/acre	\$3.10/acre
Broadcast/underburn (landings already burned)	\$.50/acre (if registered separately from landing acres)	\$2.60/acre

*Condition Class 1 land burned within 5 years of previous burn.

Minimum fee

Burns are charged a minimum fee of \$30 per unit.

Smoke Management District
Identification Numbers

Oregon Department of Forestry

- 72 Coos
 - 721 Bridge
 - 722 Coos Bay

- 73 Douglas
 - 731 North Douglas
 - 732 South Douglas

- 71 Medford
 - 711 Medford Unit
 - 712 Grants Pass Unit

- 98 Klamath-Lake
 - 981 Klamath Falls
 - 982 Lakeview

National Forest

- 15 Umpqua
 - 152 Tiller

- 10 Umpqua Rogue
 - 103 Butte Falls
 - 106 Prospect
 - 112 Galice

- 02 Fremont-Winema
 - 021 Bly
 - 022 Lakeview
 - 201 Chemult
 - 202 Chiloquin
 - 203 Klamath

SLASH BURN FEE REGISTRATION

Registration Fee - \$.50/acre

Landing Burns (Total Harvest Acres) - \$.50/acre

Broadcast Burns (Actual Acreage of Burn Area) - \$2.60/acre with landings; \$3.10/acre without landings

Piled Burns (Actual Acreage of Burn Area) - \$2.60/acre with landings; \$3.10/acre without landings

All burns must meet a \$30.00 minimum.

1/26/2013
COOS FPA

THIS IS NOT A BURNING PERMIT

BILLING NAME: _____

ADDRESS: _____

PHONE NO.: () _____

VID: _____

SIGNATURE: _____

DATE: _____

UNITS MUST BE REGISTERED 7 DAYS PRIOR TO BURNING. ALL CHARGES WILL BE BILLED OUT OF SALEM AT THE END OF EACH MONTH. PAYMENTS WILL BE SENT TO OREGON DEPARTMENT OF FORESTRY. ALL MONIES RECEIVED GO TO FUND THE OREGON SMOKE MANAGEMENT PROGRAM IN SALEM. REFER TO OAR 629-43-041 (3) AND (4) FOR FEE REQUIREMENTS.

NOTIFICATION NUMBER	UNIT NAME	ACRES	TYPE OF BURN Broadcast(B) Landing (L) Piled (P)	TOWN-SHIP	RANGE	SEC.	ELEV.	HARVEST DIAMETER (1=n/a) (2,4,6,8=INCHES) (9=OTHER)	CUTTING DATE (MO/YR)
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/
-740-				S	W				/

COMMENTS:

Oregon Department of Forestry – Smoke Management Registration Form

1. County: _____ 2. Notification/Permit # _____ 3. Year: _____

4. Person to be contacted in case of a Fire Emergency: _____ Phone: _____

5. Landowner Information: Name: _____ Phone: _____
 Mailing Address: _____
 City/State/Zip: _____

6. Person Conducting Burn: Name: _____ Phone: _____
 (If different than Landowner) Mailing Address: _____
 City/State/Zip: _____

7. Legal Description of Burn

Township	Range	Section	NE				NW				SE				SW				
			NE	NW	SE	SW	NE	NW	SE	SW	NE	NW	SE	SW	NE	NW	SE	SW	

8. Acres in Unit	9. Cutting Date	10. Harvest Diameter (DBH)	11. Elevation	12. Type of Burn

13. Fuel Species	14. Fuel Load	15. Landing Piled Ton (Only)	16. Piled Tons (Within Unit)	17. Reason for Burning	18. Planned Ignition Date

PLEASE CALL FOR SMOKE MANAGEMENT INFORMATION BEFORE ANY BURNING

Klamath Falls: 541-883-5681 or Lakeview: 541-947-3311

Smoke Management Data is available online @

http://egov.oregon.gov/ODF/FIRE/fire.shtml#Smoke_Management

Instructions:

1. **County (enter only one):** Fill in the county where the operation will take place. If an operation spans two or more counties, file a separate Notification/Permit for each county.
2. **Notification/Permit #:** 7 digit number assigned to you by your local ODF office.
3. **Year:** Fill in the year in which the registration form is being filed.
4. **Person to be contacted in case of fire emergency and phone #:** Print the name and phone number of the person to contact in case a fire starts on the operation. This person should know what resources are available to fight the fire and have the authority to commit those resources in case of a fire.
5. **Landowner Information:** Enter the person or company name, address and phone number.
6. **Person Conducting Burn:** Enter the person or company name, address, and phone number, if different than the landowner.
7. **Legal Description of Burn:** Enter the legal description of the burn unit.
8. **Acres in Unit:** Enter the total number of acres from which the material was collected for each burn unit. An operation can be divided up into more than one burn unit for fire management purposes so this figure doesn't necessarily have to be the total acres logged.
9. **Cutting Date:** Enter the date that at least 70% of the cutting was completed on the operation.
10. **Minimum Harvest Log Diameter (DBH):** Use one of the following:
Less than 4" (2) 4 inches (4) 6 inches (6) 8 inches (8) Other (9) Not applicable (1)
11. **Elevation:** Enter the elevation of the burn in feet, using the average elevation to the nearest 100 feet.
12. **Type of Burn:** Use one of the following:
Tractor piles (T) Handpiles (H) Broadcast (B) Grapple piles (G) Underburn (U) Landing only (L)
13. **Fuel Species:** Enter the predominate species of fuel on the operation. Use one of the following:
Mixed Conifer (M) Ponderosa Pine (P) Lodgepole Pine (L) Sagebrush or Bitterbrush (S) Brush (B)
Grass (G) Juniper (J) Hardwood (H) Douglas Fir, Hemlock Cedar (D)
14. **Fuel Load:** Enter (C) for ocular fuel tonnage measurement.
15. **Landing Piled Tons:** Enter total tons of material gathered in piles at the landing. See tonnage calculation under Piled Tons. If you need help, call your local ODF office.

$$\text{Tonnage (for 1 pile)} = (\text{pile length} \times \text{pile width} \times \text{pile height} \times .0001 \times \text{wood density})$$

Wood density: White fir/Spruce = 21; Pine = 26; Douglas fir/Larch = 31
Example: Pile of pine slash that is 25 long by 20 feet wide by 12 feet high: $25 \times 20 \times 12 \times .0001 \times 26 = 15.6$ Tons
16. **Piled Tons:** Enter the total tons piled in the unit.
17. **Reason for Burning:** Use one of the following:
Hazard Reduction (H) Silviculture (S) Forest Health (F) Hazard & Silviculture (B)
18. **Planned Ignition Date:** Enter the date you plan to burn.

County Number

1	Baker	10	Douglas	19	Lake	28	Sherman
2	Benton	11	Gilliam	20	Lane	29	Tillamook
3	Clackamas	12	Grant	21	Lincoln	30	Umatilla
4	Clatsop	13	Harney	22	Linn	31	Union
5	Columbia	14	Hood River	23	Malheur	32	Wallowa
6	Coos	15	Jackson	24	Marion	33	Wasco
7	Crook	16	Jefferson	25	Morrow	34	Washington
8	Curry	17	Josephine	26	Multnomah	35	Wheeler
9	Deschutes	18	Klamath	27	Polk	36	Yamhill

Attachment D
Westside Example of Burn Permit

COOS FOREST PROTECTIVE ASSOCIATION

BURNING PERMIT

In accordance with ORS 477.515, a permit for burning is hereby issued as set forth below:

Permittee:

Last Name		First	
Address			
City		State	Zip
D	Smoke Mgt.	_____	
D	Graze	Smoke Mat or Graze Unit Number / Unit Name	
D	Debris / Yard	Acres	_____ Tons
D	Other	_____	

BRIDGE	572-2796
BROOKINGS	469-2302
COOS BAY	267-3161
FOURMILE	347-3400
GOLD BEACH	247-6241
REEDSPORT	271-2224

Permittee's Phone	

Forest Officer's Name	

Location:

_____	_____	_____	S	W	_____
Quarter Sec.	Section	Township	Range	County	

All conditions must be met to make this permit valid and to prevent the spread of uncontrolled fire.

This permit is valid only during the following times:

From	AM	PM	To	AM	PM
C=J	Daylight Hours Only				
Issued By: _____					

This permit is valid only on the following inclusive dates:

Issued:	_____	through:	_____
Received By: _____			

IMPORTANT: READ REVERSE SIDE BEFORE BURNING

U
S
C
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F
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R
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P
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V
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O
N

Attachment E
Eastside Example of Burn Permit

Oregon Department of Forestry • Klamath-Lake District
**APPLICATION FOR USE OF FIRE OR
 PERMIT TO OPERATE POWER DRIVEN MACHINERY**
 ORS 477.625

Received:
Date:
Time:
Initial

Starting Date: _____ End Date _____ FPF#: _____ Fire _____

Operator: _____ FOR OFFICE USE ONLY
 Notification Number: _____

Address: _____

City/State/Zip: _____ Phone/Cell _____

Landowner: _____

Address/City/State/Zipcode: _____ Phone/Cell _____

County you will be working in: _____

Representative Name: _____ Phone/Cell _____

Describe the type of activity being performed (i.e., broadcast or pile burning, road construction, septic installation, well drilling, etc.) # of Piles and size.

_____ Acres

1. List equipment being used: _____
2. Legal: (Township, Range, Section) Include Map with area highlighted.

Govt. Lot# if outside std section					S E C	T W P	R G E	REGULATED USE AREA
	NE	NW	SW	SE				
NE INW ISW ISE	NE INW ISW ISE	NE INW ISW ISE	NE INW ISW ISE	NE INW ISW ISE				
	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○				

In Klamath County Fire Danger In Lake County
 Call (541) 883-5681 Level Call (541) 947-3311

Oregon Department of Forestry
3200 Delap Road
Klamath Falls, OR 97601
Oregon Department of Forestry
2290 North 4th Street
Lakeview, OR 97630

The landowner/operator can still be liable for up to \$300,000. Of fire suppression costs when a fire starts within a legally operating activity.

I have read the above and understand the requirements and the potential liability.
 This permit expires at the end of this calendar year.

(Print Name)
 Signature: _____ Date _____

Attachment F
Examples of Slash Burn Plans

PMS 484 Appendix A Prescribed Fire Plan Template

Updated April 2014. This is Appendix A of the Prescribed Fire Planning and Implementation Procedures Guide. This document is an editable Word document.

Accessed at: <https://www.wildfirelessons.net/communities/community-home/librarydocuments/viewdocument?DocumentKey=c376b950-e1b6-4e85-a3e2-10ef7008f222>

Interagency Prescribed Fire Planning and Implementation Guidance

The Interagency Prescribed Fire Planning and Implementation Procedures Guide (PMS 484) provides standardized procedures specifically associated with planning and implementation of prescribed fire. These procedures meet all policy requirements described in the 2009 Guidance for Implementation of Federal Wildland Fire Management Policy (USDA, USDI, et al, 2009). The PMS 484 provides unified direction and guidance for prescribed fire planning and implementation for the U.S. Department of the Interior Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), National Park Service (NPS), Fish and Wildlife Service (FWS), and the U.S. Department of Agriculture Forest Service (USFS). The National Wildfire Coordinating Group (NWCG) member agencies agree with the principles identified in the PMS 484.

The Interagency Prescribed Fire Planning and Implementation Procedures Guide (PMS 484) was updated in July 2017. Available at:
<https://www.nwcg.gov/sites/default/files/publications/pms484.pdf>

Element 1: Signature Page

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT NAME(S): _____

PRESCRIBED FIRE NAME:

Prescribed Fire Unit (Ignition Unit): _____

PREPARED BY:

Name (print): _____ Qualification/Currency: _____

Signature: _____ Date: _____

TECHNICAL REVIEW BY:

Name (print): _____ Qualification/Currency: _____

Signature: _____ Date: _____

COMPLEXITY RATING: _____

MINIMUM BURN BOSS QUALIFICATION: _____

APPROVED BY:

Name – Agency Administrator (print): _____

Signature – Agency Administrator: _____ Date: _____

Element 2A: Agency Administrator Ignition Authorization

Replace this page with the signed:
Agency Administrator Ignition Authorization,
PMS 485

The Agency Administrator Ignition Authorization form is a separate PDF file that must be printed and signed.

The Agency Administrator Ignition Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the agency administrator, a new authorization will be required.

Element 2B: Prescribed Fire Go/No-Go Checklist

Replace this page with the signed:
Prescribed Fire Go/No-Go Checklist,
PMS 486

The Prescribed Fire Go/No-Go Checklist form is a separate PDF file that needs to be printed and signed by the burn boss.

Element 3: Complexity Analysis Summary

This summary should include the same summary rationale that is in the complexity analysis in Appendix C of the prescribe fire plan.

ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1. Potential for escape			
2. The number and dependence of activities			
3. Off-site values			
4. On-site values			
5. Fire behavior			
6. Management organization			
7. Public and political interest			
8. Fire treatment objectives			
9. Constraints			
10. Safety			
11. Ignition procedures/methods			
12. Interagency coordination			
13. Project logistics			
14. Smoke management			

COMPLEXITY RATING SUMMARY	OVERALL RATING
RISK	
CONSEQUENCES	
TECHNICAL DIFFICULTY	
SUMMARY COMPLEXITY DETERMINATION	

Rationale:

Fill out Elements 4 through 21 based on the guidance provided in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484.

Element 4: Description of Prescribed Fire Area

A. Physical Description

1. Location:
2. Size:
3. Topography:
4. Project area:
5. Ignition units:

B. Vegetation/Fuels Description:

1. On-site fuels data:
2. Adjacent fuels data:
3. Percent of vegetative type and fuels model(s):

C. Description of Unique Features, Natural Resources, Values:

D. Maps - Attach in Appendix A

1. Vicinity (Required)
2. Project/Ignition Unit(s) (Required)
3. Significant or Sensitive Features (Optional): Included Not Included
4. Fuels or Fuel Model(s)(Optional): Included Not Included
5. Smoke Impact Area (Optional): Included Not Included

Element 5: Objectives

A. Resource objectives:

B. Prescribed fire objectives:

Element 6: Funding

A. Cost:

B. Funding source:

Element 7: Prescription

A. Prescription Narrative:

1. Describe how fire behavior will meet objectives

B. Prescription Parameters:

1. Environmental or fire behavior (or both)
2. Fire Modeling or empirical documentation (or both)

Element 8: Scheduling

A. Implementation Schedule:

1. Ignition Time Frames or Season(s) (or both)

B. Projected Duration:

C. Constraints:

Element 9: Pre-burn Considerations and Weather

A. Considerations:

1. On-site
2. Off-site

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

C. Notifications:

Element 10: Briefing

A. Briefing Checklist; including, but not limited to: (additional items may be added)

- Burn organization and assignments
- Prescribed Fire objectives and prescription
- Description of prescribed fire project area
 - Special considerations and sensitive features
- Expected weather and fire behavior
- Communications
- Ignition plan
- Holding plan
- Contingency plan and assignments
- Wildfire declaration
- Safety and medical plan
- Aerial ignition briefing (if aerial ignition devices will be used)

Element 11: Organization and Equipment

A. Positions:

B. Equipment:

C. Supplies:

Element 12: Communication

A. Radio Frequencies:

1. Command frequency(ies):
2. Tactical frequency(ies):
3. Air operations frequency(ies):

B. Telephone Numbers:

Element 13: Public and Personnel Safety, Medical

A. Safety Hazards:

B. Mitigation: Measures Taken to Reduce the Hazards:

C. Emergency Medical Procedures:

D. Emergency Evacuation Methods:

E. Emergency Facilities:

Element 14: Test Fire

A. Planned Location:

B. Test Fire Documentation:

- 1. Weather conditions on site

- 2. Test fire results

Element 15: Ignition Plan

A. Firing Methods:

- 1. Techniques, sequences and patterns

B. Devices:

C. Minimum Ignition Staffing:

Element 16: Holding Plan

A. General Procedures for Holding:

B. Critical Holding Points and Actions:

C. Minimum Organization or Capabilities Needed:

Element 17: Contingency Plan

Management Action Points or Limits:

(Optional MAP Table Format)

Management Action Point - Documentation Element	Management Action Point Narrative
Designator and Description:	
Condition:	

Management Action Point - Documentation Element	Management Action Point Narrative
Management Intent:	
Recommended Action(s) to Consider:	
Recommended Resources:	
Time Frame:	
Describe the consequences of not taking the recommended action(s) (Optional):	
Responsibility:	
Date Each Action is Initiated (Optional):	

(if you need to include more MAPs, copy and paste the above template)

B. Actions Needed:

C. Minimum Contingency Resources and Maximum Response Time(s):

Element 18: Wildfire Declaration

A. Wildfire Declared By:

B. IC Assignment:

C. Notifications:

D. Extended Attack Actions and Opportunities to Aid in Fire Suppression (Optional):

Element 19: Smoke Management and Air Quality

A. Compliance:

B. Permits to be Obtained:

C. Smoke-Sensitive Receptors:

D. Potential Impacted Areas:

E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:

Element 20: Monitoring

A. Fuels Information Required and Procedures:

B. Weather Monitoring (Forecasted and Observed) Required and Procedures:

C. Fire Behavior Monitoring Required and Procedures:

D. Monitoring Required to Ensure that Prescribed Fire Plan Objectives are Met:

E. Smoke Dispersal Monitoring Required and Procedures:

Element 21: Post-burn Activities

A. Post-Burn Activities that must be Completed:

Prescribed Fire Plan Appendices

Appendix A: Maps: Vicinity, Project or Ignition Units (or both), Optional: Significant or Sensitive Features, Fuels or Fuel Model, Smoke Impact Areas

Appendix B: Technical Reviewer Checklist

Appendix C: Complexity Analysis

Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)

Appendix A: Vicinity Map

Insert your vicinity maps here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Project (Ignition Units) Maps

Insert your project (ignition unit) map(s) here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Significant or Sensitive Features: (Optional) Maps

Insert your significant or sensitive feature map(s) here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Fuels or Fuel Model: (Optional) Maps

Insert your fuel or fuel model map(s) here. Refer to Element 4D in *the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Smoke Impact Areas: (Optional) Maps

Insert your significant or sensitive feature map(s) here. Refer to Element 4D in *the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix B: Technical Reviewer Checklist

Fill out this checklist based on the guidance provided in the Technical Review section in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484.

Rate each element in the following table with an “S” for Satisfactory or “U” for Unsatisfactory. Use Comment field as needed to support the element rating.

PRESCRIBED FIRE PLAN ELEMENTS	RATING	COMMENTS
1. Signature page		
2. A. Agency Administrator Ignition Authorization, PMS 485		
2. B. Prescribed Fire GO/NO-GO Checklist, PMS 486		
3. Complexity Analysis Summary		
4. Description of Prescribed Fire Area		
5. Objectives		
6. Funding		
7. Prescription: Prescription Narrative and Prescription Parameters		
8. Scheduling		
9. Pre-Burn Considerations and Weather		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Declaration		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-Burn Activities		
Appendix A: Maps		
Appendix C: Complexity Analysis		
Appendix D: Agency-Specific Job Hazard Analysis or Risk		
Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation		
Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)		
Other		

Approval is recommended subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Recommendation for approval is not granted. Prescribed fire plan should be re-submitted for technical review subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Technical Reviewer Signature: _____ Qualification and Currency: _____

Date Signed: _____

Appendix C: Complexity Analysis

Please refer to Element 3: Complexity Analysis Summary in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, and the procedures in the *Prescribed Fire Complexity Analysis Rating System Guide*, PMS 424, to fill out this appendix.

Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment

Please refer to your specific agency guidance to fill out this appendix.

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Refer to Element 7: Prescription, *in the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix F: Smoke Management Plan and Smoke Modeling Documentation

(OPTIONAL)

Refer to the *Smoke Management Guide for Prescribed and Wildland Fire* (National Wildfire Coordinating Group, 2001) and Appendix B. Basic Smoke Management Practices in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484 to fill out this appendix.

Attachment G
Examples of Oregon Smoke Management Accomplishment forms

Oregon Department of Forestry- Smoke Management Accomplishment Form

Notify the Oregon Department of Forestry at **541-947-3311 (Lakeview)** or **541-883-5681 (Klamath Falls)**, **PRIOR** to burning, to obtain smoke management advisories, and as a courtesy to avoid fire suppression equipment and personnel being dispatched to your controlled burn. Advisories are also available @ [http://legov.oregon.gov/ODF/FIRE/fire.shtml#Smoke Management](http://legov.oregon.gov/ODF/FIRE/fire.shtml#Smoke_Management)

Please use this log to record your burn accomplishments each day you burn. It is required to report this information on a weekly basis if burning activity is occurring.

Mail, phone, fax or bring into the office:

Klamath Falls:	3200 Delap Road Klamath Falls, OR 97601	Phone: 541-883-5681	Fax: 541-883-5555
Lakeview:	2290 North 4 ^h Street Lakeview, OR 97630	Phone: 541-947-3311	Fax: 541-947-3078

Landowner Name: _____ Notification/Permit # _____

Date of Burn	Ignition Time	Acres Burned	Piled Tons Burned Within Unit	Landing Pile Tons Burned

Biomass Contractors *

Contractor**	u	o	o	o	o	HomeTown	Area of Operation	Contact	Phone	Address
Bar Seven A	v'	v'	v'	v'		Redmond	Oregon	Binny Skidgel	541-548-4747	!060 SE Lake Road – PO Box 890 Redmond, OR 97756
Bar Trucking		/	/			John Day	Oregon	Tim Nelson	541-910-0621	P9 Box 388, John Day, OR 97845
Better Bark & More		v'	v'			Toledo	I-5 Corridor	Zack Dahl	541-336-21 51	5441 U.S. 20, Toledo, OR 97391
Biomass Harvesting LLC	v'	v'	/			Banks	50-100 miles of Banks	Harve Dethlefs	503-324-2422 503-720-6589	120 N. Main, Banks, OR 97106
FCO Inc		v'	v'			Bend	Eastem OR / WiL Vly	Wade Fagen	541-382-4997	1328 Seward Ave, Bend, OR 97701
Forest Energy Group, LLC	v'	v'	v'	v'		Central Point	Roseburg and south / Lakeview and west	Jack LeRoy	541-664-3476 541-840-1444	4953 Glen Echo Way, Central Point, OR97502
Gilbert Cutting and Contracting	/	/	/			Longview, WA	Oregon / Wash	Charles Gilbert, James Arndt	360-425-8078 541-413-1927	3211 Oak St, Longview, WA 98632
Godfrey & Yeager Excavating	v'	v'				Coos Bay	West side	Kevin Yeager	541-269-53 16 541-297-7197	PO Box 719, Coos Bay, OR 97420
Huffman-Wright	/					Canyonville	Douglas, s. Lane, n. Jackson & Josephine	Butch Wright	541-839-4251 541-863-2894	PO Box 910, 3rd & Huffman St, Canyonville, OR 97417
James Forest Products	v'	v'				Coquille	Curry, Coos, Douglas	Chase Carlson, Ron Robinson	541-396-3726	PO Box 40, Coquille, OR 97423
Lane Forest Products		v'		v'		Eugene	West side	Oren Posner	541-345-9085	2111 Prairie Road, Eugene, OR 97402
MarkGwillim	v'					Monroe	McMinnville to Roseburg	MarkGwillim	541-953-6235	PO Box 518, Monroe, OR 97456 .
McFarlane's Bark		/	v'	v'		Milwaukie	Oregon / Wash	Dan McFarlane	503-659-4240	13345 SE Johnson Rd, Milwaukie, OR 97222
Melcher Logging	v'					Sweet Home	depends on job	Scott Melcher	541-367-3232	1328 Clark Mill Road, Sweet Home, OR97386
Miller Timber Services	v'					Philomath	Oregon	Lee Miller, Dan Mase	541-929-2840	PO Box 638, 24745 Alsea Hwy, Philomath, OR 97370
Pacific Biomass	v'	v'	/	/		Lebanon	Wil.Vly I Snow Peak Area / Central OR	Ryan Wolfenburger	541-258-7188 541-979-8007	PO Box 2259, Lebanon, OR 97355
Pacific Hog		/	v'			Yamhill	Oregon	Carl Greenlund	503-871-3331	PO Box 57, Yamhill, OR 97148
PJF, Inc		/				Roseburg	Douglas County	Paul Fenter	541-863-7847 541-580-2685	2400 Clarks Branch Rd, MyrtleCreek, OR 97457
Quicksilver Contracting	v'	v'	v'			Bend	Eastern OR / WiL Vly	John Williams	541-382-3653 541-419-9446	64682 Cook Avenue #99, Bend, OR 97701-8465
Rexius Forest Products		/		v'		Eugene	200 miles of Eugene	Jack Hoek	541-335-8008	1275 Bailey Hill Rd, PO 22838, Eugene, OR 97402
S & H Landscape & Recycling		v'	v'	/		Tualatin	Oregon	Casey Stroupe	503-638-1011	20200, SW Stafford Rd, Tualatin, OR 97062
T2	v'	/	/	/		Sweet Home	Oregon	Steve Lawn	541-913-8681	44501 Wiley Creek Dr, Sweet Home, OR 97386-9767
Trails End Recovery, Inc. (Custom Excavating)		v'	v'	v'		Warrenton	Oregon	Dean Larson	503-861-6030 503-741-0376	34661 Airport Ln, Warrenton, OR 97146-7402
Van Norman Logging	v'	v'	v'			Glendale	depends on job	Bud Van Norman, Cory Van Norman	541-660-4665 541-218-2000	PO Box 370, Glendale, OR 97442

* No endorsement or recommendation is implied in providing this information. When choosing any contractor: verify documentation, check referrals, and evaluate previous work.
 Contractors to change information or to be included on this list please call: (541) 440-3412 ext 172

**OREGON SMOKE MANAGEMENT
REPORTING SYSTEM CODING SHEET
PART ONE, PAGE 1**

Agency: _____

Forest/District: _____

Date entered (optional)	Unit Number (FACTS #)	District/Forest ID	Owner Name (optional)	Ownership	FPF No. (Opt)	Sale Name (optional)	Sale Unit No. (optional)	Township	Range	Sec.	County No.	Distance from SSRA	SPZ	Acres in Unit	Cutting Date	Harvest Diameter
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Elev.	Slope %	Duff Depth	Type of Burn	Species of Fuel	Method Fuel Load	Landing or R/W Acres	Landing & R/W Pile Tons	Other Acres	Piled Tons	0-1/4" Fuel per Acre * 25	1/4-1" Fuel per Acre * 26	1-3" Fuel per Acre 27	3-9" Fuel per Acre 28	9-20" Fuel per Acre 29	20+" Fuel per Acre 30	Reason for Burn 31
17	18	19	20	21	22		23		24							

Fee Structure:

Registration (All units) \$0.50/acre	Landing/ROW Only \$0.50/acre	Broadcast/In-unit piles after landings \$2.60/acre	Broadcast/In-unit piles w/o landings \$3.10/acre
---	---------------------------------	---	---

Minimum fee = \$30

OREGON SMOKE MANAGEMENT
 REPORTING SYSTEM CODING SHEET
 Part 2 and Part 3, Page 1

AGENCY: _____

FOREST/DISTRICT: _____

PART2 PLANNED BURNS

PART3 ACCOMPLISHMENT REPORT

Date entered (optional)	Unit Number (FACTS#)	District Forest ID	Planned Date	Est. Ignition Time	Acres Planned	Landing Pile Tons	Unit Pile Tons	Best/Underburn Tons/Acre	Unit Number (FACTS#)	District Forest ID	Date of Burn	Ignition Time	Landing/ R-0-W Acres Burned	Landing or RJWTons Burned	Other Acres Burned
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7
	_____	_____	_____	_____	_____	_____	_____	_____	XXXXXXXXXX	_____	XXXXXX	_____	XXXX	XXXXXX	XXXX

OREGON SMOKE MANAGEMENT
 REPORTING SYSTEM CODING SHEET
 Part 3(cont.), Page 2

Enter for Broadcast and Underburn Only

Unit Pile Tons Burned	BcsUUBrn Tons per Acre Burned	Ignition Our.	Ignition Method	Rapid Ignition (YIN)	WX Station Used	10-Hr Fuel Moist	1000- Hr Fuel Moist	1000-Hr Moist Method	Number Days Since Sig. Rain	Air Temp	Rei. Humidity	Wind Dir.	Wind Speed (mph)	Snow off Month	Remarks (optional)
8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
00000	XXX	XXX	X	X	XXXX	XX	XX	X	XXX	XXX	XXX	XX	XX	XX	(Not entered in data system)

SMOKE MANAGEMENT UNIT INFORMATION

D: _____

FOREST ID: 721 722 723
 CB BR GB

NOTIFICATION#: (1111-740--##)

LANDOWNER: _____

COUNTY: 06-COOS,08-CURRY,10-DGLS _____

FUEL SPECIES: _____

OPERATOR: _____

DISTANCE TO DA: _____

METHOD FUEL LOAD: _____

OWNERSHIP: _____

SPZ: N

ACRES TONS

FPF NO.: _____

UNIT ACRES: _____

LANDING ACRES/TONS: _____

SALE NAME: _____

CUTTING DATE: _____, =, ----
MMIYY

OTHER ACRES/PILE TONS: _____

SALE UNIT NO 0

HARVEST DIAMETER: _____ BDCST AC _____

0-.25"/ACRE: _____

TWP: OS RNG: OW SEC: _____

ELEVATION: _____

PILEAC _____

0.26-1" ACRE: _____

ADD'L LEGAL: _____

SLOPE: _____

1.1-3"/ACRE: _____

LATITUDE: _____

DUFF DEPTH: _____

3.1-9" ACRE: _____

LONGITUDE: _____

BURN TYPE: _____

9.1-20"/ACRE _____

20" +/ACRE _____

CON FACT	BURN TONS	CON FACT	BURN TONS
30%		25%	
	0		0
100%	0	100%	0
	0		0
0.38	0.00	0.59	0.00
0.16	0.00	0.26	0.00
0.08	0.00	0.13	0.00
TOTAL TONS/AC	0	0	0
DUFF TONS/AC	7	8	0
TOTAL BURN TONS	7	8	0

CON FACT	BURN TONS	CON FACT	BURN TONS
20%			
	0		
100%	0		
	0		
0.70	0.00		
0	0.00		
0.18	0.00		
0	0		
9	0		
9	0		

TOTAL TONS/AC: _____
 DUFF TONS/AC: _____
 TOTAL BURN TONS: _____

BURN REASON: B

BURN FEE EXEMPT: N

UNIT ACCOMPLISHMENT INFORMATION

PLANNED _____ ACRES _____ TONS _____

* If Exempt Status (Fee Status) is coded "N", attach Fee Registration form prior to submitting to Coos Bay Dispatch office.

Reviewed by (initial): _____ SMK MGT Tracking: _____

SALE NAME _____
 NOTIFICATION#: 0

Attachment H
Prescribed Fire Plan for BLM and USFS

Appendix B: Prescribed Fire Plan Template

A standardized, reproducible template form for the Prescribed Fire Plan development process is included in this appendix. A standardized format is provided for the Prescribed Fire Plan in PDF. An electronic version editable in Word is also available. Users should prepare the plan using the electronic version.

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT(S): _____

PRESCRIBED FIRE NAME: _____

PREPARED BY: _____ **DATE:** _____

Name & Qualification/Currency

TECHNICAL REVIEW BY: _____ **DATE:** _____

Name & Qualification/Currency

COMPLEXITY RATING: _____

MINIMUM RXB REQUIREMENT: _____

APPROVED BY: _____ **DATE:** _____

Agency Administrator

ELEMENT 2: AGENCY ADMINISTRATOR GO/NO-GO PRE-IGNITION APPROVAL CHECKLIST

Instructions: The Agency Administrator’s GO/NO-GO Pre-Ignition Approval is the intermediate planning review process (i.e. between the Prescribed Fire Complexity Rating System Guide and Go/No-Go Checklist) that should be completed before a prescribed fire can be implemented. The Agency Administrator’s Go/No-Go Pre-Ignition Approval evaluates whether compliance requirements, Prescribed Fire Plan elements, and internal and external notifications have been or will be completed and expresses the Agency Administrator’s intent to implement the Prescribed Fire Plan. If ignition of the prescribed fire is not initiated prior to expiration date determined by the Agency Administrator, a new approval will be required.

YES	NO	KEY ELEMENT QUESTIONS
		Is the Prescribed Fire Plan up to date? <i>Hints: amendments, seasonality.</i>
		Will all compliance requirements be completed? <i>Hints: cultural, threatened and endangered species, smoke management, NEPA.</i>
		Is risk management in place and the residual risk acceptable? <i>Hints: Prescribed Fire Complexity Rating Guide completed with rational and mitigation measures identified and documented?</i>
		Will all elements of the Prescribed Fire Plan be met? <i>Hints: Preparation work, mitigation, weather, organization, prescription, contingency resources</i>
		Will all internal and external notifications and media releases be completed? <i>Hints: Preparedness level restrictions</i>
		Will key agency staff be fully briefed and understand prescribed fire implementation?
		Are there any other extenuating circumstances that would preclude the successful implementation of the plan?
		Have you determined if and when you are to be notified that contingency actions are being taken? Will this be communicated to the Burn Boss?
		Other:

Recommended by: _____ Date: _____
FMO/Prescribed Fire Burn Boss

Approved by: _____ Date: _____
Agency Administrator

Approval expires (date): _____

ELEMENT 2: PRESCRIBED FIRE GO/NO-GO CHECKLIST

A. Has the burn unit experienced unusual drought conditions or does it contain above normal fuel loadings which were not considered in the prescription development? If <u>NO</u> proceed with checklist below, if <u>YES</u> go to item B.	YES	NO
B. Has the prescribed fire plan been reviewed and an amendment and technical review been completed; or has it been determined that no amendment is necessary? If <u>YES to any</u> , proceed with checklist below, if <u>NO</u> , STOP.		

YES	NO	QUESTIONS
		Are ALL pre-burn prescription parameters met?
		Are ALL smoke management specifications met?
		Has ALL required current and projected fire weather forecast been obtained and are they favorable?
		Are ALL planned operations personnel and equipment on-site, available, and operational?
		Has the availability of ALL contingency resources been checked and are they available?
		Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?
		Have all the pre-burn considerations identified in the Prescribed Fire Plan been completed or addressed?
		Have ALL the required notifications been made?
		Are ALL permits and clearances obtained?
		In your opinion, can the burn be carried out according to the Prescribed Fire Plan and will it meet the planned objective?

If all the questions were answered "YES" proceed with a test fire. Document the current conditions, location, and results

Burn Boss

Date

ELEMENT 3 COMPLEXITY ANALYSIS SUMMARY

PRESCRIBED FIRE NAME			
ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1. Potential for escape			
2. The number and dependence of activities			
3. Off-site Values			
4 On-Site Values			
5. Fire Behavior			
6. Management organization			
7. Public and political interest			
8. Fire Treatment objectives			
9 Constraints			
10 Safety			
11. Ignition procedures/ methods			
12. Interagency coordination			
13. Project logistics			
14 Smoke management			

COMPLEXITY RATING SUMMARY	
	OVERALL RATING
RISK	
CONSEQUENCES	
TECHNICAL DIFFICULTY	
SUMMARY COMPLEXITY DETERMINATION	
RATIONALE:	

ELEMENT 4: DESCRIPTION OF PRESCRIBED FIRE AREA

A. Physical Description

1. Location:
2. Size:
3. Topography:
4. Project Boundary:

B. Vegetation/Fuels Description:

1. On-site fuels data
2. Adjacent fuels data

C. Description of Unique Features:

ELEMENT 5: OBJECTIVES

A. Objectives:

1. Resource objectives:
2. Prescribed fire objectives:

ELEMENT 6: FUNDING:

A. Cost:

B. Funding source:

ELEMENT 7: PRESCRIPTION

A. Environmental Prescription:

B. Fire Behavior Prescription:

ELEMENT 8: SCHEDULING

A. Ignition Time Frames/Season(s):

B. Projected Duration:

C. Constraints:

ELEMENT 9: PRE-BURN CONSIDERATIONS AND WEATHER

A. Considerations:

1. On Site:
2. Off Site

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

C. Notifications:

ELEMENT 10: BRIEFING

Briefing Checklist:

Burn Organization Prescribed Fire

Objectives Description of

Prescribed Fire Area Expected

Weather & Fire Behavior

Communications

Ignition plan

Holding Plan

Contingency Plan

Wildfire Conversion

Safety and Medical Plan

Aerial Ignition Briefing (if Required)

ELEMENT 11: ORGANIZATION AND EQUIPMENT

A. Positions:

B. Equipment:

C. Supplies:

ELEMENT 12: COMMUNICATION

A. Radio Frequencies

1. Command Frequency(s):

2. Tactical Frequency(s):

3. Air Operations Frequency(s):

B. Telephone Numbers:

ELEMENT 13: PUBLIC AND PERSONNEL SAFETY, MEDICAL

A. Safety Hazards:

B. Measures Taken to Reduce the Hazards:

C. Emergency Medical Procedures:

D. Emergency Evacuation Methods:

E. Emergency facilities:

ELEMENT 14 TEST FIRE

A. Planned location:

B. Test Fire Documentation:

1. Weather conditions On-Site:
2. Test Fire Results:

ELEMENT 15: IGNITION PLAN

A. Firing Methods (including Techniques, Sequences and Patterns):

B. Devices:

C. Ignition Staffing:

ELEMENT 16: HOLDING PLAN

A. General Procedures for Holding:

B. Critical Holding Points and Actions:

C. Minimum Organization or Capabilities Needed:

ELEMENT 17: CONTINGENCY PLAN

A. Trigger Points:

B. Actions Needed:

C. Additional Resources and Maximum Response Time(s):

ELEMENT 18: WILDFIRE CONVERSION

- A. Wildfire Declared By:**
- B. IC Assignment:**
- C. Notifications:**
- D. Extended Attack Actions and Opportunities to Aid in Fire Suppression:**

ELEMENT 19: SMOKE MANAGEMENT AND AIR QUALITY

- A. Compliance:**
- B. Permits to be Obtained:**
- C. Smoke Sensitive Receptors:**
- D. Potential Impacted Areas:**
- E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:**

ELEMENT 20: MONITORING

- A. Fuels Information Required and Procedures:**
- B. Weather Monitoring (Forecasted and Observed) Required and Procedures:**
- C. Fire Behavior Monitoring Required and Procedures:**
- D. Monitoring Required To Ensure That Prescribed Fire Plan Objectives Are Met:**
- E. Smoke Dispersal Monitoring Required and Procedures:**

ELEMENT 21: POST-BURN ACTIVITIES

Post-Burn Activities That Must Be Completed:

APPENDICES

- A. Maps: Vicinity and Project**
- B. Technical Review Checklist**
- C. Complexity Analysis**
- D. Agency Specific Job Hazard Analysis**
- E. Fire Behavior Modeling Documentation or Empirical Documentation (unless it is included in the fire behavior narrative in Element 7; Prescription)**

A: MAPS

1. Vicinity Map:

2. Project Map:

B: TECHNICAL REVIEWER CHECKLIST

PRESCRIBED FIRE PLAN ELEMENTS:	S /U	COMMENTS
1. Signature page		
2. GO/NO-GO Checklists		
3. Complexity Analysis Summary		
4. Description of the Prescribed Fire Area		
5. Objectives		
6. Funding		
7. Prescription		
8. Scheduling		
9. Pre-burn Considerations and Weather		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Conversion		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-burn Activities		
Appendix A: Maps		
Appendix C: Complexity Analysis		
Appendix D: Agency specific job hazard analysis		
Appendix E: Fire Prediction Modeling Runs or Empirical Evidence		
Other		

S = Satisfactory U = Unsatisfactory

Recommended for Approval: _____ Not Recommended for Approval: _____

 Technical Reviewer Qualification and currency (Y/N) Date

Approval is recommended subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

C: COMPLEXITY ANALYSIS

D: AGENCY SPECIFIC JOB HAZARD ANALYSIS

E: FIRE BEHAVIOR MODELING DOCUMENTATION OR EMPIRICAL DOCUMENTATION



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Recreation Management Plan

Pacific Connector Gas Pipeline Project

September 2019

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1.0 INTRODUCTION

The public lands and waters crossed by the Pacific Connector Gas Pipeline Project (Pipeline or Pipeline Project) provide users with many opportunities for group and individualized forms of recreation. These include, but are not limited to: harvesting non-timber forest products, sightseeing, hunting, fishing, camping, cross-country skiing, mountain biking, snowmobiling and off-highway vehicle (OHV) use. Where the Pipeline Project is located on federal lands managed by the USDA Forest Service (Forest Service) and USDI Bureau of Land Management (BLM), Pacific Connector Gas Pipeline, LP (PCGP) recognizes the importance of maintaining safe access to outdoor recreation areas. In some cases, controlling access to the right-of-way to facilitate restoration activities and prevent damage to other resources is also a major concern. In addition the Coos Bay Estuary, crossed by the Pipeline (using two horizontal directional drills), and Kentuck Inlet support boating and other water-related recreation. To aid in maintaining recreation opportunities, limiting right-of-way access, and preventing user conflict on public lands and in the waterway within the Pipeline Project area, PCGP has prepared this Recreation Management Plan (Plan).

1.1 Purpose

The purpose of the Plan is to assist in the management of existing recreation resources on lands within the Pipeline Project area or impacted by the Pipeline. This Plan establishes goals for managing recreation in the vicinity of the Pipeline and describes actions to provide continued safe access, prevent resource damage, and to avoid potential user conflict.

1.2 Goals

- Goal 1: Provide for Safe and Continual Access to the Pacific Crest National Scenic Trail throughout the construction and revegetation phases, to the extent practicable.
- Goal 2: Minimize Potential User Conflicts at Trail Intersections used by hikers, skiers, snowmobilers, OHVs, and others.
- Goal 3: Prevent Unauthorized OHV Use on federal land where the Pipeline right-of-way could create additional access points.
- Goal 4: Provide Boaters and Anglers Safe Access within the Coos Bay Estuary.
- Goal 5: Minimize Recreation Access Disruption on public lands.

2.0 RECREATION IMPACTS

The impacts on a particular recreational activity and specific public land or waterway will depend on the timing of construction and the recreational activity. However, the various forms of recreation typical of the Pipeline Project area will not be permanently impacted by construction and operation of the Pipeline. During construction there would be temporary land and water access restrictions to recreationists on the construction right-of-way for safety reasons. Because construction and restoration along the proposed alignment will span a period of two to three years, there may be areas that remain off limits to recreationists until restoration is complete, revegetation has established, and the construction right-of-way is stabilized.

Temporary access restrictions would be dealt with on a case-by-case basis and in consultation with agency recreation specialists and user groups.

Extended periods of solitude or peaceful off-road camping, hiking or sightseeing in dispersed recreation sites (i.e., Peavine Camp, Project Camp, Brown Mountain Shelter, or dispersed recreation camps) within the vicinity of construction could be temporarily disrupted by the noise and dust from heavy equipment use and traffic. Appendix B to the Plan of Development (POD) provides PCGP's Air, Noise and Fugitive Dust Control Plan that describes the BMPs that would be utilized to control noise emissions and fugitive dust in more detail. Table 2-1 provides the designated and developed recreation areas in the Pipeline Project area.

**Table 2-1
Designated and Developed Recreation Areas in the Pipeline Project Area**

Milepost	Recreation Site/Area	Recreation Type	Agency ¹	Direct Impacts
0.00-0.3	Oregon Dunes National Rec. Area	Hiking, OHVs, Sightseeing	FS-S	No
0.3-3.00	Coos Bay Estuary	Boating, Fishing, Boat Launch	ODFW, OPRD	No (HDDs)
19.92 – 22.11	Blue Ridge Trail System	Hiking, Horses, Mountain Bikes, Motorcycles	BLM	Yes
167.78	Pacific Crest National Scenic Trail	Skiing, Hiking, Horses	FS-RRS	No (Bore)
158.50-168.90	Brown Mountain Trail Network	Snowmobiles, Skiing, OHVs, Hiking, Horses	FS-RRS, FW	Yes

¹ FS=Forest Service; BLM = Bureau of Land Management; S=Siuslaw; ODFW=Oregon Dept. of Fish and Wildlife; OPRD=Oregon Parks and Recreation Dept; RRS=Rogue River-Siskiyou; FW=Fremont-Winema

Forest Service and BLM access roads in proximity to the Pipeline will experience short-term traffic increases during construction, and some roads may be temporarily closed to ensure safe transport of construction equipment to and from the construction right-of-way, as well as to facilitate construction in areas where the Pipeline is aligned within existing roads. As outlined in Section 3.1 (Notifications) of the Transportation Management Plan (see Appendix Y to the POD), PCGP will ensure that construction schedules are communicated to minimize potential access impacts.

During operations, the cleared right-of-way could be utilized by recreational users, including hikers, equestrians, skiers, and mountain bikers, especially where the corridor crosses existing roads and is easily visible and accessible. Although motorized travel would be discouraged and prevented by barricades suited to the particular area, other users may access the corridor and utilize it to connect with roads and trails. In higher elevations during the winter months, the pipeline corridor may be used by cross country skiers and possibly snowmobilers, depending on the effectiveness of the barricades and the preferences of the land owner/manager. PCGP is inclined to allow incidental use of the right-of-way as long as it does not result in resource damage, erosion, and/or conflict with land owner/manager preferences.

PCGP will make every effort to notify the agency(ies) at least seven (7) days in advance of road and trail closures. District recreation managers from both the Forest Service and BLM will be contacted, as necessary. In some instances, unforeseen schedule changes may limit the seven-day notice goal; in such cases, a minimum 48-hour notice will be provided. Mitigation measures are detailed in Section 3.0 below.

2.1 Recreation Areas

Coos Bay Estuary. Clamming, crabbing, and fishing are common year-round recreation activities in Coos Bay. Canoeing, kayaking, and boating are also common in the sloughs, feeder streams, and tidal waters of the bay.

The Coos Regional Trails Partnership, a consortium of land management agencies and economic development groups developed a brochure that maps Coos Bay's water trails for kayakers and other paddlers. Portions of a water trail is in proximity to the proposed alignment. The Coos Bay Trail starts near North Point, at the south end of the Conde B. McCullough Memorial Bridge (SH 101) (however, the nearest boat ramp is to the south, at the California Avenue Boat Ramp). From the bridge, the trail heads to the east, and then south along the western side of Coos Bay. The Pipeline would cross this water trail approximately 0.35 mile to the southeast of the water trail starting point (at North Point) at about Milepost 1.5. However, Coos Bay (and the water trail) would be crossed using a horizontal directional drill (HDD). At Kentuck Inlet, the HDD would exit in uplands outside of the open waters of the inlet at approximately MP 3.0. Therefore, there would be no impacts to boaters using the water trail or in eastern Coos Bay.

Similarly, from Jordan Cove to the North Point area, an HDD would be used to cross Coos Bay from MPs 0.29 to 0.9. While this part of Coos Bay does not have a designated water trail, this is an active shipping channel area with commercial and recreational boat use. No impacts to boaters would occur from the HDD operations from Jordan Cove to North Point.

There is also a popular fall Chinook salmon fishery throughout the southern portion of Coos Bay and in the Coos River. Anglers fish from late August through late October and would not be affected by Project activities because the alignment has been routed away from this area and the Coos River at MP 11.13R would be crossed using a Horizontal Directional Drill.

Blue Ridge Trail System. This 1,405-acre, multiple use, BLM recreation management area (Extensive Recreation Management Area-ERMA) is within the BLM's Coos Bay District. It was designated for hiking, biking, equestrian, and motorcycle trails. This area supports approximately 12 miles of trails interconnecting with a network of logging roads. Active timber harvest and management operations have occurred in this area; as such, road closures have occurred intermittently for logging operations. The Pipeline would cross this ERMA from MP 19.92 to MP 22.11 for approximately 2.2 miles. In addition, PCGP would utilize several of the existing roads in this ERMA for construction access. The clearing for the Pipeline will open large areas on or adjacent to existing roads or trail segments within the recreation management area. The Blue Ridge Trail System is also listed as a Travel Management Area in the BLM's 2016 ROD & RMP designating limited public motorize access. Motorized, mechanized, and equestrian use is prohibited between December and April to prevent excessive damage to the trail tread.

At the request of the BLM to minimize trail user conflicts between MPs 20.57 and 20.64, PCGP shifted the alignment and construction right-of-way to the west where it was co-located with the ERMA Trail. The Pipeline would cross two Blue Ridge trails at about MP 20.64BR (where the trail is along a road, T504 Blue Ridge Trail Road) and at MP 21.27BR. Roads in the vicinity of the trail serve both as access to the trails and connectivity from one trail to another. During construction these trail segments would need to be closed, similar to when logging activities occur in the area, and there will be increased traffic volumes on existing roads. Travelers may experience increased traffic congestion and short delays, and access to some of the trails may

be precluded. After construction is complete, PCGP would restore trail alignments affected by the Pipeline.

Pacific Crest National Scenic Trail. The Pipeline crosses the Pacific Crest National Scenic Trail (PCT) at approximately MP 167.78. This section of the trail is used year-round by hikers, equestrian users, cross-country skiers, and snow-shoers. The PCT will be a trenchless bored crossing that will require no surface disturbance of the trail or its immediate surroundings. Trail crossing delays and/or temporary detours at the trail-pipeline intersection are not expected although temporary construction noise/activities might be experienced by trail users for a short duration near the trail crossing.

Off-Highway Vehicles and Right-of-Way Access. The right-of-way could increase unauthorized OHV, snowmobile, and dispersed motorized access and its associated potential resource impacts. Locations where unauthorized access could be exacerbated by the right-of-way include: the area around the PCT near MPs 167.0-169.0; the Camel Hump area between MPs 123 and 128; the Obenchain area between MPs 132 and 137.2; and along the Clover Creek Road between MPs 168.9 and 175.4 (on Forest Service-administered land), MPs 176.2 to 177, and MPs 179.6 to 179.7 (on BLM lands). In the Obenchain area, four-wheel drive vehicles have caused extensive resource damage, and there is concern that the right-of-way might create opportunities for more access and impacts. The Camel Hump and Obenchain areas are located within the Jackson Access and Cooperative Travel Management Area, which encompasses both private and BLM lands, and is generally closed to motorized use from mid-October through April. Because the Pipeline will closely parallel Clover Creek Road for 18 miles on public and private lands, the right-of-way clearing could potentially see increased unauthorized OHV use, without appropriate barriers and mitigation.

Brown Mountain Multi-Use Trails. In addition to summer recreation, the PCT and surrounding/connecting trails form a popular cross-country ski trail system during the winter. Snowmobile use is also a popular winter activity in the general area around MPs 160.0-170.0. Due in part to a housing development at Clover Creek Road, land managers have noted that snowmobile users have been accessing and crossing the PCT between Dead Indian Memorial Road and Forest Road (FR) 700. The Pipeline Project could potentially contribute to this problem without appropriate mitigation.

3.0 MITIGATION

Generally, recreation mitigation on federal lands will be ongoing through all phases of construction and will consist of trail barriers, signage, agency and user group consultation, and adaptive construction techniques. Detours will be established for trails, if necessary, and PCGP will coordinate with the appropriate agencies to minimize construction-related impacts. If unanticipated recreational impacts occur during construction or operations, the appropriate land managing agency will notify and request that PCGP address/mitigate the impact. Construction near these areas will be short-term in nature. Following construction, all disturbed areas will be restored to pre-construction contours and recreational activities will continue unimpeded. Where practical, PCGP will design recreation resource mitigation measures in ways that do not conflict with the area's visual resources. Pipeline operation activities will not be noticeable to recreationists, except in periodic cases of inspection and maintenance during the life of the Pipeline.

Where necessary during construction in areas of recreational use, PCGP will water roads and areas of active construction when site-specific conditions require dust suppression to minimize

potential impacts associated with fugitive dust. Watering for fugitive dust abatement will be directed by PCGP's Environmental Inspectors (EIs) and will take into account recommendations and concerns raised by the federally-authorized representative on federally-managed land. The water for dust control will be acquired from an approved source. The Air, Noise and Fugitive Dust Control Plan (Appendix B to the POD) describes the Best Management Practices that will be employed to minimize fugitive dust. Overall, construction-related impacts to recreation will be minimized by:

- Not allowing construction workers to camp on federal lands;
- Continued coordination with each affected land management agency, as necessary, to finalize site-specific mitigation measures to address recreational land impacts; and
- Effective post-construction reclamation of the construction right-of-way as outlined in the Erosion Control and Revegetation Plan (ECRP) (see Appendix I to the POD).

After construction, pipeline monitoring methods will be conducted which will benefit vegetation restoration and discourage vehicle access. Specifically, where necessary, steep portions of the pipeline corridor should be posted closed to all vehicles. Successful revegetation efforts and the absence of vehicle tracks on these areas will help discourage unauthorized vehicle use by not attracting attention to "hill climbs." Monitoring-related impacts to recreation will be minimized by:

- Conducting inspections of pipeline sections on foot instead of by vehicle, where steep pipeline corridor sections are visible from nearby roads.
- Conducting vehicle monitoring only during dry conditions.

Descriptions of specific mitigation measures are detailed below. These measures are subject to change and could be expanded, substituted, or abandoned as a result of ongoing consultations with agency recreation specialists.

3.1 Specific Mitigation for Recreation Sites/Types

Coos Bay. Initial routes would have impacted recreational boater use in Coos Bay and in various inlets. With PCGP's proposed route (i.e., HDDs of Coos Bay), there will be no impact to water trails or boater traffic in the Bay.

Recreationists accessing beach and shoreline activities at the Coos Bay Shorelands Recreation Management Area and Oregon Dunes National Recreation Area would likely see some traffic impacts on Jordan Cove Road, Trans Pacific Lane, and on the other local roads near Jordan Cove. This would be due to mobilization of equipment, supplies, and workers to the Pipeline location at Jordan Cove; these traffic impacts, as related to pipeline construction, may last for up to two years. However, in this area pipeline construction and associated traffic would be occurring at the same time as the terminal construction activities, therefore traffic related to the pipeline would be unnoticeable with the larger volume of traffic associated with the terminal activities. Access would not be precluded to recreation sites in this area, but some delays are likely during some periods of construction.

Blue Ridge Trail System Crossing. During construction, the trail segments which intersect with the right-of-way will be closed, similar to logging activity requirements. PCGP will coordinate with the BLM and provide construction notifications at least seven (7) days in advance of road

closures (see Sections 2.0 and 3.1 in the Transportation Management Plan). To minimize impacts to trail users, following construction PCGP will implement the following:

- Establish a roughed-in trail tread within 24 hours of construction crossing completion with temporary directional signs posted at each end of the crossing.
- Remediate trail to full design standards within two weeks (weather permitting) of the trail crossing construction.
- Install standard trail route markers as needed post-construction where trail location is not evident.
- Provide advance notice to the BLM, Coos Bay District as to the estimated construction dates in the area of the trail.

PCGP would also implement Off-Highway Vehicle Control (OHV) measures at the trail crossing as necessary in coordination with the BLM to limit OHV use on the right-of-way to avoid problems with revegetation efforts and to prevent potential erosion. Measures to limit OHV use that would be implemented as necessary are outlined below.

Pacific Crest National Scenic Trail Crossing. To minimize impacts to trail users, PCGP modified the alignment to co-locate the pipeline with existing FS roads (Routes #3720700 and #3720706) and to bore underneath the trail, requiring no surface disturbance or vegetation removal on the PCT or immediately adjacent areas. It is not expected that PCT closures or detours would be required due to the nature and location of the crossing. Installation of the pipeline would affect PCT users for a short duration (estimated to be 7 to 14 days). For public safety, temporary construction fencing would be installed around construction work areas in the vicinity of the PCT. To further minimize impacts to trail users PCGP will implement the following between MPs 167.7 and 168.84:

- Provide advance notice of construction to the Forest Service and PCT Association;
- Notify the Forest Service District Ranger 48 hours in advance if any anticipated delays for PCT users would exceed 1 hour;
- Provide at least 7 days advance notice if the PCT needs to be detoured;
- Obtain Forest Service approval and install detailed detour route signs (if needed);
- Plan, if practicable, for PCT disruption outside of the trail's busiest hiking season (mid-July to early August);
- Obtain Forest Service approval and install temporary construction notification signs on the PCT, 0.25 miles north and south of the bore crossing. Remove signs immediately post-construction;
- Obtain Forest Service approval and install temporary dark green, dark brown, or black construction fencing where necessary for public safety. Remove fencing immediately post-construction;
- Obtain Forest Service approval and install temporary dark green, dark brown, or black noise barriers where necessary to mitigate noise and ensure public safety. Remove noise barriers and fencing immediately post-construction;
- Complete construction and all associated activities (clearing, grading, pipeline installation, and restoration) within one season;
- Confine construction activities to normal daylight working hours, use no artificial lighting;
- Install standard Nordic ski trail markers as needed post-construction;

- Revegetate the right-of-way using native trees, shrubs, and plants;
- Use a combination of rocks, logs, and slash to deter motorized vehicles and OHVs from gaining access to the PCT, in such a manner as not to adversely affect the area's visual resource qualities, to the extent practicable.
- Construction (clearing, grading, pipeline installation, and restoration) to be completed within one season between MPs 167.7 and 167.84.
- Prior to construction PCGP will develop a detail bore design footprint, for Forest Service approval, that includes additional construction right-of-way modifications between MPs 167.7 and 167.84 which incorporates a 75-foot construction right-of-way "neck-downs" and necessary TEWA adjustments as recommended in Section 3.4 and Attachment 1 of the Aesthetics Management Plan (Appendix A to the POD).

Upon completion of construction in the area, PCGP will revegetate the construction right-of-way using native trees (not within the 30 foot-operational easement), shrubs, and plants, as outlined in the Erosion Control and Revegetation Plan. Section 3.0 and Attachment 1 of the Aesthetics Management Plan – (Appendix A to the POD) describes additional measures to be used on federal lands for protecting and mitigating for visual resources.

Off-Highway Vehicle Control and Right-of-Way Access. PCGP prefers to limit OHV use on the right-of-way to avoid problems with revegetation efforts, prevent potential erosion, avert user conflicts, and because it is typically the preference of the landowner. To minimize OHV access on the right-of-way, PCGP will install barriers at appropriate locations in coordination with the land management agencies or landowner. The proposed OHV barriers will be designed and constructed in a manner that attempts to prevent unauthorized motor vehicle/OHV use of and along the right-of-way. It has been PCGP's experience that unauthorized OHV trespass can be difficult to control in some heavy OHV use areas.

The need for OHV control measures will be assessed primarily where the right-of-way intersects roads, OHV trails, or other trails. These areas will be identified by the EI and/or authorized agency representative. PCGP will consult with the land management agencies for review and approval of site-specific designs for OHV control. All designs will meet agency standards, and, where applicable, will not conflict with visual resource management objectives or impact the area's visual resources.

To deter potential user conflicts and resource damage caused by unauthorized OHV use (including snowmobiles), PCGP will provide various natural and constructed control measures at select intersections of the right-of-way with road and trail crossings. These would include, but are not limited to the Blue Ridge Trail system area, PCT area, the Camel Back, and Obenchain Road areas, Dead Indian Memorial Highway, FR 700, and along the Clover Creek Road. Where feasible, and depending on the site-specific conditions at the area of concern and management agency/landowner preferences, one or more of the following items may be used to control OHV access (see Figures 1 through 3 in Attachment 1 for typical diagrams of OHV control measures):

- Dirt/rock berms placed across the right-of-way, sometimes coupling as part of erosion control measures;
- Non-merchantable logs, slash and/or stumps strategically placed along the construction right-of-way as prohibitive barriers (see Figure 1);

- Large rocks and boulders partially buried along the right-of-way and at road crossings to block access but also positioned in such a manner as to not form an attractive OHV “obstacle course” (see Figure 1);
- At the request of the BLM and Forest Service, trench/earthen barriers would not be installed on federal lands. These types of barriers (see Figure 2) may be utilized on private lands at the direction of or where approved by the landowner.
- Signs (see Figures 3) and/or locked gates and fencing;
- Additional signing and gating needs within the Jackson Access and Cooperative Travel Management Area (Camel Hump and Obenchain areas) will be coordinated with the Oregon Department of Fish and Wildlife.
- Vegetative screens planted or transplanted to block and/or disguise the right-of-way;
- Salvaged woody debris (slash) scattered across the right-of-way to discourage OHV use;
- OHV barriers in sensitive viewsheds will be developed and installed in accordance with guidelines found in PCGP’s Aesthetics Management Plan (see Appendix A to the POD); and/or
- Where necessary, OHV control structures would extend out beyond the right-of-way to prevent drive-around and would be built at an appropriate height to prevent passage.

Additionally, PCGP will establish a line of communication between the federal management agencies and landowners in the vicinity of Clover Creek Road, Dead Indian Memorial Highway, and FR 3720 in order to help prevent current and potential future snowmobile and OHV use on non-motorized trails in the area.

PCGP will coordinate with each affected land management agency during construction and restoration to finalize site-specific OHV control measures. Following construction, the effectiveness of the site-specific measures will be assessed in consultation with the land management agencies, on a periodic basis. Generally, these assessments will be made in conjunction with revegetation monitoring and in response to identified problem areas. Adjustments will be made to OHV control measures as indicated by such assessments. PCGP will be responsible for monitoring and managing unauthorized OHV use during the life of the Pipeline, will implement additional measures as necessary, and will continue to coordinate with federal land management agencies during operations to ensure deterrence of unauthorized OHV use on the right-of-way.

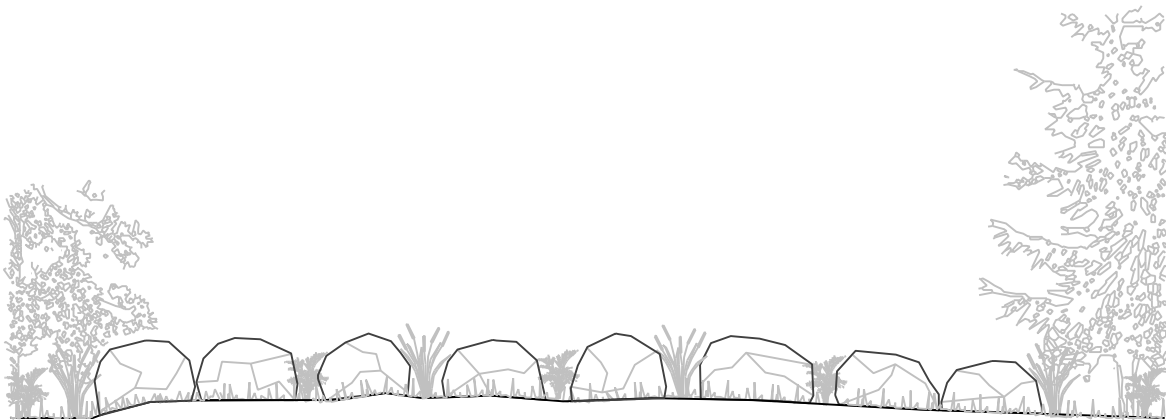
Brown Mountain Multi-Use Trails. To help prevent potential user conflict, PCGP will provide OHV and snowmobile control measures, to the extent practicable and safe, at key right-of-way road and trail crossings as described above. These include the Dead Indian Memorial Highway, FR 700, and other appropriate locations. PCGP will engage in ongoing consultation and monitoring with local recreation groups and land managers during the construction phases and, if necessary, following construction to assess and modify the mitigation.

Attachment 1 Figures

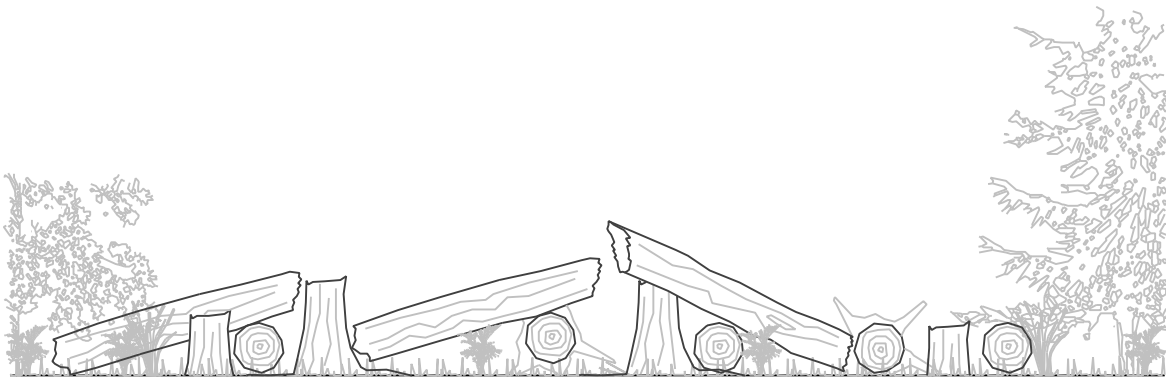
Figure 1 – Typical Rock/Slash OHV Barriers

Figure 2 – Typical Earthen Barrier Specifications

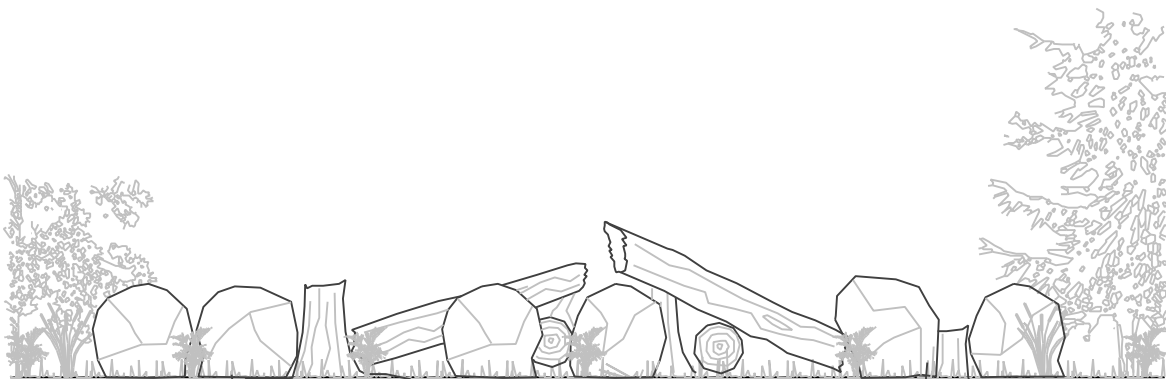
Figure 3 – Examples of Signs that Could Be Posted to Discourage OHV Traffic on
the Construction Right-of-Way



OHV ROCK BARRIER



OHV SLASH BARRIER

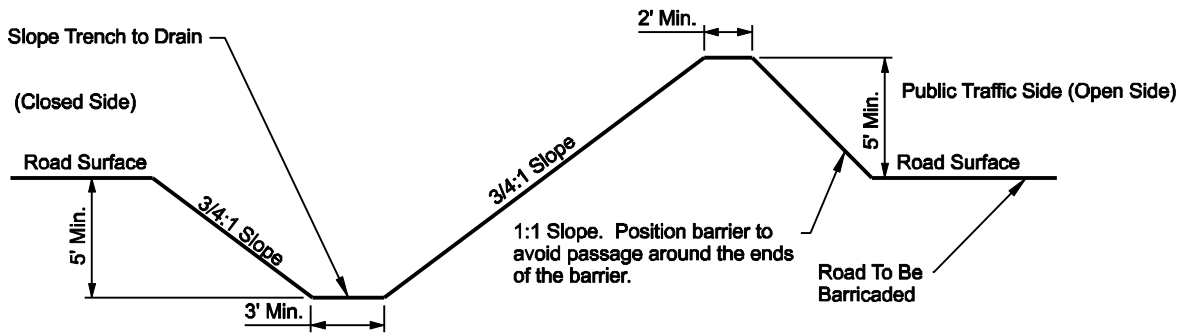


OHV ROCK / SLASH BARRIER

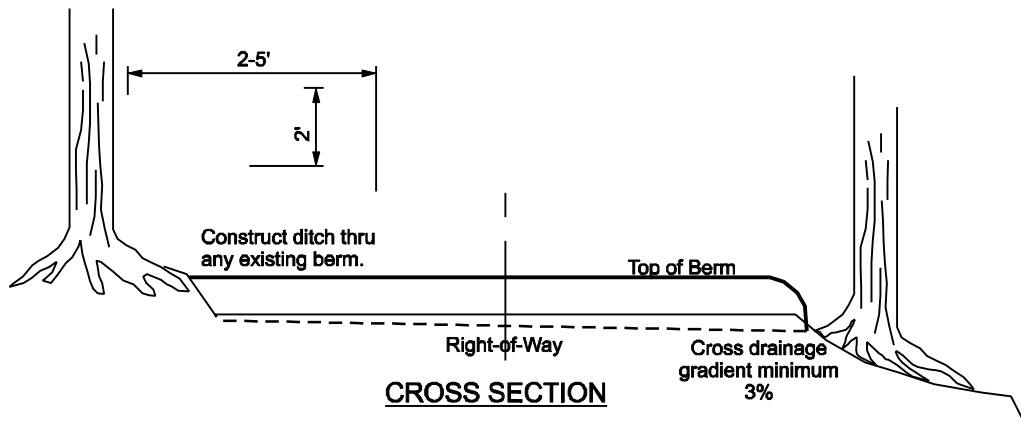
NOTES:

1. Large rocks/boulders used to deter OHV traffic will be approximately 3 feet in diameter, partially buried and spaced to prevent OHV traffic including motorcycle use.
2. Slash, including stumps, logs and tree tops may be appropriate piled and stacked to create an effective OHV deterrence across the right-of-way at road intersections, trails and other appropriate locations.
3. Multiple methods and types of OHV barriers may be used to prevent/discourage OHV traffic.
4. Ensure OHV deterrence by extending barriers to existing vegetation or other natural barriers to discourage OHV traffic from accessing the pipeline corridor. Barriers may need to extend outside of the pipeline ROW in order to be effective.
5. Unnatural rows of barriers should be avoided. Barricade material should be more heavily concentrated directly adjacent to potential access points, roads trails and parking areas then decrease in density further away from the access point.

**FIGURE 1
TYPICAL ROCK/SLASH OHV BARRIERS**



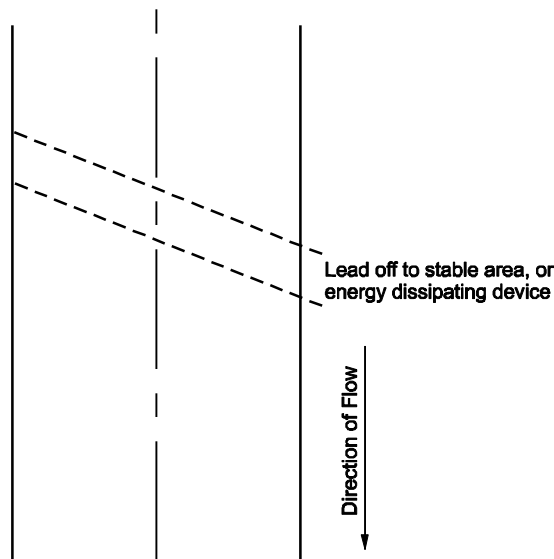
PROFILE



CROSS SECTION

NOTES:

1. Barriers should be sloped to drain with a relief ditch through the down slope edge of the right-of-way. The trench shall be behind the berm for approaching traffic.
2. Tie-in to existing vegetation or other natural barrier when feasible. Use large rocks/boulders, stumps or slash where barriers are not present to control OHV traffic from bypassing trap.
3. On private lands the structure locations will be approved by the landowner. These structures are not approved for use on federal lands.
4. Trench depth to be determined by PCGP when paced across the right-of-way to ensure pipeline protection.



PLAN VIEW

FIGURE 2
TYPICAL TRENCH/EARTHEN BERM BARRIER SPECIFICATIONS
 (Not to be used on federal lands)

Figure 3
Examples of Signs¹ that Could Be Posted
to Discourage OHV & Snowmobile Traffic on the Construction Right-of-Way



¹ <http://www.benmeadows.com/>

Examples of Temporary Trail Directional Signs²



OR



² <https://www.campgroundsigns.com/>



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Right-of-Way Marking Plan

Pacific Connector Gas Pipeline Project

September 2019

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- Attachment A-1 BLM Tree Markings (Bearing Trees, Blazes, Hacks, Markings Boundary Line)
- Attachment A-2.1 Right-of-Way Staking and Flagging Guidelines
- Attachment A-2.2 Right-of-Way Monuments
- Attachment A-3 Right-of-Way Painting, Signing, and Posting Guidelines
- Attachment B Pacific Connector Gas Pipeline – Mile Markers
- Attachment C BLM Boundary Signs and Posters
- Attachment D USFS Boundary Signs and Posters

1.0 INTRODUCTION

The purpose of this Right-of-Way Marking Plan is to identify the survey standards and types of survey markings that will be used by Pacific Connector Gas Pipeline LP (PCGP) on federal lands during the pre-construction, construction, and operational phases of the Pacific Connector Gas Pipeline Project (Pipeline). Survey markings will be used to identify the pipeline centerline, construction right-of-way, temporary extra work areas (TEWAs), uncleared storage areas (UCSAs), monuments, property boundaries, wetlands and endangered species areas (ESAs), known archaeological sites, and access road improvement locations. Survey work will commence during the pre-construction activities prior to timber cruising and will be utilized as necessary throughout the construction right-of-way clearing, pipeline construction, final clean up and restoration. All survey markings will be approved by an authorized federal agency representative in coordination with PCGP or its authorized representative.

2.0 SURVEY STANDARDS

All work described herein will be performed by professional land surveyors licensed in the State of Oregon and which hold a valid and current Certified Federal Surveyor certificate. All surveys related to the Pipeline Project will be performed in accordance with procedures found in the Manual of Surveying Instructions (2009), and all applicable State or County statutes, codes and regulations, and specifications of the County Surveyor. These surveys will meet the minimum degree of precision and accuracy defined by the State of Oregon's minimum standard requirement for the recording of surveys.

All monumentation on and along the right-of-way clearing limits, shall be established as described in ORS 92.060, shall meet or exceed the accuracy standards described in ORS 92.050 (2), and shall be platted and recorded as described in ORS 209.250.

Copies of the filed plats shall be sent to both of the following. Electronic copies are acceptable.

- a) BLM Chief of Geographic Sciences
PO Box 2965
Portland, OR 97208

- b) Oregon Lands Zone Boundary Lead
Willamette National Forest
3106 Pierce Parkway, Suite D
Springfield, OR 97477

3.0 RIGHT-OF-WAY MARKING

3.1 MONUMENT PROTECTION AND PRESERVATION

PCGP will identify and protect all existing survey monuments and accessories found on or near the right-of-way which might be disturbed by its construction operation, maintenance or decommissioning of the Pipeline. Reasonable efforts will be made to avoid disturbing these monuments. Survey monuments include, but are not limited to, all marks of the Public Land Survey System (PLSS), all land ownership parcel and subdivision corners, witness corners, reference monuments, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, and military control monuments.

Prior to the commencement of ground-disturbing activities on Federal lands, PCGP shall conduct a records search of any survey monument on or near the right-of-way which has the potential for loss or disturbance during its construction, operation, maintenance, or decommissioning of the Pipeline. PCGP shall be responsible for recording all searched-for survey monuments, found or not, on the appropriate County form, in the appropriate County, and send a copy to the BLM and Forest Service addresses in Section 2.0 above. A copy of the recorded corner search, location and perpetuation of previously-monumented corners shall be recorded and received within one (1) month following the commencement of activities that might disturb the identified monuments. The above requirement does not override State or County filing and recording regulations.

If the disturbance of a survey monument or any of its accessories becomes necessary, PCGP will provide written notification to the authorized federal agency representative, respective installing authority, and professional land surveyor who established the survey monument (if known) before such disturbance occurs. Perpetuation of all PLSS or other property corners shall be to current federal and state standards and include a permanent monument with bearing trees or accessories. In the event that damaged monuments cannot be buried at the re-established position they are to be returned to the party (if known) who originally established the monument. Temporary reference monuments will be established so that the survey monument or accessory may be remonumented in its original position after the completion of ground-disturbing activities. Instruction for the remonumentation of the disturbed monument will be in accordance with the authority upon which the corner was monumented (i.e. federal authority survey, federal standards; state authority survey, state standards). Such remonumentation(s) will be recorded in the proper County Surveyor's office and/or in federal records, as appropriate. If a survey monument or accessory cannot be remonumented in its original location, PCGP will establish permanent reference monuments and record the location(s) in the same manner as described herein and return the original monument to the party (if known) who established it. Nothing in these provisions shall relieve PCGP's liability for the willful destruction or modification of any Government survey monument as provided at 18 U.S.C. §1858 or ORS 209.140 and 209.150.

A written report to the appropriate jurisdictional Agency Officials will also be made immediately by PCGP in the event that a survey monument is inadvertently damaged. If Federal Surveyors are used to restore a survey monument disturbed as a result of pipeline construction activities, PCGP will be responsible for the survey costs. Pending discussions with the agencies, the federal land-managing agency may elect to perform a portion of the survey work in coordination with PCGP and be reimbursed by PCGP for the reasonable costs of such work in accordance with the terms of a separate agreement between PCGP and any such federal land managing agency.

3.2 PROPERTY MONUMENTATION AND MARKING

Prior to the commencement of timber cruising activities or ground-disturbing activities on federal lands, the property boundaries of the federal lands will be located and identified consistent with the guidelines established by the Agency Official. PCGP will monument the property boundary at all intersecting points where the construction right-of-way clearing limits enter or leave BLM, Forest Services, and Private lands according to ORS 92.060 standards (see Attachment A-1 and A-2). These monuments and their corner positions will be maintained, before, during and after construction. Any monumented corner positions disturbed or destroyed will be reestablished.

When the right-of-way clearing limits cross federal lands, a monument is required, at each angle point and at each boundary crossing. Monuments on the right-of-way clearing limits shall not be more than 2,500 feet apart. When the lengths of courses exceed that distance, witness point monuments shall be established on the right-of-way clearing limits in a location which is readily accessible, has a low likelihood of disturbance, and can be occupied by conventional survey instruments. Said monuments shall be located and mapped to ORS 209.250 standards, recorded in the local county surveyor's office and a copy of said document furnished to the applicable agencies. If the point of intersection of the right-of-way clearing limits and a federal property boundary cannot be practically established, a reference monument shall be established along the property boundary no greater than 50 feet from the true intersecting point. During construction, care shall be taken to minimize destroying or disturbing these monumented corner positions. If monumented corner positions are lost, sufficient corners will be reestablished and monumented, to ensuring a minimum linear distance of 2,500 feet between existent corner monuments along either side of the right-of-way clearing limits.

All property boundaries along federal lands monumented, marked and posted prior to clearing or construction activities shall be maintained during construction by PCGP if their location does not hinder construction activities or reposted to agency standards after the completion of construction.

3.3 TEMPORARY RIGHT-OF-WAY, TEWA and UCSA MARKING

The centerline of the Pipeline and the exterior boundaries of the construction right-of-way will be marked with stakes at all angle points and tangents and at the entrance to and exit from BLM, Forest Service, Bureau of Reclamation, and Private lands at no more than 200 foot intervals and to establish a line-of-sight between two points. The top of each survey stake will be painted and/or flagged with a distinct color to identify its purpose. The survey station numbers will be clearly marked on stakes that identify angle points and property boundaries.

All TEWA and UCSA boundaries will be clearly marked at all corners. Stakes and/or flags will be placed at no more than 200-foot intervals, establish a line-of-sight between two points, and/or as agreed upon with the authorized federal agency representative. The top of each survey stake and/or tree will be flagged with a distinct color to identify its purpose. TEWA or UCSA boundaries will be marked at the entrance to and exit from BLM, Forest Services, Bureau of Reclamation, and private lands according to ORS 92.060 standards.

Attachment A identifies the flagging, posting and painting guidelines and corresponding colors and signs to be used for right-of-way marking prior to and during pipeline construction activities (see Attachment A-1, A-2 and A-3).

Lath/stakes used for marking will be premium grade survey lath ¼" x 1-1/2" x 36" (nominal). Survey lath will be firmly set and the top of the lath will be painted or flagged with the appropriate distinct color as described in Attachment A.

All temporary right-of-way, TEWA and UCSA boundaries on federal lands marked by stakes and flags prior to clearing or construction activities shall be maintained during construction by PCGP.

3.4 OTHER (RESTRICTED/SENSITIVE AREAS) MARKING

Specific sites (e.g. known archaeological sites, areas with threatened and endangered species, or wetlands), where construction equipment and vehicles will be restricted, will be clearly staked

and flagged onsite by PCGP before any construction or surface-disturbing activities begin and will be maintained during construction activities. PCGP will be responsible for ensuring that construction personnel are adequately trained to recognize these markers and understand any equipment movement restrictions that may be involved with these areas.

3.5 REFERENCE STAKES

Reference stakes will be placed to allow accurate re-staking of the pipeline angle points once clearing is complete. All reference stakes will have station and distance information clearly marked on them, and will be flagged accordingly.

3.6 ACCESS ROAD MARKING

All access roads/bridges that will require new construction and/or minor improvements such as widening, grading, sloping, and clearing, will be clearly staked and flagged as specified in Attachment A and maintained during construction. In addition to the centerline and construction right-of-way boundaries being staked, where necessary, an Agency Official specified distance beyond the top of the cutslope and below the toe of the fill slope will be marked to identify further clearing limits. This additional distance will be site-specific, depending on existing vegetation and/or safety concerns. The stakes will have a description written on them to specify fill/cut details, footages, and limits of any required clearing, along with the appropriate flagging. All approved access roads will have "PCGP Approved Construction Access" signage erected at the beginning and end points as well as at road intersections.

3.7 EXCESS MATERIAL MARKING

Within the locations identified in the Overburden and Excess Material Disposal Plan of Development (POD) (see Appendix Q to the POD), PCGP will mark and maintain the boundaries of the material placement locations as depicted on the surveyed drawings as part of the Site Development and Reclamation Plan. All areas will be staked and flagged as agreed upon with the federal agencies and will have a description written on them to specify the type of material to be stored.

3.8 TREE MARKING

Along the edge of the construction right-of-way and TEWA boundaries, trees identified as boundary trees will be designated by the surveyors and foresters utilizing an array of monumentations designed to meet the specific needs of the corresponding federal agencies. Paint, tags, posters, thick mill plastic placards, ribbon, and bark chopping are examples of monumentation methods. Attachment A and Illustrations provided in Attachment A-1 identify the tree marking guidelines and corresponding paint colors to be used on BLM lands prior to and during pipeline construction activities. Right-of-way clearing boundaries will be marked by Agency personnel using the paint guidelines in Attachment A and the signage as shown in Attachment C for BLM lands and Attachment D for USFS lands. Any paint used to mark boundaries of right-of-way clearing areas on federal lands or for marking individual trees to cut will be applied by agency personnel. Unless otherwise directed by the Agency, all paint shall include a tracer element specific to the BLM and USFS that can be tested for in the field. PCGP will coordinate with the authorized federal agency representative to ensure that paint color designations are understood by construction contractors. Hazard trees will also be marked with paint accordingly to the guidelines in Attachment A. See Attachments A, C and D for agency paint colors and posters to be used for tree marking.

3.9 PERMANENT MARKING

Permanent pipeline markers will be installed once final clean up and restoration is complete. The purpose of pipeline markers is to reduce the possibility of third-party damage. Per DOT 49 CFR 192.707, PCGP will install and maintain pipeline markers on both sides of each public road crossing and all railroad crossings. Line markers will also be installed wherever necessary to identify the location of the pipeline.

The pipe markers will be located over the centerline of the pipeline and may include signs mounted on fences or steel posts, or commercially available plastic fabricated line markers. Pipeline marker color will follow American Public Works Association (APWA) uniform color code for natural gas (yellow). The height of the markers or signage will be selected based on the construction right-of-way condition to ensure visibility. Where placement of line markers is impractical, other methods shall be used to mark the presence of the pipeline such as plaques, painted street markings, etc.

Pipeline markers will contain the following information:

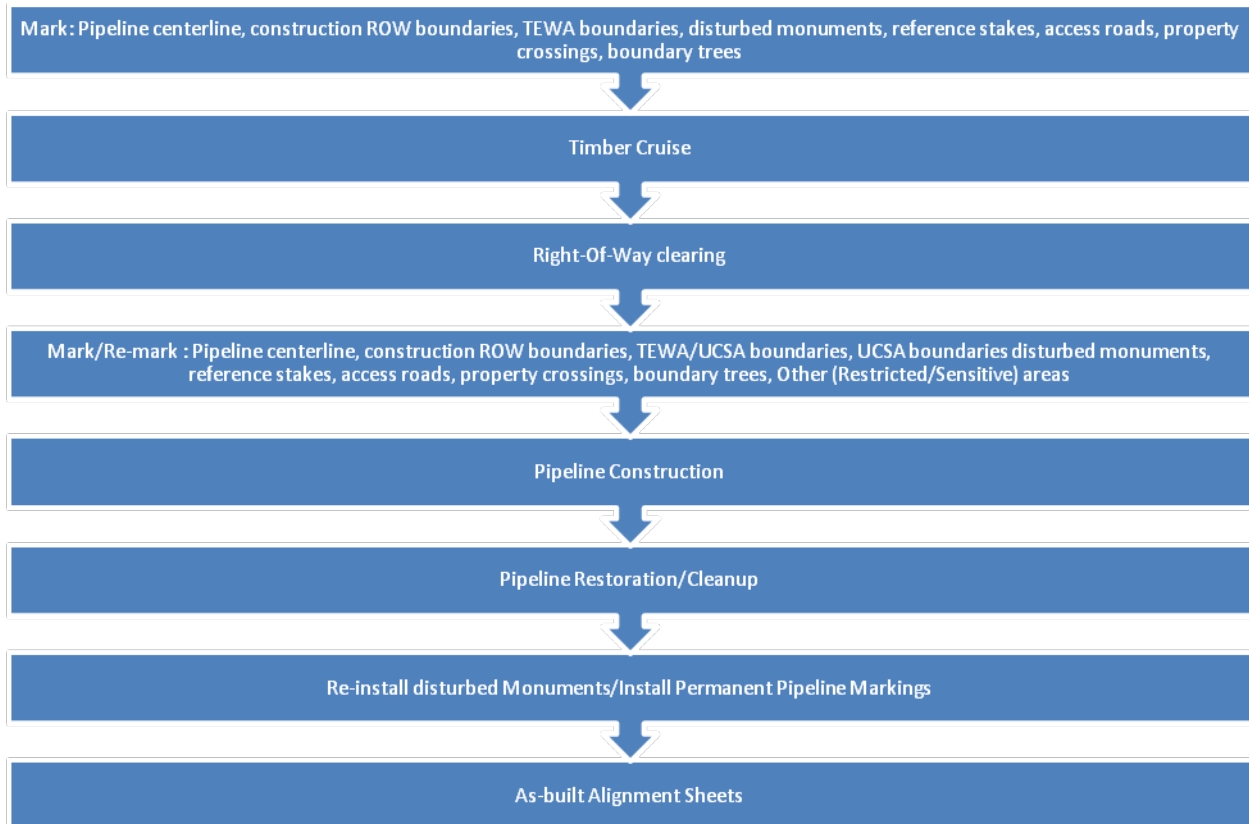
- The word “Warning, Caution, or Danger” followed by the words “Gas Pipeline.” The letters will be at least (1) inch high with ¼ stroke.
- Company name (Pacific Connector Gas Pipeline, LP) and telephone number where an operator can be reached at all times.

Pipeline markers will be maintained by replacing damaged line markers during pipeline patrols and surveys, which shall be at intervals of at least once each calendar year, but not to exceed 15 months. Vegetation around pipeline markers will be controlled so that line markers are visible.

Milepost markers (see Attachment B) will be installed every mile along the pipeline where feasibly possible and will be used for aerial patrol requirements.

4.0 RIGHT-OF-WAY MARKING TIMELINE

The following depicts the sequence of events in which survey markings will be conducted.



5.0 AS-BUILT ALIGNMENT SHEETS

Within six (6) months after the completion of ground-disturbing activities, PCGP will provide the federal agencies with a digital survey of the as-built location of the pipeline and related facilities, including coordinates for all previously monumented property corners located within the construction and permanent right-of-way or identified in the establishment of intersecting points where entering and leaving federal land. The digital data will be geo-referenced and based on NAD-83, state plane coordinates. Said coordinates shall be computed in NAD-83 to within three (3) feet at a ninety-five (95) percent confidence level of National Geodetic Reference System (NGRS) positions. Digital data will meet FGDC standards and be in the form of ASCII files of data, comma delineated, and formatted to be compatible with the federal agency's automated land status mapping programs. Meta Data for each previously-monumented or established corner shall include Township and Range, GCDB number, Datum, Latitude and Longitude. If Global Positioning System (GPS) data is used, metadata shall also include the equipment used, GPS date, PDOP, number of filtered position, horizontal precision, and standard deviation. As-built photo-based alignment sheets will be provided to the proper federal agencies upon completion.

Attachment A – Definitions and Guidelines

FLAGGING (Attachment A-2.1)		
Flagging Code	Colors	Description
(Y)	Yellow	WGP Pipelines (Existing)
(O/W)	Orange/White	Pipeline Centerline
(B/W)	Blue/ White	Construction ROW / Access Road ROW
(P/B)	Pink/Blue	Temporary Extra Work Space Boundary (TEWA)
(W)	White	Uncleared Storage Area (UCSA) Boundary
(P/W)	Pink/ White	Survey Reference Point (Offset)
(B/Y)	Blue/Yellow	Wetland Delineation Line/Environmentally Restricted/Sensitive Areas
(O/G)	Orange/Green	Silt Fence / Sediment Barrier
(W/G)	White /Green	Access Road Centerline
(O/B)	Orange/Blue	Overburden and Excess Material Storage
Killer Tree	Orange with the words Killer Tree	Flagging contains the printed words Danger Tree/Killer Tree or other variations to denote a Hazard/Safety/Danger Tree. This flagging is used in combination with Green Paint listed below. Flagging will be placed on the tree and at an offset along the edge of the Timber Cutting Area.
Cut Tree	White with Blue Polka Dots	Designates individual trees on the civil surveyed line as being within the Timber Cutting Area.
The American Public Works Association (APWA) has established the following color code guidelines. Pacific Connector Surveys shall conform to these guidelines.		
(Y)	Yellow	Gas, Petroleum, Oil Lines, etc.
(R/W)	Red/White	Hazard Site
TAGS (Attachment A-3)		
Yellow Tag		Uncleared Storage Areas (UCSA) Boundary

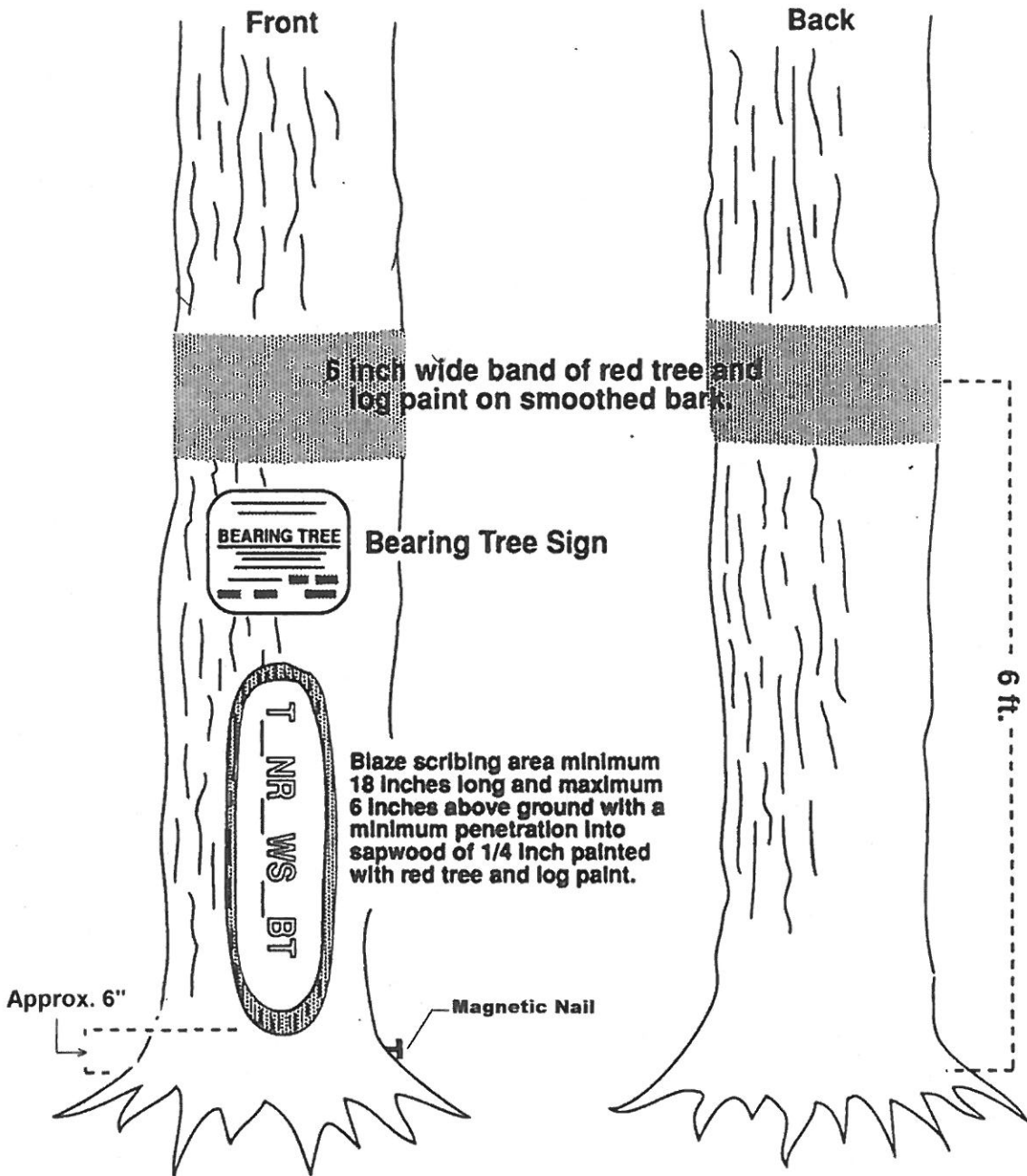
PAINTING (Attachment A-3)	
Blue	<u>Private and USFS</u> – Dots for tally trees and cruise tree numbers on trees inside the Timber Cutting Area designated to be sold and removed. Painted by PCGP.
Green	<u>Private, BLM and USFS</u> - Hazard/Safety/Danger trees outside of Timber Cutting Area designated to be sold. Painted by PCGP. Green letter C denotes tree to be cut; green letter T denotes tree to be trimmed.
Pink	<u>Private, BLM and USFS</u> - Trees inside Timber Cutting Area to be sold and used during construction to hold/place brush against in order to store spoil material. Painted by PCGP. If significant damage is incurred during construction, trees may be removed or retained as habitat trees. Trees marked with a pink L will be used for LWD.
Red	Property Boundary of Private/Federal Lands. Painted by PCGP.
Orange w/Tracer	Boundary of Timber Cutting Area. Painted by BLM/FS
Blue w/Tracer	Hazard/Safety/Danger Trees painted blue by BLM or FS.
Black w/Tracer	Painting out marks from old timber sale activity by BLM or FS.

POSTINGS (Attachment A-1, A-3, C & D)	
Signs and Posters	Boundary Signs: Federal Lands
	Clearing Limit Tags/Posters: Temporary Extra Work Area (TEWA), or Temporary Access Road (TAR) Right-of-way

Attachment A-1 BLM

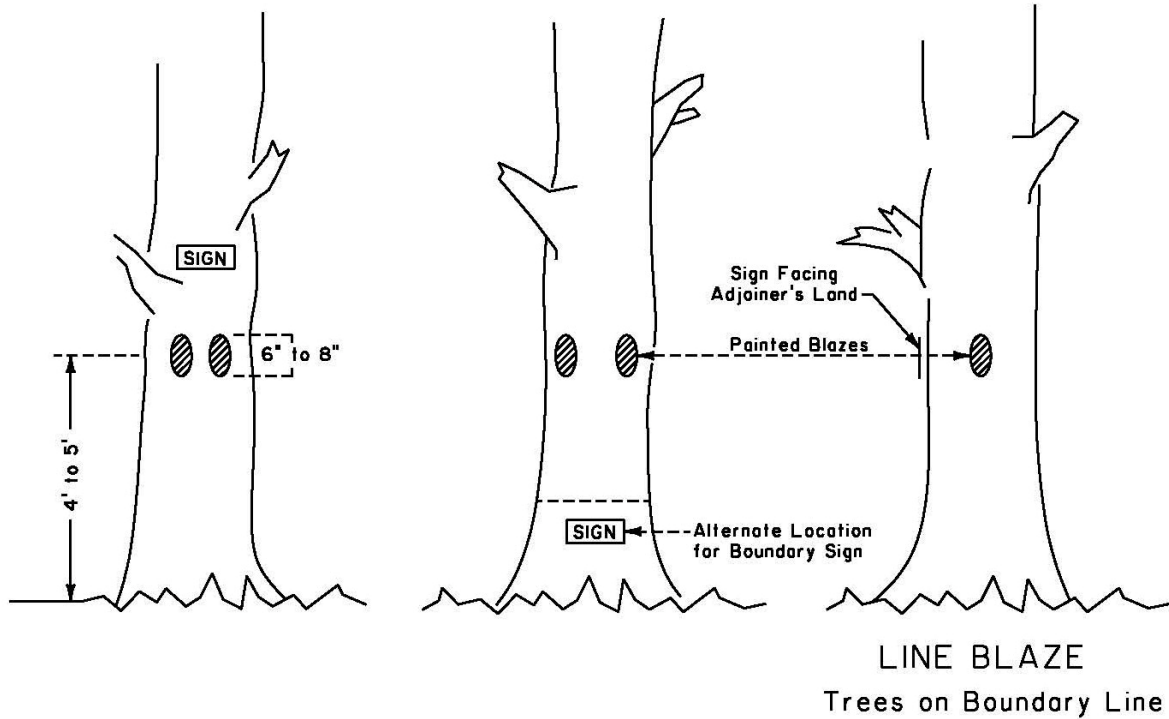
Tree Markings (Bearing Trees, Blazes, Hacks, Markings Boundary Line)

BEARING TREE DETAIL



Attachment A-1 BLM

BLAZES, HACKS AND MARKING, BOUNDARY LINE



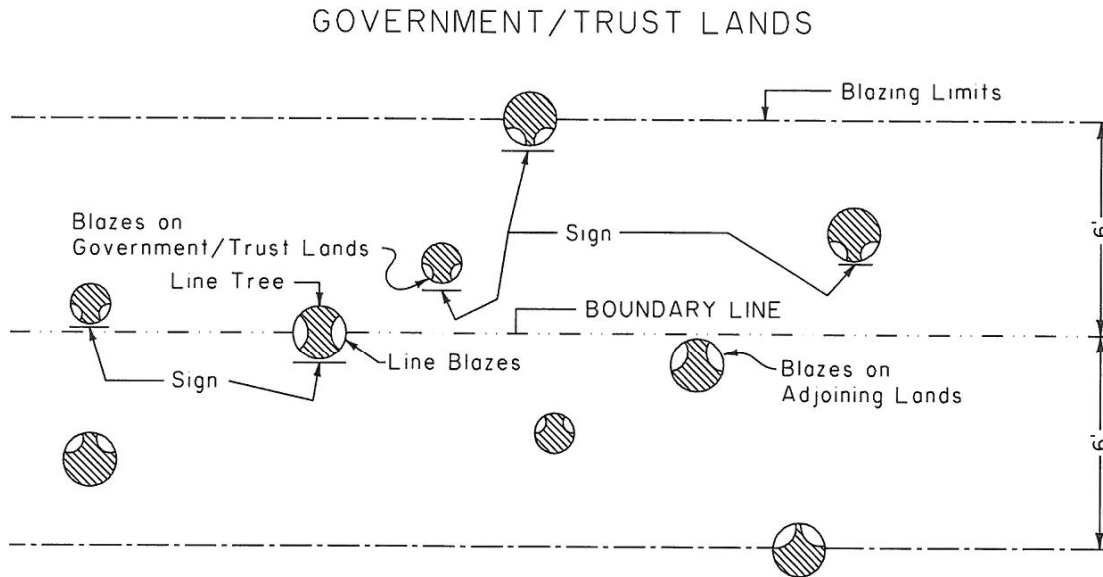
Permission shall be obtained from adjoining landowners before their side of the boundary line is cleared, marked, painted or signed.

Notes:

1. The markings are used at the locations shown on page 2 of this exhibit. The blaze orientation indicates its distance from the line.
2. A blaze is made by cutting off a vertical strip of bark and a very thin layer of the underlying wood tissue. The strip shall be about 6 to 8 inches wide, and the top and bottom ends shall be smoothed out.
3. The Alternate location for the boundary sign will be utilized only when instructed to do so.

Attachment A-1 BLM

BLAZES, HACKS AND MARKING, BOUNDARY LINE



Notes:

1. Permission shall be obtained from adjoining landowners before side of the boundary line is cleared, marked, painted or signed.
2. Trees less than 4" in diameter shall not be blazed but shall be painted as if blazed.
3. Trees on Government/ Trust Land, and within 6' of the boundary line shall be blazed and signed, as shown in these exhibits.
4. Trees on Adjoining Land, and within 6' of the boundary line shall be blazed, as shown in these exhibits.
5. Trees on the Boundary Line, shall be line blazed on both sides of the tree along the direction of the line, as shown in these exhibits.
6. Paint shall be neatly applied. Only blazes shall be painted, except as indicated in Item No. 2.

Attachment A-2.1
Right-of-Way Staking and Flagging Guidelines

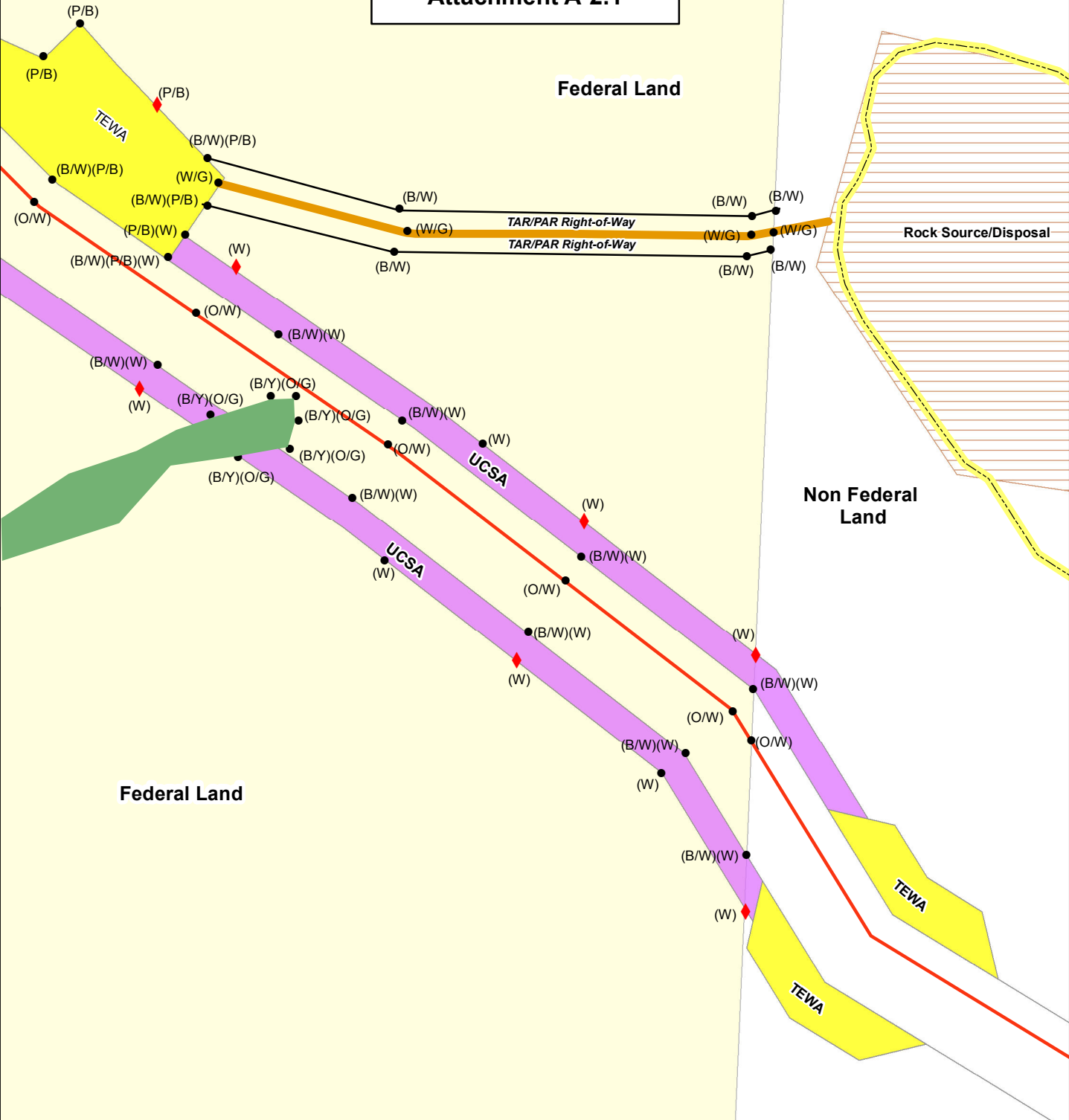
Attachment A-2.1

Federal Land

Rock Source/Disposal

Non Federal Land

Federal Land



Notes:
 1) Stakes and/or flagging will be placed at no more than 200-foot intervals, to establish a line-of-sight between two points.
 2) See Attachment A for flagging descriptions.

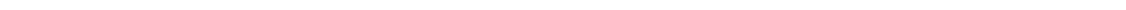
Legend	
	Proposed Centerline
	Access Roads
	Construction Right-of-Way
	Temporary/Permanent RD (TAR/PAR)
	Temporary Extra Work Area
	wetlands
	Un-Cleared Storage Area
	Stake/Lathe
	Rock Source/Disposal
	Flagging (tree)

Not to Scale Sept-2013

Pacific Connector Gas Pipeline Project
 Pacific Connector Gas Pipeline, LP
**Right-of-Way
 Staking and Flagging
 Guidelines**
Federal Lands Only



Attachment A-2.2
Right-of-Way Monuments



Attachment A-2.2

Federal Land

TEWA

61.5

61.6

Rock Source/Disposal

Non Federal Land

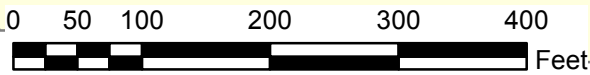
Federal Land

UCSA

TEWA

TEWA

61.7



Legend

- Proposed Centerline
- Temporary/Permanent RD (TAR/PAR)
- Construction Right-of-Way
- Existing Access Roads
- Temporary Extra Work Area
- Monument
- Un-Cleared Storage Area
- Rock Source/Disposal

Pacific Connector Gas Pipeline Project
Pacific Connector Gas Pipeline, LP

**Right-of-Way Monuments
Federal Lands Only**



Aug-2014

Attachment A-3

Painting, Signing, Tagging and Posting Guidelines



Attachment A-3

Federal Land

TEWA

TAR/PAR Right-of-Way

TAR/PAR Right-of-Way

Rock Source/Disposal

UCSA

Non Federal Land

UCSA

Federal Land

TEWA

TEWA

Legend

- Proposed Centerline
- Construction Right-of-Way
- Temporary Extra Work Area
- Un-Cleared Storage Area
- Rock Source/Disposal
- Existing Access Roads
- Temporary/Permanent RD (TAR/PAR)
- Red Paint/Signs - Federal Boundary
- Orange Paint - Cutting Boundary
- Yellow Tags
- ▲ Signs/Posters - No Cutting

Not to Scale

Sept-2011

Pacific Connector Gas Pipeline Project
Pacific Connector Gas Pipeline, LP

**Right-of-Way Painting, Signing,
and Posting Guidelines
Federal Lands Only**



Attachment A-3

Example of Yellow Tag

http://www.forestry-suppliers.com/product_pages/View

1189



Weatherproof Sealable Tags

Write on the tag, remove the backing, and press both sides together to seal. Four styles are available, each style comes in a pack of 100 tags. HI-vis yellow.



Add Selected Items to Cart 

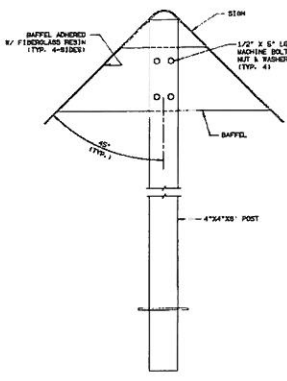
Qty	Item #	Description
<input type="text" value="0"/>	79604	2" x 2-1/2" with 2 holes

Specs	Ships	Price
	In Stock	\$46.50
		5+ \$43.95

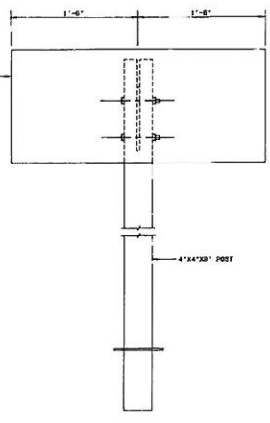
Attachment B

Pacific Connector Gas Pipeline Mile Markers

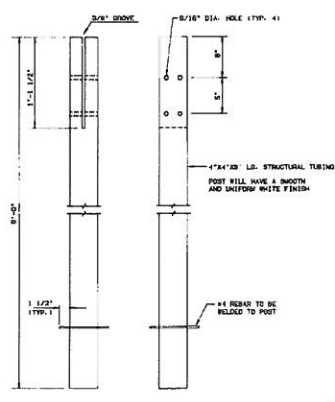




SIDE VIEW



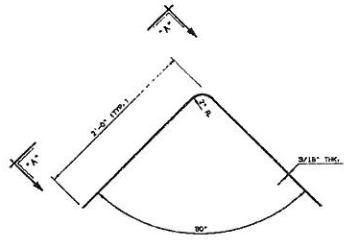
FRONT VIEW



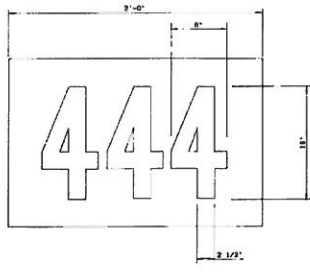
FRONT VIEW SIDE VIEW
POST DETAIL

- NOTES
- 1) The fiberglass sign will be constructed per drawing. 3' wide x 2' high and built at the crown making a 30° pedestal base, allowing sign surfaces to be visible at 45° angles.
 - 2) The sign itself will be constructed of Polyester Resin and Fiberglass Mat to a uniform thickness of not less than 1/4\".
 - 3) Original mechanical color drawings in fiberglass by using dulcinate or by layer to give each with a smooth uniform finish.
 - 4) Posts will be 2\" x 2\" with an inner pressure sensitive vinyl sheet.

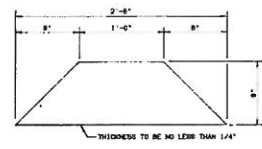
FIBERGLASS SIGN FABRICATION DETAIL



SIGN DETAIL



SECTION "A-A"



BAFFEL DETAIL

REFERENCE DRAWINGS				REVISIONS				PACIFIC CONNECTOR GAS PIPELINE PROJECT	
DRAWING NO.	TITLE	NO.	DATE	NO.	DATE	BY	CHK.	PROJECT NO.	SCALE

DESIGNER	DATE	DRAWN FOR NO.	SCALE
CHECKED BY	DATE	APPROVED FOR CONSTRUCTION	
APPROVED BY	DATE	PROJECT: STD-D-2-0001	HEET 1
NO.		PROJECT NO. 123-2-0001	OF 1

Attachment C

BLM Boundary Signs and Posters



U.S. Department of the Interior
Bureau of Land Management



Right-of-Way

NO UNAUTHORIZED CUTTING BEYOND THIS BOUNDARY

Prevent Forest and Range Fires

S-148 (Sept. 1988)

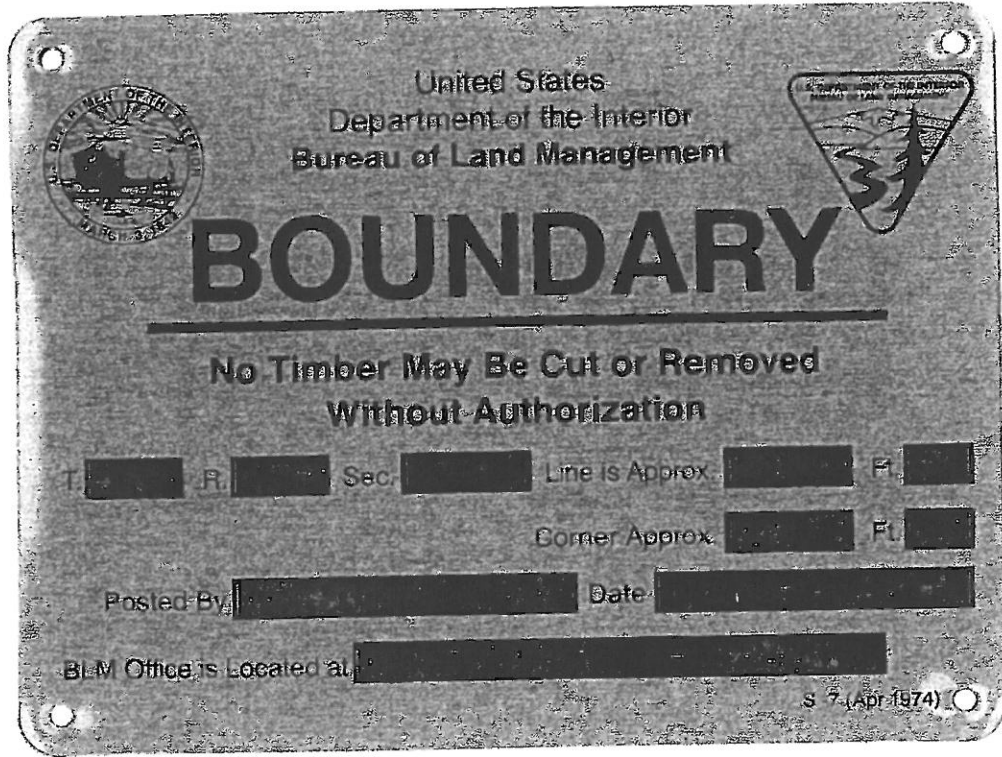
Sign Number S-148

Use to mark the reserve area boundary adjacent to the area to be cleared along the right-of-way. May also be used to post the tree clearing limits across private lands when such clearing is required for roads constructed under terms of reciprocal right-of-way agreements or United States road easements.

Note: Sign faces into (towards) the right-of-way clearing area.

Attachment C

BLM Boundary Signs and Posters



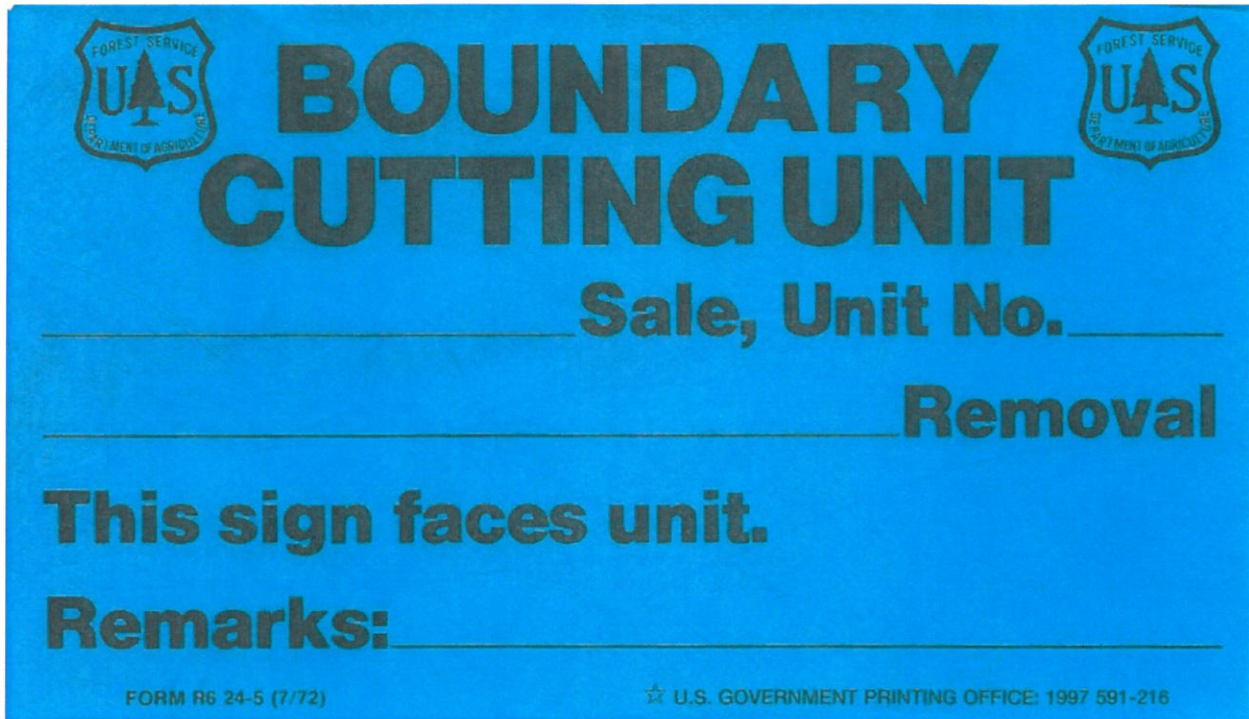
Sign Number S-7

Use to mark the property boundary for BLM lands.

Note: Sign faces away (outward) from BLM lands.

Attachment D

USFS Boundary Signs and Posters



The image shows a blue rectangular sign template for a USFS Boundary Cutting Unit. At the top left and right corners are the USFS logos, which consist of a shield with a tree and the letters 'UAS', surrounded by the text 'FOREST SERVICE' and 'DEPARTMENT OF AGRICULTURE'. The main text on the sign reads 'BOUNDARY CUTTING UNIT' in large, bold, black letters. Below this, there is a line for 'Sale, Unit No.' and another line for 'Removal'. The sign also includes the instruction 'This sign faces unit.' and a 'Remarks:' section with a line for handwritten notes. At the bottom left, it says 'FORM R6 24-5 (7/72)' and at the bottom right, it says 'U.S. GOVERNMENT PRINTING OFFICE: 1997 591-216'.

Form R6 24-5

Use to mark the cutting boundary on USFS lands to be cleared along the right-of-way.

Note: Sign faces into (towards) the right-of-way clearing area.

Attachment D

USFS Boundary Signs and Posters



Sign 54-2

Use to mark property boundary of National Forest System Lands.

Note: Sign faces away (outward) from National Forest. Signs must be affixed to metal posts.

Attachment D

USFS Boundary Signs



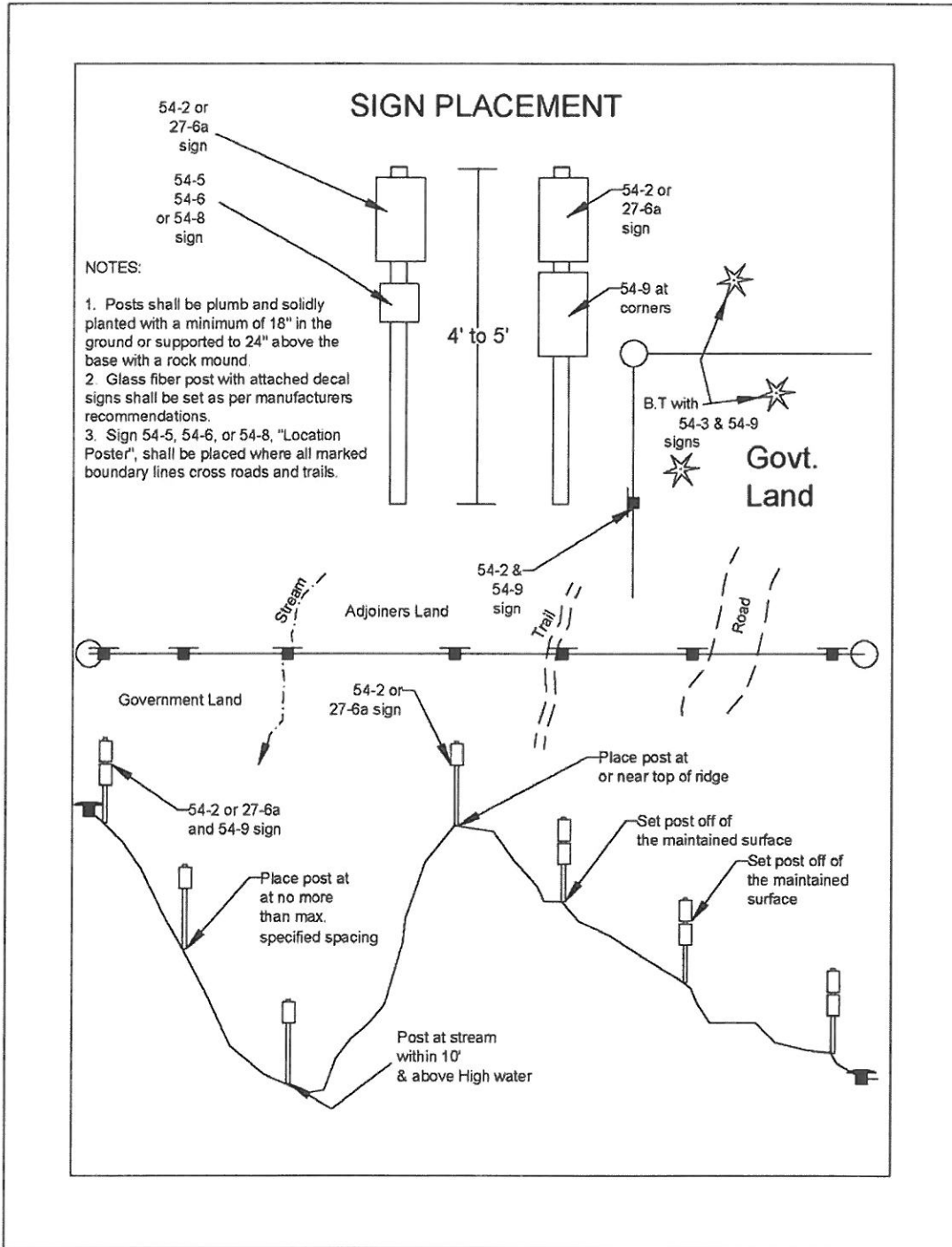
Decal BM-102

Use decal on Carsonite post to mark boundary of National Forest System Lands.

Note: Decal faces away (outward) from National Forest.

Attachment D

USFS Boundary Signs





**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Right-of-Way Clearing Plan for Federal Lands

Pacific Connector Gas Pipeline Project

September 2019

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1.0 INTRODUCTION

The Pacific Connector Gas Pipeline Project (Pipeline or Pipeline Project) area extends across portions of the Southern Coast, Klamath Mountains and Cascade Mountain Range in southwest Oregon. The Pipeline crosses a variety of forested terrain and forest types between Coos Bay and Malin, Oregon. The primary goal of Pacific Connector Gas Pipeline, LP (PCGP) is to safely and efficiently install and operate a high-pressure underground natural gas transmission pipeline. The Pipeline will facilitate broad market access via existing pipeline facilities.

Prior to pipeline construction activities, all vegetation (including timber) will be cleared from the 95-foot wide construction right-of-way and the additional temporary extra work areas (TEWAs). Pipeline installation will require bulldozers, trackhoes, backhoes, side-booms, welding trucks, and support vehicles along the construction right-of-way. PCGP's timber/vegetation removal and construction activities will span an approximate two-year period. Generally, the first year of construction will consist of timber and other vegetation removal along the majority of the right-of-way, followed by the start of pipeline construction in select areas that continues into the second year of construction. The second year of construction will consist of any remaining timber and other vegetation removal not completed during the first year and the completion of pipeline construction.

2.0 PURPOSE

The purpose of this Right-of-Way Clearing Plan (Plan) is to outline the methods that PCGP will implement during timber (and other vegetation) removal within the construction right-of-way and TEWAs. At the request of the federal land-managing agencies, PCGP previously developed a "desktop" analysis that details how right-of-way clearing is to be completed. PCGP has identified and documented the existing timber and other vegetation conditions on all federal lands crossed by the Pipeline and documented the acreage of each type of forest product by land owner parcel. As part of this Plan, PCGP developed vegetation clearing scenarios for the construction right-of-way and TEWAs. This Plan was developed utilizing applicable best management practice (BMP) compliance protocols outlined in the Erosion Control and Revegetation Plan (ECRP) for the Pipeline Project. Attachment A - Regulatory Compliance and Definitions references applicable sections of the ECRP. Attachment B describes the timber harvest methods that would be expected to be utilized and summarizes estimated volume data for each potential harvest method. Timber removal/treatment for access road improvements is not included in this document. Access road improvement information is described in the Transportation Management Plan previously reviewed and approved by the Bureau of Land Management (BLM), U.S.D.A. Forest Service (USFS), and the Bureau of Reclamation (Reclamation). If requirements governing timber removal activities differ between agencies, the specific agency requirements are listed separately in this document.

2.1 ROLES AND RESPONSIBILITIES

The USFS has authority in 36 CFR 223.12 to sell merchantable timber required for removal on National Forest System (USFS) Lands directly to PCGP at the current appraised value. The intent would be to execute one contract covering the three National Forests crossed by the proposed Pipeline. Payment for the timber sold would be made in a lump sum in advance of cutting and removal.

The BLM has authority under 43 CFR 5400 to sell the pipeline right-of-way timber through a negotiated sale when determined to be impracticable to obtain competitive bids through an advertised sale. The BLM intends to sell the right-of-way timber directly to PCGP under lump sum timber sale contracts at not less than the appraised value as determined by the BLM. Timber sale contracts would be prepared, negotiated, and administered by each BLM office involved (Coos Bay, Roseburg, Medford, and Lakeview). Payment for the timber sold would be made lump sum in advance of cutting and removal.

The USFS and BLM would administer their own timber sale contract(s). PCGP would be the Purchaser for timber removal on federal lands, although logging would likely be done by a subcontractor. All federal timber purchased by PCGP will be prohibited from log export (except as permitted by law) and will require domestic processing consistent with existing agency policy and federal law.

In order to comply with ORS 527.670, PCGP would be required to provide a written timber harvest plan to the federal land management agencies and the ODF State Forester for each state forest region that would be crossed. Timber harvest plans would include such information as timber sale boundary designation, volume estimation, appraisal, and contract preparation. PCGP indicated that it would file its final logging plans for both federal and non-federal lands after completion of timber cruises and the selection of its timber removal contractor. PCGP has also developed a Prescribed Burning Plan which describes the proposed burning of forest slash as a disposal method and which is included as Appendix R to the Plan of Development (POD).

PCGP would be responsible for log removal, log accountability and disposal of the federal timber. The BLM and USFS would be responsible for monitoring payment, log accountability, and trespass. Many of the operational requirements typically detailed in a timber sale contract, such as erosion control, road use and maintenance, slash disposal, etc. are contained in the Plan of Development and incorporated by reference into the Temporary Use Permit and Right-of-Way Grant. Performance bonding typically required in a timber sale contract would also be included as part of the Right-of-way Grant requirements in a sufficient amount to cover operations performed under the timber sale contracts. BLM and USFS timber sale administrators will review PCGP timber harvest plans and BMPs and may be present during timber/vegetation removal operations to ensure compliance with these plans as well as to ensure payment and proper log accounting for specially designated revenues.

Prior to the commencement of timber cruising and valuation as describe below in Section 2.1.1, PCGP will identify the pipeline centerline, construction right-of-way boundaries, TEWA boundaries, disturbed monuments, reference stakes, access roads, property crossings, and boundary trees, following the guidelines included in the approved PCGP Right-of-Way Marking Plan.

2.1.1 TIMBER CRUISE AND VALUATION

PCGP estimates approximately 29,948 thousand board feet (MBF) of timber may be cleared on federal lands crossed by the Pipeline route, including about 14,564 MBF on BLM lands and 15,384 MBF on USFS lands. The expected volumes of harvested timber, tree types cleared, and their values are further discussed in section 3.2 of this document. Table 2 summarizes the estimated volume of timber that would be harvested on federally managed lands. The timber volume estimates were derived using professional forestry methodologies and protocols to provide a basic timber volume inventory for the proposed Pipeline Project. A preliminary cruise-inventory of stand types (conifer, brush, riparian, roads, rock pits, etc.) was compiled along forested areas of the proposed route using aerial photography and ground visits. Each stand

type was ground visited and inventory-cruise plots were established in each stand type to achieve a 5 to 8 percent level of accuracy for determining Scribner decimal C log rule gross and net volumes. Twenty percent of plots were full measure quarter-acre (58.9 feet circular). To determine Gross MBF timber volumes, "Local" volume tables were developed for each species by stand type to determine gross volume by two-inch diameter class total height. Dilworth, MB&G, Atterbury, & FS Cruise timber cruising protocols were used to determine volume, grade, and cruise downfall. No further deductions were taken for harvesting breakage, or local scaling rules-of-thumb factors for hidden defects.

Prior to right-of-way easement acquisition, agency (BLM or FS) representatives or their designated contractors will conduct timber cruises to verify timber volumes and species composition on forested lands to determine timber values. Final timber cruises would be conducted prior to vegetation clearing in order to determine timber volumes, values, and species composition within forested lands. Timber cruise schedules will be determined with the BLM and USFS after PCGP completes survey and marking of property lines and actual right-of-way and TEWA areas. The time needed to complete cruises will depend on actual acres, ease of access and the volume of actual timber to be cruised. Timber cruises will be financed by PCGP.

PCGP would complete a check cruise on the cruises and appraisals completed by the BLM and USFS. The timber cruise would be used to validate PCGP's Right-of-Way Clearing Plan in the field, and help identify the logging systems that would be practical along the route based on the pipeline alignment, construction right-of-way configuration, topographic conditions, existing access, timber types and volumes to be removed, and the various logging system limitations.

2.1.1.1 Execution of Timber Cruises

Timber cruises on federal lands would be conducted by the land management agencies or by an agency approved third party contractor. The BLM and USFS will each determine how timber will be cruised and appraised on their respective lands according to their respective agency policies.

BLM

The BLM is required by regulation to oversee the measurement of the timber it sells. The BLM will determine whether to conduct the cruise itself or oversee the cruise by a qualified third party at the time the Right-of-Way Grant is issued, and the actual construction period is determined. At that time, the BLM will assess contractor and workforce availability. If the BLM chooses the contracting option, the BLM will work with PCGP to ensure contracts meet BLM specifications and contractors are qualified. The BLM will sell its timber in lump-sum based on the cruise volume. The BLM estimates cruising would typically proceed at the approximate rate of 4 acres per day per cruising team.

USFS

The USFS will determine the method by which the USFS timber cruise is implemented. The USFS may complete cruising in-house, or may allow a third party to conduct the cruises, provided the contractor is certified by USFS standards, including a written test and field test plots. The USFS will determine cruise method at the time right-of-way designation has been completed. If a third-party contractor is used, the USFS would complete check cruises. Since there will be one timber sale contract for all National Forest land, with multiple payment units, the USFS may execute the contract with Incompletely Measured Payment Units. This would

allow USFS cruising to continue while operations have begun in another payment unit. The USFS intent at this time is to complete all cruising before the contract is executed.

2.1.1.2 Timber Valuation

The BLM and USFS will each be responsible to establish the value of timber on their lands within the right-of-way clearing limits.

BLM

The BLM will require PCGP to purchase all merchantable timber (7 inches Diameter at Breast Height with minimum 5-inch top diameter inside bark at 16 feet and larger) located within the right-of-way construction clearing area, TEWA and damaged trees in the Uncleared Storage Areas (UCSAs). The contract period for cutting and removing the timber will be up to 36 months (maximum allowed by BLM regulations). PCGP may use the purchased timber as needed to meet other project requirements such as OHV barriers, LWD for stream restoration, redistribution across the construction right-of-way, etc.

The BLM will not designate snags or “wolfy” trees within the cleared area for retention. If PCGP elects to retain specific trees for mitigation purposes, those trees must still be purchased from the BLM.

USFS

The USFS will require PCGP to pay for and remove all designated timber meeting minimum merchantable specifications located within the right-of-way clearing area (including TEWAs and damaged trees within UCSAs). Timber will be cruised and evaluated for two products, each with specific minimum specifications. The timber cruise will determine the volume of each species and product in each payment unit. The USFS will appraise and establish a separate contract rate for each species (or group of like species) and product.

1. Sawtimber: minimum piece is 6” diameter inside bark (dib), 10’ long, 40% sound wood.
2. Non-sawtimber: minimum piece is 3” dib, 10’ long, no minimum sound wood requirement.

The USFS is required to adjust the contract rate charged for sawtimber during the life of the contract according to changes in the appropriate Western Wood Products Association index specified in the contract. The actual rate paid for timber removed in a payment unit is established when the payment unit is “released” for cutting. That rate is the current contract rate, adjusted at the end of the calendar quarter in which the payment unit is released.

The contract period for cutting and removing the timber on USFS lands may be up to 5 years. The actual termination date will be set when the timber sale contract is executed. There are provisions for extensions and additions to the contract term for specific circumstances.

On USFS lands, snags or “wolfy” trees identified for retention prior to the cruise, may be designated as leave trees and will not be included in the timber appraisal. PCGP will not be required to pay for these trees. The leave tree designation would be at the discretion of PCGP and its Contractor in coordination with the USFS. If these leave trees subsequently need to be cut, they will be individually cruised and paid for prior to cutting.

The USFS timber sale contract will include requirements for painting and branding logs and log export restrictions. If feasible, logs of one ownership shall be removed from a mixed landing

prior to skidding another owner's logs to the same landing. All logs of one ownership will be uniquely marked and segregated from logs of another ownership at any mixed landing location (see Section 2.2).

The USFS will need at least two months after the timber cruise is complete to review and finalize their appraisal, write the contract specifications, sign the contract and receive all advance deposits before clearing may begin.

2.1.1.3 Reproduction Units

BLM

The BLM does not intend to establish a value for reproduction (young trees below merchantable size threshold) destroyed during construction within the designated Pipeline Project area. If reproduction is destroyed within an UCSA, PCGP shall replant the area where reproduction was destroyed as specified in the ECRP (see Appendix I to the POD).

USFS

The USFS has established a value for reproduction destroyed during construction within the designated Pipeline Project area. Compensation for damaged reproduction is not included in the timber sale contract. If reproduction is destroyed within an UCSA, PCGP will rehabilitate the area as specified in the ECRP (see Appendix I to the POD).

2.1.1.4 Credit for Uncleared Timber

Prior to commencement of clearing operations within a payment unit, PCGP will attempt to identify any TEWA or area not required for construction such that these areas may be excluded from timber cruises. If, at the conclusion of construction, any TEWA areas remain fully intact, unentered and unharvested, the BLM or USFS, respectively, would cruise the unharvested, intact TEWA and refund the appraised value to PCGP at the established contract price if the Contracting Officer determines it is within the interests of the agency to do so. If TEWAs are sporadically cleared and/or trees are scattered throughout the TEWA, the BLM or USFS will not cruise the remaining trees, nor will PCGP receive a refund for the value of such trees.

2.1.1.5 Uncleared Storage Area Provisions

Within UCSAs, PCGP has committed to protect standing trees to prevent damage (see the Leave Tree Protection Plan/Appendix P to the POD).

BLM

If a tree is damaged during construction operations, the BLM Authorized Officer will evaluate the extent of the damage and determine whether PCGP will be required to purchase the tree. Considering that a Right-of-Way Grant will have been issued for the Pipeline Project, the BLM will recognize that PCGP may cause inadvertent damage to trees within UCSAs during construction, and the BLM will accordingly abstain from penalizing PCGP for unauthorized use (trespass). However, if PCGP damages any BLM trees outside of the authorized clearing area and the UCSAs, PCGP may be subject to trespass under BLM regulations and Oregon Revised Statutes.

USFS

If trees within UCSAs are damaged by PCGP, these trees are treated under standard provision BT2.13- Damaged Timber, in the USFS timber sale contract. By agreement, such trees may be left without charge if their removal would cause undue damage or be grossly uneconomic. If the USFS determines that a damaged tree should be cut and removed, payment for the tree is

made at current contract rates under BT3.43 – Undesignated Timber Damaged Without Negligence.

There is still the possibility that unnecessary damage will occur, either through negligence or willful action. This timber is handled differently and liquidated damages are assessed under BT3.45.

2.1.2 TREES USED FOR ENVIRONMENTAL MITIGATION

PCGP may elect to use purchased BLM or USFS timber for environmental mitigation. The BLM and USFS will not provide credit, nor will BLM or USFS provide a refund to PCGP, for purchased timber that is used for mitigation purposes. Examples, include timber used for LWD at stream crossings to mitigate the effects of the Pipeline Project as well as timber used to satisfy compensatory mitigation requirements which may be used in offsite mitigation projects implemented by federal agencies or conservation groups.

Prior to clearing operations, PCGP may designate trees as leave trees for green recruitment trees on the edges of the construction right-of-way or TEWAs to protect those trees from removal during timber cutting; where feasible, some of these trees would be girdled to create snags to benefit wildlife. Snags and habitat trees would be retained if they do not pose a safety hazard to construction activities, as per the regulations outlined by OSHA¹. Measures that will be implemented during construction of the Pipeline Project to identify conserve and protect selected trees within or along the edges of the certificated work limits (i.e., construction right-of-way, UCSAs, and TEWAs) are included in the Leave Tree Protection Plan (see Appendix P to the POD).

2.1.3 HAZARD TREES

Hazard trees are those trees at risk of falling on workers or vehicles and thus would require removal for safety reasons. A tree may be at risk of falling for a number of reasons, including the tree's location and the presence of defects, insects, disease, work activities, and weather conditions. Such trees would be felled or treated (trimmed) in advance of road construction/reconstruction or maintenance, and clearing and construction activities. Additionally, hazard trees could be created from trees felled during the Pipeline Project. This would occur if trees outside of approved construction areas are damaged during felling of harvested timber. This could result in growth loss and PCGP would compensate the Agency for any trees removed and any loss in timber productivity.

All hazard trees along the surveyed edges and inside the right-of-way will be felled or treated (trimmed). Hazard trees exterior to the right-of-way would be designated by qualified PCGP representatives, in accordance with OSHA standards and the USFS / BLM published "Field Guide for Danger Tree Identification and Response." On federal lands, PCGP will request a variance to remove hazard trees exterior to the authorized right-of-way boundary and obtain approval prior to felling. Hazard trees exterior to the surveyed right-of-way boundary would be directionally felled, when consistent with OSHA guidelines, away from the construction right-of-way if trees are to be left and towards the construction right-of-way if trees are to be removed. PCGP has requested a modification from FERC's Plan for removing hazard trees outside the

¹ [OAR 437, Division 7 Forest Activities - Oregon OSHA](#): Danger tree – A standing tree, alive or dead, that presents a hazard to personnel due to deterioration or physical damage to the root system, trunk (stem), or limbs, and the degree and direction of lean.

construction right-of-way limits. PCGP would compensate the respective Agency for any merchantable hazard trees felled.

The extent or existence of hazard trees will be identified by PCGP following the establishment of the authorized construction right-of-way, TEWAs or new access roads by PCGP or on roads that have not triggered land managing agency hazard tree removal based on limited road use.

2.2 FELLING AND YARDING

PCGP will ensure that all operations and tree felling would occur within the FERC-certificated construction work area limits, and that trees and other vegetation to be cleared within the certificated construction work area limits would be felled or sheared so as to prevent damage to adjacent trees, facilities, or structures. This may not be practical in steep areas where trees often must be felled on the contour to reduce breakage. Much of the forested portion of the proposed route crosses steep mountainous terrain. Failure to fall trees properly would result in a loss of timber available to local industries and loss of value to the land owners and land management agencies.

Some TEWAs, that are already vacant areas adjacent to existing roads, have been identified for log storage and decking. In addition, some slash and other debris from clearing activities may be temporarily stored in UCSAs.

BLM and USFS timber contracts will include requirements for marking and branding logs and log export restrictions. As part of the written timber logging plan, PCGP will be responsible for detailing how they will handle logs to meet BLM contract stipulations for marking, branding, and conforming to export restrictions. All BLM logs will be branded with a unique registered brand and will be marked with highway yellow paint. The BLM will be responsible for monitoring logging activities on BLM lands.

On USFS and BLM lands, logs from different ownerships will be segregated at shared landings. Where feasible, logs should be removed from one ownership at a time to shared landings. Where this is not feasible, PCGP will be responsible to insure that segregation is maintained. At a minimum, each ownership will have its own log brand assigned. If logs of one owner are decked on the landing and not hauled, the deck would need to be painted its own unique color, all logs branded, and a count made.

All trees designated for cutting within the construction clearing limits shall be felled into the clearing limits, not into the reserved timber located outside the construction clearing limits (see Appendix AA to the POD).

Trees and other vegetation will be felled or cleared in a manner that would minimize impact to adjacent forests or structures outside of the construction right-of-way. Trees will also be felled and directionally removed away from wetlands, waterbodies, and riparian reserves. However, as noted above, PCGP has requested a modification from FERC's Plan where, in some situations during right-of-way clearing/timber felling operations, it may not be possible for specific trees or portions of trees to be completely felled within the construction right-of-way limits (i.e., alignment ascends/descends steep slopes with mature trees [some more than 200 feet tall]; diseased/decayed trees are present; trees are leaning in unmanageable directions or degrees; or other site-specific conditions, based on OSHA safety guidance).

Where tree/woody material inadvertently falls outside the construction right-of-way limits, PCGP will compensate the landowner or the land-managing agency for the value of the danger/hazard tree, or for any tree damage that may result from felling activities. This modification request complies with best management forest practices and with OSHA regulations². Because timber clearing will be conducted within appropriate seasonal windows to protect sensitive species, this modification will ensure worker safety and will minimize effects to sensitive resources.

PCGP will not remove stumps or root systems from wetlands, except along the trench line, unless necessary for safety reasons during construction. In uplands PCGP will limit stump removal to the trench line and working areas where grading would be necessary to create a level working surface. Any debris as a result of tree cutting that falls into a waterbody would be removed, if practical. Logs and slash would not be yarded across perennial streams unless fully suspended or supported by a temporary bridge crossing or other methods consistent with ODF forest practice rules or BLM or USFS requirements. Existing logs firmly embedded into the bed or banks of streams will not be disturbed, unless their removal is necessary for clearing the construction right-of-way, trenching, fluming or other waterbody crossing methods. Any existing logs removed from waterbodies during installation of the pipeline will be flagged or marked and set aside for return to the waterbody during restoration. Landings for clearing operations will not be located in wetlands or riparian reserves. Where feasible, logs yarded out of wetlands or riparian zones will be skidded with at least one end suspended from the ground so as to minimize soil disturbance and compaction. Any cut timber designated for in-stream or upland wildlife habitat enhancements would be stored at the edge of the construction right-of-way or in TEWAs for later use during restoration activities. PCGP EIs, in conjunction with agency representatives (third-party inspectors), will identify these locations in advance of construction activities. Where large woody debris (LWD) is acquired for in-stream habitat use, this material will only be obtained from the certified construction limits and will be collected outside riparian zones to maintain root structure within the riparian zone. An exception to this is where the LWD can be obtained from the trenchline or construction right-of-way cut areas where root systems would be removed during trench excavation or grading operations.

Merchantable timber and other vegetation will be cut and removed from the construction right-of-way and TEWAs to ensure that these areas are cleared prior to construction. In very limited areas, TEWAs will be identified for log storage and decking. These are existing cleared areas adjacent to existing roads where log storage could occur for extended periods of time. The construction right-of-way has been designed to minimize additional TEWAs and overall disturbance. The construction footprint is currently not large enough in many areas to accommodate log clearing and efficient construction activities simultaneously. Therefore, cut timber must be removed from the construction right-of-way to avoid unnecessary delays.

PCGP will be required to pay the appropriate land managing agency for all merchantable trees cut within the construction right-of-way and temporary use areas authorized in the federal Right-of-Way Grant, including trees felled within Riparian Reserves and LSRs. PCGP does not intend to transport cut trees back into these areas, except for those appropriately sized logs that are salvaged (with root-balls attached) for use as LWD and habitat enhancement. PCGP voluntarily developed a Comprehensive Mitigation Plan, which supports USFS and BLM restoration projects, to offset the impact on these sensitive areas caused by the permanent removal of the

² [OAR 437, Division 7 Forest Activities - Oregon OSHA](#): Danger tree – A standing tree, alive or dead, that presents a hazard to personnel due to deterioration or physical damage to the root system, trunk (stem), or limbs, and the degree and direction of lean.

trees that are not transported back into the areas or replanted. PCGP has designed and sized the construction right-of-way and TEWAs to be the minimum necessary to safely construct the Pipeline Project. Therefore, it is impractical to store all felled trees within Riparian Reserves and LSRs onsite for placement back onto these areas after construction. Significantly more TEWAs areas, requiring habitat removal and disturbance would be necessary to store fallen trees within these areas if this material was replaced within the riparian reserves and LSRs.

BLM

Trees cut within the authorized construction right-of-way on BLM lands will be disposed of in accordance with the sales contract and the Right-of-Way Grant.

USFS

Trees cut within the Riparian Reserves and LSRs on USFS lands will be left in place or decked as specified by the USFS to meet land management objectives if determined necessary by the USFS. Prior to any timber removal activity, authorized representatives from the USFS and PCGP would evaluate whether felled trees should be removed and which should be retained to meet land management objectives (within LSR and Riparian Reserves).

2.3 LOGGING METHODS

The construction right-of-way will be cleared of all timber and other vegetation using all logging practices and methodologies, in accordance with PCGP's harvest plans approved by the BLM, USFS, and ODF. PCGP expects that a variety of logging methods may be necessary to efficiently remove timber from the construction right-of-way, depending on the specific location (see Section 3.0 – Timber Clearing Operations).

Most of the pipeline route in forested areas is expected to be logged by mechanical cutting and ground skidding equipment. Hand-felling would likely occur on steep slopes; and skidding patterns would be laid out to minimize erosion. Most timber removal would be accomplished through ground skidding and cable yarding; helicopter yarding may be used in some areas that are difficult to access. Where ground skidding is used, the following measures would be employed to minimize significant detrimental soil disturbance (compaction and displacement):

- Low ground weight (pressure) vehicles would be used whenever practicable;
- Logging machinery would be restricted to the 50-foot permanent right-of-way where practical to prevent soil compaction, subject to topographic, safety and other construction considerations;
- Where practical, soil duff and surface slash layers would be left in order to provide a cushion between the soil and the logs and the logging equipment;
- PCGP will fully mitigate areas of compaction caused by clearing and construction activities as described in the ECRP; and
- Compacted landing, yarding, and load-out areas used for timber harvesting during the first year of construction will be scarified after use and prior to the rainy season where the potential for sediment delivery to waterbodies is possible. Scarification will promote infiltration and minimize run-off and the potential for sedimentation.

PCGP may use helicopters for logging and pipe stringing in areas where there are steep slopes and limited access to the right-of-way in accordance with applicable environmental restrictions (see Attachment C). PCGP has identified the following areas where helicopters may be utilized, however clearing and construction contractors selected for the Pipeline Project may identify

additional areas where helicopter use may be appropriate based on site and seasonal conditions.

Begin MP	End MP	Helicopter Staging
		TEWAs 6.49-W, 7.21-N, 7.44-W, 10.22-W, 13.79-W, 14.62-W, 15.75-W, 16.71-W, 18.05, 21.12-W, 23.99-N, 21.87-N
37.10	38.42	TEWAs 36.63-W, 36.97-W, 37.15-N, 38.32-W, 38.32-N, 38.90-W, 39.18-N
46.70R	47.20R	TEWAs 46.75-N, 47.53-N, 47.52-W
60.50	61.50	TEWAs 60.52-N, 60.54-W, 60.59-N, 60.87-W, 60.88-N, 61.43-N
77.80	79.90	TEWAs 77.72-N, 77.95-W, 78.99-W, 79.85-N
92.46	94.50	TEWAs 92.62, 92.62-N, 92.63-W, 93.01, 93.01-N, 94.56-W
95.10	97.05	TEWAs 95.39, 96.22-N, 96.23-W 97.02-N, 97.04-W
97.70	98.00	TEWAs 97.63, 97.79-N, 97.91-W
101.30	102.30	TEWAs 101.62-N, 101.75-N, 102.19-N
108.50	110.40	TEWAs 109.10-W, 110.34-W, 110.73 (Helicopter landing Peavine Quarry)
116.30	117.85	TEWAs 116.59-W, 117.67-N
123.30	125.15	TEWAs 123.53-W, 123.71-N, 124.30-N, 124.54-W, 124.71-W, 124.96-N

2.4 SLASH DISPOSAL

If the size of trees to be cleared in forested areas along the route is considered too large by PCGP to be taken whole for yarding, trees may be felled, topped, limbed, and bucked on-site. Merchantable pieces will be yarded to a landing for decking, loadout, and transport. Some portion of the wood debris from clearing (i.e. limbs, cull logs or broken log pieces, tops) would remain on the ground within the construction right-of-way where the trees were cut. During logging, tree tops and limbs would be broken or crushed creating a volume of small slash that would be impractical to remove from the construction right-of-way. Some of the slash on the ground would act as erosion control between the time the construction right-of-way is cleared and the pipeline is installed.

Residual slash from timber clearing would be stockpiled on or at the edge of the construction right-of-way or TEWAs or within UCSAs, and scattered/redistributed across the construction right-of-way during final cleanup and restoration, after seeding, according to BLM and USFS fuel loading specifications to minimize fire hazard risks. Scattering the slash across the construction right-of-way would hinder off-highway vehicle traffic on the reclaimed construction right-of-way and would act as a natural mulch to minimize erosion. In general, the equipment used for slash pull-back and spreading on the construction right-of-way could include equipment used for pipeline construction. Specific equipment and methods would be determined on-the-ground based on the terrain, equipment capabilities and in consultation with BLM and USFS representatives. On federal lands, larger slash pieces (more than 8 inches in diameter), may be removed from the construction right-of-way and decked in designated storage sites or at road crossings. This material would be made available by PCGP to the public for a specified, limited time, after which PCGP would promptly remove any remaining material and legally dispose of it off of federal lands. Large woody debris would be retained on the construction right-of-way according to agency specifications to provide down wood for wildlife habitat and to aid in soil productivity.

PCGP has determined that it may be necessary to dispose of forest slash in areas where this material exceeds the BLM or USFS fuel loading specifications (see ECRP in Appendix I to the POD). The Prescribed Burning Plan (see Appendix R to the POD) describes the protocols that PCGP would follow to obtain appropriate agency authorizations to burn forest slash materials on all lands crossed by the Pipeline. This Plan also describes the protocols and BMPs that would be implemented to safely conduct slash burning operations.

2.5 PROTECTING LIVE TREES

Where logs are temporarily stored in designated UCSAs next to conifer trees bordering the sides of the construction right-of-way, they would be decked in a manner to avoid damage to live trees. Logs will not be stored permanently in UCSAs. Logs planned for removal from the site would be hauled off-site as soon as practical following yarding in order to prevent insect and disease problems, as well as potential theft problems. The Leave Tree Protection Plan (see Appendix P to the POD) describes the measures that will be implemented during construction of the Pipeline Project to identify, conserve and protect selected trees within or along the edges of the certificated work limits (i.e., construction right-of-way, UCSAs, and TEWAs).

2.6 BEST MANAGEMENT PRACTICES

BLM and USFS contracts for the sale of timber to PCGP will close after the purchased timber has been removed, any damaged timber has been identified, purchased, and removed (including any trespass trees), and any intact TEWA has been cruised for refund. All applicable paperwork required for contract closure, such as the BLM "Log Scale and Deposition Report for Timber Removed" will be completed and submitted by PCGP before the Temporary Use Permit expires unless otherwise arranged in writing with the Authorizing Officer. Potentially, the operations associated with the contracts for sale of timber may end before construction is complete. Soil compaction will be relieved during final restoration following construction. Therefore, the contracts for sale of timber will not include provisions for relief of soil compaction or restoration.

PCGP would implement the measures outlined in its ECRP to prevent erosion of exposed soils along the construction right-of-way between clearing and final restoration. Some of the BMPs that would be implemented during timber and other vegetation clearing operations to minimize the potential for erosion and sedimentation would include:

- Scarification or subsoiling with a self-drafting winged subsoiler to relieve soil compaction, where practical, to promote infiltration and reduce runoff;
- Use of slash/brushpiles at appropriate locations to limit water and sediment from running off the right-of-way (slash filter windrows);
- Installation of temporary slope breakers at appropriate locations and at spacings to shorten slope lengths, prevent concentrated flow and to divert runoff to stabilized areas;
- Installation of silt fences or certified weed free straw bales as sediment barriers;
- Temporary seeding (using appropriate quick-germinating cover crops such as annual ryegrass or other appropriate quick-growing temporary cover species; temporary seeding on federal lands, where the use of introduced species are restricted, would utilize Seed Mixture 18 listed in Section 10.9 of the ECRP); and /or
- Selective mulching of areas without effective surface cover.

The BMPs would be designed and implemented to meet the requirements of the CWA, BLM RMPs, USFS LRMPs, and *National Forest Plan Water Quality and Soils Standards and Guidelines* on USFS lands and would include:

- All tree felling and vegetation clearing would occur within the certificated construction work areas, except for hazard trees adjacent to the construction right-of-way, additional work areas, and travel corridors;
- Hazard trees would be designated by qualified company or third-party personnel;

- Trees within the certificated construction work areas would be directionally sheared or felled so as to prevent damage to adjacent trees, facilities, or structures;
- Log landings would not be located in wetlands or Riparian Reserves;
- Logs and slash would not be yarded across perennial streams unless fully suspended over the stream and adjacent banks. Where yarding across intermittent streams is necessary, log movement would be designed to minimize sediment delivery to streams;
- Logs firmly embedded in the bed or bank of waterbodies that are in place prior to felling timber would not be disturbed during logging and yarding operations unless they prevent trenching and fluming operations;
- All timber clearing from the construction right-of-way would be completed in accordance with PCGP's harvest plan requirements. Merchantable timber (and slash, as necessary) would be cut and removed except for trees left to meet resource objectives;
- In limited areas, logs would be decked and stored in TEWAs located outside of the construction right-of-way. These TEWAs generally would be in currently cleared areas next to roads;
- Logging slash material designated to remain on-site as environmental mitigation would be placed in designated UCSAs or TEWAs along the edge of the construction right-of-way and then scattered/redistributed across the construction right-of-way during final cleanup and reclamation (following seeding), in accordance with BLM and USFS fuel loading specifications in order to minimize fire hazard risks. Please see the Leave Tree Protection Plan (Appendix P to the POD), Prescribed Burning Plan (Appendix R to the POD) and the Overburden and Excess Material Disposal Plan (Appendix Q to the POD) for additional measures regarding handling and disposal of excess logging slash and materials. No Douglas-fir felled trees, 12 inches or larger in diameter, would be left in areas on federal lands where there is the potential to create infestations of Douglas-fir beetle;
- Slash concentrations on federal lands would be chipped in areas where yarding out is not feasible; slash on federal lands would not be permanently stored in UCSAs within Riparian Reserves, as noted in the ECRP;
- All landing slash will be utilized to the maximum extent possible. Larger pieces may be made available to the general public, or chipped to be removed for manufacturing chips or hog fuel. Remaining debris may be chipped and spread back across the Right-of-Way without inhibiting revegetation (typically less than 1 inch thick);
- In upland areas, stump removal would be limited to the trenchline and areas where grading is necessary to construct a safe, level working plane;
- Off-site slash disposal and/or burning may occur in areas where slash is concentrated, such as landings. Slash would be machine or hand-piled with the outer edge of piles no closer than 20 feet from the outer drip line of live trees, and burned according to state burning requirements and BLM or USFS stipulations. Burns would occur during the wet season (i.e., November 1 to April 30). PCGP has developed a Prescribed Burning Plan which is included as Appendix R to the POD and describes the procedures that would be implemented if prescribed burning is to be conducted;
- Each construction spread would have one lead Environmental Inspector (EI) and several assistant EIs. The inspectors would ensure compliance with federal, state, and local regulations and permit requirements, including the Right-of-Way Grant and FERC Certificate;
- EIs in coordination with federal agency authorized representatives, would have the authority to stop activities that violate the measures set forth in the timber harvest contracts and Grant with the respective federal land managers and in other permits and authorizations, and would have the authority to order corrective actions;

- PCGP's lead EI would have the authority to stop activities when wet weather or other conditions make it necessary to restrict activities to avoid excessive rutting in sensitive areas; and
- Forested lands disturbed by the construction of the Pipeline Project would be replanted according to state and/or federal (BLM and USFS) requirements. Planting would occur on all forested lands disturbed by construction except for 15 feet from either side of the pipeline centerline. Replanting prescriptions are included in the ECRP which is included as Appendix I to the POD.

The EI would also utilize other effective BMPs as discussed in the ECRP to prevent sedimentation beyond the approved construction right-of-way and associated TEWAs or into waterbodies or wetlands. As stated in the ECRP, effective ground cover is the amount of cover necessary for maintaining a disturbed site in a low hazard category for erosion. The ECRP provides effective ground cover requirements based on potential erosion hazard of areas disturbed by the construction. PCGP assumes that the soils within the construction right-of-way will be categorized within the high to very high erosion hazard classes and would apply the appropriate mulching cover requirements for these erosion hazards classes.

2.7 TIMING RESTRICTIONS FOR RIGHT-OF-WAY CLEARING

The following is a summary of the Applicant Prepared Biological Assessment and provides a brief overview of the proposed timing for timber clearing. The U.S. Fish & Wildlife Service will either approve or modify the timing restrictions in their Biological Opinion and this section will be updated at that time.

PCGP will clear timber and other vegetation as permitted by weather conditions and outside of applicable timing (daily and seasonal) restriction windows. PCGP would apply temporal and spatial restrictions recommended by U.S. Fish & Wildlife Service (FWS) and other agencies to protect nesting marbled murrelets (MAMU), northern spotted owls (NSO), migratory birds, and other raptor species (see Attachment C).

To minimize impacts to MAMU, PCGP is proposing to fell timber and mow other vegetation in occupied or presumed occupied MAMU stands and within 300 feet of those stands after the entire breeding season (April 1 to September 15). Timber or other vegetation removal (including brush mowing) could occur within 0.25 mile of MAMU stands but beyond 300 feet of occupied or presumed occupied stands between April 1 and August 5; however, PCGP would apply daily timing restrictions (activities would occur between 2 hours after sunrise and 2 hours before sunset). The purpose of the daily timing restrictions is to minimize risk of disturbance to adult MAMU entering and leaving the stand and possible dispersal of juveniles. If biologists identify a nest tree or potential nest trees within 0.25 mile of the MAMU stand that would be cleared, timber clearing activities would not occur until after the entire breeding season (after September 15). Daily timing restrictions would also be applied during other construction activities within occupied and presumed occupied stands and within 0.25 mile of those stands during the critical breeding season (April 1 through August 5).

To minimize impacts to NSO from "habitat" removal, PCGP would not remove timber (tree cutting or brush mowing) in active NSO nest patches and within a 0.25-mile buffer of the NSO activity center until after the entire nesting season (March 1 to September 30), provided existing access roads to the construction right-of-way through NSO nest patches or core areas would NOT be restricted. Additionally, other vegetation removal, timber processing, and construction activities, not requiring tree cutting or brush mowing, would not occur between the critical

breeding season (March 1 to July 15) in active NSO nest patches and within a 0.25-mile buffer of the NSO activity center.

Prior to timber clearing and brush mowing, PCGP would have experienced MAMU biologists survey both the occupied and unoccupied suitable habitat stands in which habitat would be modified by construction and mark trees that currently have nest platforms or potential for nests. If feasible, PCGP would avoid removal of those marked trees. Stands within the analysis area where no occupancy of a site was detected during both years of surveys are considered unoccupied for 5 years after the 2-year survey protocol is complete, and timing constraints and buffers would not apply. However, some of the sites unlikely to be occupied would have daily and seasonal restrictions applied because of their proximity to known occupied stands. Prior to timber clearing (including brush mowing), other vegetation removal, and construction activities, PCGP would also have experienced NSO biologists survey within a 0.25 mile of NSO activity centers to determine nesting activity so that appropriate seasonal timing restrictions could be applied during timber clearing activities and construction activities. Construction, clearing, and/or ground-disturbing activities would adhere to conservation measures specified in the FWS Biological Opinion.

To minimize impacts to other nesting raptors in the Pipeline Project area, PCGP would survey for eagles and other raptors within 0.25 mile to 0.5 mile of the Pipeline Project prior to tree clearing and/or construction and apply appropriate seasonal nesting buffers; no timber removal, other vegetation removal, or construction activities would occur during the appropriate nesting seasons. Additionally, outside areas considered for MAMU and NSO, as described above, and other applied seasonal raptor buffers, PCGP would clear vegetation in woodland and forest (wooded habitats) in all seral stages outside of the primary migratory bird nesting season, which is April 1 to July 15, to minimize effects to nesting migratory birds in the Pipeline Project area (see Attachment C). PCGP would also employ biological monitors to identify migratory bird nests at risk in non-wooded habitats or wooded habitats where felling and brush clearing is necessary during the primary migratory bird season (April 1 to July 15) to further minimize effects to migratory birds nesting in the Pipeline Project area. If nests are identified during the primary nesting bird season, PCGP would work with FWS to identify appropriate buffers based on the species' ecology and relative sensitivity to disturbance, which could include avoiding activity until fledging or nest failure is verified, and if avoidance is not possible, move or remove an active nest, eggs, and/or juveniles.

3.0 TIMBER CLEARING OPERATIONS

Operational Scenario(s) are descriptions of standard method forest/timber clearing harvest technique designs specific to a distinct terrain/landscape and forest vegetation type. These are the methods that PCGP will use to clear timber from the authorized construction right-of-way.

3.1 HARVEST TECHNIQUES

Harvest techniques are discussed in context of standard method traditional capabilities. Two sequential harvesting operations are outlined: tree and timber felling, and methods of retrieving [yarding] material to a site for demolition or hauling to a purchase point. Site by site advantage(s) or disadvantage(s) [pros and cons] via comparative analysis of standard method to each other and alternative methods is not assessed in this document.

3.1.1 TREE FELLING

Mechanical –

- 1) Feller-buncher [shear or saw, come in different configurations, small to large]. Can operate efficiently on slopes to 50%. Versatile in large regeneration [R] to small dbh medium saw [MS] trees of merchantable and non-merchantable timber. Directional felling, species sorting, and volume control of cut trees stacked for accelerated volume skidding.



- 2) Chainsaw [hand]. Hand tree felling with chainsaws will be used in all vegetation types and Scenarios. Chainsaws will be necessary for trees that are too large or small, leaning, crooked, steep slopes, riparian areas, inaccessible spots [rock piles, etc.], or have defects that may prevent using the mechanical felling method.



3.1.2 TREE YARDING

Two methods:

- 1) Aerial [Helicopter, Cable yarder, Cable Yoader]
- 2) Ground-based [tracked or rubber-tired skid equipment, shovel, dangle-head].

Helicopter [aerial]

- 1) ECRP “3.3.2” - “... in some isolated rugged topographic areas with poor access, helicopter logging may be utilized.” Helicopters come in an assortment of configurations and have the capability to clear the vast majority of timbered areas along the alignment during any time of year pending mitigation of restriction(s) [aka – noise, crossing public roadway, environmental, other regulatory].

Example of Helicopter Alternative Method: Helicopter operations can continue clearing when and where ground-based or yarder harvesting operations cease for extended period of times due to seasonal weather. If environmental and regulatory restriction(s) are mitigated and road conditions are within BMP compliance, clearing may continue.

Single engine rotor helicopter configured for harvesting small to large pole size to small sawlog size timber. Capable of removing bundles of choked small to large sapling size trees.



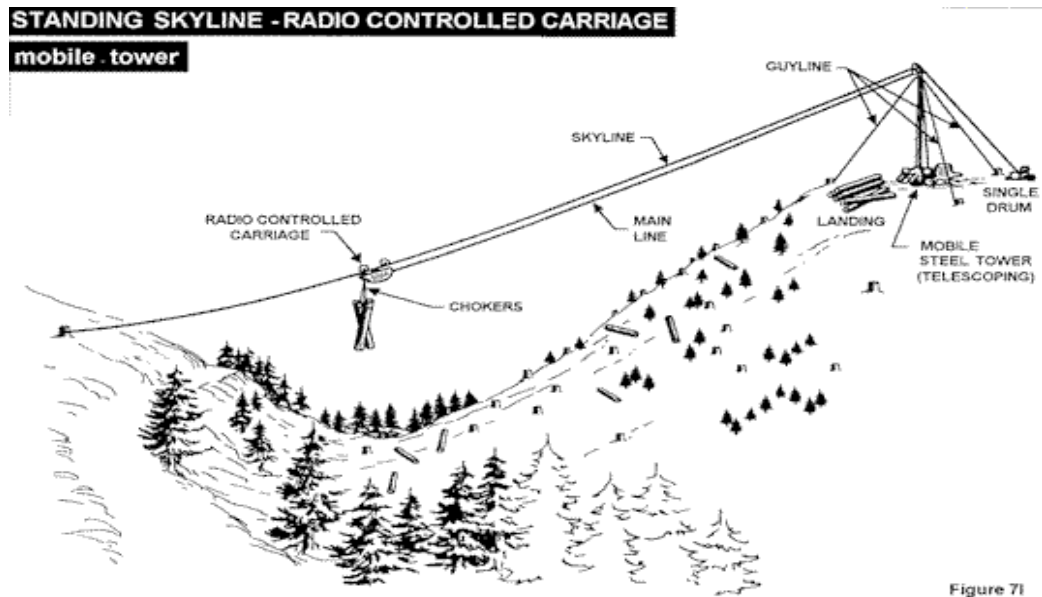
Dual engine and rotor helicopter configured for harvesting all sizes of timber.



Yarder [stationary cable system, aerial]

Three basic configurations –

- 1) Standing Skyline. Normally has a single tail block and requires the skyline to remain elevated or standing while a carriage [motorized, drift, interlock, running] is winched and/or drifted back and forth from the yarder to retrieve felled trees or logs.



- 2) Live or Running Skyline. Skyline can be live [raised and lowered] via yarder drum winches [haul back, main line] to allow increased yarding capabilities with different carriage types.

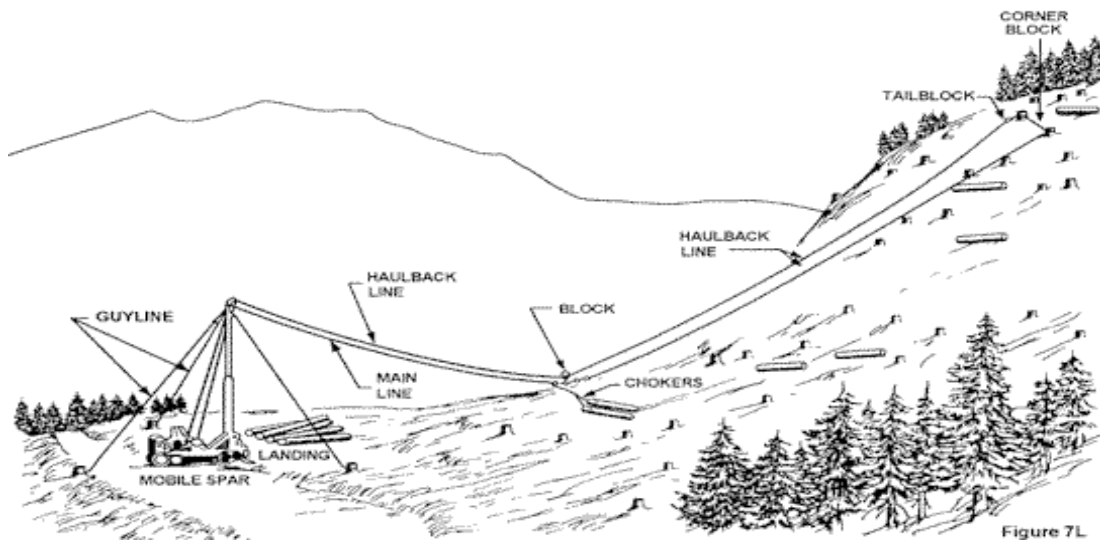


Diagram Reference: U.S. Department of Labor, Occupational Safety & Health Administration, Compliance Assistance, eTools, www.osha.gov.

Self-propelled tracked swing-yarder. Versatile configurations. Can operate on road width area as shown below. Requires larger area than small side-mounted yarder. Usually longer spans and lift capacity for bucked long logs from medium to large size trees.



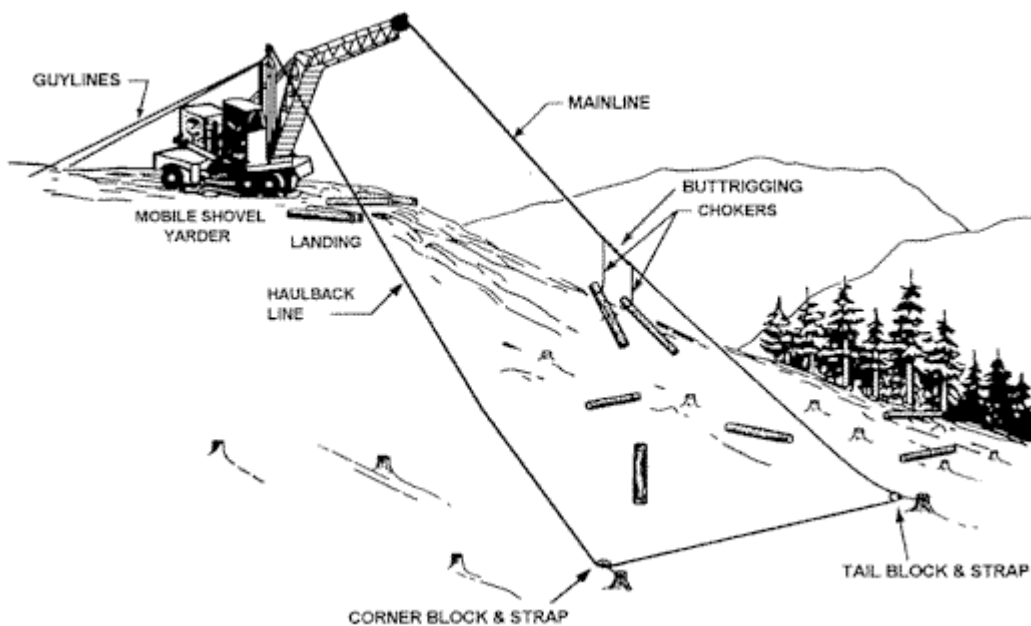
Rubber-tired self-propelled side-mounted cable yarder operating on narrow road width. Versatile configurations and mobile if safe access to tight rough terrain areas that can be yarder harvested.



- 3) Yoader [aerial or ground-based]. Preferred base equipment is hydraulic heel boom log loader equipped with at least two winches. Mobile, extremely versatile, multi-tasking equipment: cable yard, log loading, shovel logging, tree pulling, slash piling. Needs minimal area for operation. Suited for cable yarding smaller timber, but can yard short length large diameter logs.



Yoader mobile shovel yarder configuration. Can utilize standing or live skyline setup for drifting carriages [motorized, Christy, buttrigging].



3.1.3 SHOVEL LOGGING

- 1) Feller-buncher is considered a shovel logging method.
- 2) Hydraulic grapple heel boom. Versatile operation method. Can be configured as Yoader, log loader at landing, multi-tasking with hand or mechanical tree felling ops. Can sort and stack logs into skid pile for quick removal and clean tree felling area [bunching under carriage corridor for cable or helicopter ops where landscape allows]. Can assist felling ops with pull / push of tree, and remove unmerchantable material pre and during felling ops for storage and later retrieval.



- 3) Dangle-head processor. Slope limited to +/-30%. Primarily delimiting, log manufacturing, and piling logs by species sort for efficient volume skidding. Production option.



3.1.4 GROUND-BASED SKIDDING

Tracked grapple skid equipment. May also be equipped with cable winch.



Rubber-tired grapple skid equipment. May also be equipped with cable winch.



3.1.5 ALTERNATIVE HARVEST ASSISTANCE EQUIPMENT

- 1) Tracked crawler stroke-delimiter. Primarily oriented for delimiting and log processing of skidded whole trees [YP to SS stand type size class] to a landing site for sorting and truck haul. On allowable terrain following hand or mechanical tree felling, a delimiter can receive same type skidded material outside and away from traditional landing sites and develop limbed and bucked logs for skidding to a landing. Or, develop a continuous log landing along one or both sides of an existing road or main skid trail to be converted into a haul road. Both types are very versatile in regards to accelerated clearing operations. This leaves the majority of unmerchantable material at its origin for later treatment [burning, chipping, erosion control, wildlife, etc.].



- 2) Tracked crawler-chipper. Unique machine comes in several horse-power and grinding capability configurations. The machine can crawl and grind on a range of slopes to process unmerchantable material at site of origin versus additional equipment that requires multiple-handling tasks of collection, skidding, and processing.



3.2 FOREST/TIMBER VEGETATION TYPES

Vegetation forest type data is relational in proposing timber clearing scenarios. Traditional forestry business decisions dictate such information is considered crucial by foresters, forest product buyers, and contractors when designing contracts, particularly when there is significant diversity in board foot volumes and number of trees per acre to be cleared across an atypical elongated project harvest site with a variety of terrains utilizing a variety of scenarios.

Data origin is the pipeline alignment timber volume estimate presented to PCGP in December 2007 [not attached to this document]. Estimated forest type data of interest is two-fold:

- 1) Table 1 – Trees per acre by forest stand type data utilized to determine the weighted average number of trees per acre [TPA] by size, species, gross and net volume. This data is the building block for extrapolating Table 2.
- 2) Table 2 - Acres of forest stand type and total net Scribner volume by landowner group of interest [USFS, BLM, All Other Landowners]. Forest stand types along the alignment are by project proxy, specific quantified units of timber size and quantity [volume and number of pieces] to be cleared. This allows for best-fit harvest equipment selection necessary to complete the clearing project and maintain BMP compliance, schedule, etc.

Table 1 (Data is updated from 2006 field sample plots to 2015 plots used to develop the approved Cruise Plans for the 3 USFS districts [Umpqua, Rogue, and Fremont Winema]. Same data used to generate Table 2)

Trees per acre estimate [TPA]. Low [L] to High [H] TPA range. Average [Avg] - weighted average TPA [+/- number of clearance pieces per acre by type]. The QMD [quadratic mean diameter] is the weighted average diameter at breast height of the average tree by type

Size Class	R ¹			YP ¹			SS ¹			MS ¹			LS ¹		
	L	Avg	H	L	Avg	H	L	Avg	H	L	Avg	H	L	Avg	H
TPA	273	365	733	243	323	523	169	264	429	103	174	343	91	162	233
QMD		5"			9"			14"			22"			31"	

¹ Definitions provided in notes to Table 2 below.

Table 2 (5/2017: revised data to projected start year of clearing 2020 that matches up with revised data projected to 2020 in Table 3.3-5 of Resource Report 3)**Estimated acres of forest stand type and net volume [Mbf] Scribner Dec. C by ownership**

Owner:	HMC	R	YP	SS	MS	LS	Total:
FS acres	0	33	50	142	154	37	416
Mbf Vol	0M	465M	171M	3,841M	7,558M	3,349M	15,384M *
BLM acres	20	14	73	221	136	20	484
Mbf Vol	529M	293M	901M	4,416M	6,462M	1,963M	14,564M
Other acres	101	199	88	485	162	36	1,071
Mbf Vol	342M	109M	1,213M	5,915M	4,319M	1,134M	13,032M
Total Acres	121	246	211	848	452	93	1,971 *
Total Mbf Vol	871M	867M	2,285M	14,172M	18,339M	6,446M	42,980M

General Forest Stand Type Information [types include arboricultural related data for each]:

HMC – Hardwood/Mixed Conifer; R – Regeneration/Plantation; YP – Young Pole [6-10" dbh];

SS – Small sawlog [10-20" dbh];

MS – Medium sawlog [20-30" dbh]; LS – Large sawlog [30"+ dbh].

*Note: Combined FS and BLM volume of 29,948 17,379MBF. Volume estimate from Table 1.

**Note: The differences in acreage between Table 2 and Table B-1 in Attachment B are explained by 1) the estimated acres provided in Table 2 for forest stand and volumes are based on the PCGP's original route filed in the September 4, 2007 FERC Application and only includes forested acres. Miscellaneous land slivers of roads, landings, open areas such as rock pits, grasslands, shrublands or watercourses, etc. that are intermixed with stand types and do not have timber volumes were not included in the estimate acreage. 2) The acres of harvest scenarios provided in Table B-1 of Attachment B are based on the final May 2009 FERC FEIS route which incorporated various route modifications that affected both federal (BLM and FS) and private lands. The final FERC recommended route modifications were included to avoid or minimize impacts to Marbled Murrelet and Northern Spotted Owl as well as landowners. Examples of these route modifications included the Camas Valley East Route Variation, Oregon Women's Land Trust Route Variation, the Umpqua National Forest Route Variation (Peavine reroute) Clover Creek Road modifications, including other minor route or workspace adjustments. The Harvest Scenario acres provided in Table B-1 also include areas and land types affected by the project such as miscellaneous land roads, landings rock pits and some miscellaneous land type slivers such as grasslands and shrub lands intermixed with forested stands.

Harvest Method Codes:

"Harvest Method Code(s)" were generated to signify a selected "standard method" or "combined method [alternate]" harvest technique Scenario. Harvest method codes are listed in Table 3.

Table 3
Harvest Method Codes

Harvest Method Category	Harvest Method Code
Tree / Timber Felling:	
*Chainsaw [hand felling]	C
*Mechanical [feller-buncher, saw or shear]	F
Yarding [Aerial]:	
*Helicopter	H
*Cable Yarder	Ya
*Cable Yoader	Yo
Yarding [Ground-based]:	
*Shovel Logging [tree/log skidding assist] -	
- Hydraulic heel boom	S
- Dangle-head processor	D
- Feller-buncher	F
*Ground-based skidding equipment -	
- Track or rubber-tire	G
*Construction – scattered small amounts of material, veg clearing completed by second phase of construction after forest / clearing.	Const2

The forest/timber clearing process is a two-step sequential process: tree and timber felling, followed by yarding. To quantify the two-step list of proposed harvest methods, a tree and timber felling code or codes is algorithmically fused (combined with) to a yarding method code or codes. Each fused code set then represents the area [polygon] of proposed harvest operation scenarios as exhibited on the pipeline alignment maps by landowner, and as listed in the modified PCGP Master Line List.

The scenario code set-up is a two-part [two-halves] alpha based delineation that depicts proposed sequential harvest processes:

Code Set-Up -

- a. Yarding [left half] - [separated by slash /] - Tree and timber felling [right half].
- b. Either half may contain more than one method. This would indicate a “staged” combination of methods for felling, yarding, or both.

Note: Primary yarding operations are determined first, followed by felling. Logistics being, if timber is not felled to lead or in a pattern conducive to benefit the selected method of yarding, then there is an increased probability that forest clearing BMPs, safety, excessive forest product damage, regulatory compliance, etc. will be compromised.

Harvest Scenario Code List:

The table list displays a permutative compilation of fifteen scenarios. Not all scenarios are utilized for plan development, but are recognized as an option. There may be one or more scenarios presented by a landowner or agency that is different than any proposed [ECRP “3.3.2, ... If, based on site-specific conditions, the landowner or land management agency-recommended timber harvesting method is not feasible, an alternate timber harvesting method will be utilized with approval from the landowner or land managing agency.”]

**Table 4
Harvest Scenario Code List**

Code	Yarding	Comments	/	Felling	Felling	Description Comments:
H/C	H	any terrain	/	C	Specify minimum falling specs.	100% hand felling.
H/FC	H	<40-50% slopes	/	F,C	Favorable terrain for feller-buncher	Moderately dense stand of R to MS trees for feller-buncher, hand fall large trees if any, stage felling option.
H/FDC	H	<25-50% slopes	/	F,D,C	Same, option for use of dangle-head processor	High density stand, same scenario, dangle-head option to process high number density of small trees, retain slash at felling site, hand fell large trees if any, stage felling option.
Ya/C	Ya	>40-50% slopes	/	C	Hand felling, ground too steep for mechanical	Narrow alignment corridor and lack of lateral road access limits use, may require more than normal moves.
Ya/FC	Ya	<40-50% slopes	/	F,C	Favorable terrain for feller-buncher	Moderately dense stand of R to MS trees for feller-buncher, hand fell large trees, stage felling option.
Ya/CS	Ya	<30-40% slopes	/	C,S	Hand felling, shovel assist	Ground favorable to shovel doodling felled trees to cable corridor for accelerated tree and log removal, stack slash, push-pull tree assist.
Yo/C	Yo	any terrain	/	C	Hand felling	Versatile, work odd pockets, very mobile compared to yarder, yard steep slopes for skid equip. log forwarding.

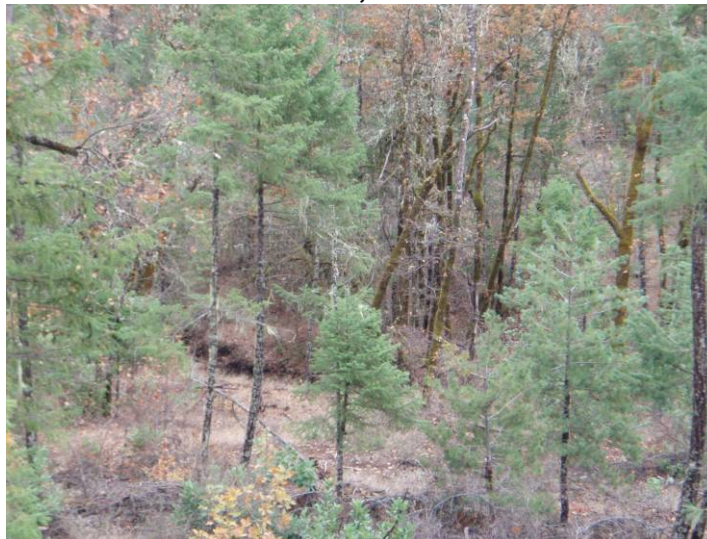
Code	Yarding	Comments	/	Felling	Felling	Description Comments:
Yo/FC	Yo	<40-50% slopes	/	FC	Favorable terrain for feller-buncher	Dense R to MS type, fell and bunch understory, hand fell larger material, stage felling option.
Yo/FD	Yo	<25-50% slopes	/	F,C	Favorable terrain for feller-buncher	Dense YP to MS type, fell and bunch, yard bundles, hand fell larger material, stage felling option.
Yo/FDC	Yo	<25-50% slopes	/	F,D,C	Favorable terrain for feller-buncher, optional use with dangle-head	High density stand, feller-bunch for dangle-head option at stump processing, hand fell large trees if any, stage felling option.
G/C	G	<40-50% slopes	/	C	Hand felling, large MS to LS trees	If dense stand, may require stage hand felling and yarding option.
G/CS	G	<40-50% slopes	/	CS	Primarily large MS to LS trees	Dense stand, may need stage felling, heel boom loader sorting assist.
G/F	G	<40-50% slopes	/	FC	Large R to small MS trees	Efficient at shearing and making bundles for skidding & mobile chipper.
G/FC	G	<40-50% slopes	/	FC	Stage felling	Dense understory of R to SS type for feller-buncher, hand fell larger trees, stage felling option.
G/FD	G	<25-50% slopes	/	FD	Stage felling	High density stand, feller-buncher, dangle-head option at stump, ,stage felling option.
G/FDC	G	<25-50% slopes	/	FDC	Stage felling	High density stand, feller-bunch understory, dangle-head option at stump site, ,hand fell large trees, stage felling option.

Support Information:

Table 2 exhibits the six basic forest stand types [HMC, R, YP, SS, MS, LS]. The following is a pictorial presentation to aid plan development clarification of what each forest type generally looks like in a range of areas along the alignment. Each photo has an associated proposed harvest scenario code or codes that could be efficiently used to operate this type and terrain. All terrain associated with each type are not presented; e.g., HMC on helicopter or yarder cable terrain.

3.2.1 HARDWOOD/MIXED CONIFER [HMC]

Distinctly a hardwood type [no estimated tonnage or board foot volume per acre]. Small percentage of conifer stocking by density. Approximately +/- 500 board foot gross volume per acre for conifers. Stand is usually lower elevation and south slope; or, shallow, rocky, xeric soils with a low capacity to stock and sustain a significant presence of conifers.

HMC, G/F**HMC, G/F**

3.2.2 REGENERATION [R]

Average TPA – 512, QMD – 5” dbh. Plantation. No board foot volume per acre. Older matured plantations considered harvestable if market conditions exist for fuel or clean chips. May be isolated scattered overstory residual associated with wildlife. Plantations range in age from new or recent [0-12 years +/-], to matured plantation [12-20 years +/-] with tree growth and size intersect at entering a marketable harvest size in the YP forest type stage.

R, G/FD



R, G/FD



3.2.3 YOUNG POLE [YP]

Average TPA – 471, QMD – 9” dbh. Originally a plantation. Stand is generating merchantable logs and chips. Approximate board foot stocking per acre 1MBF of high-taper low volume trees. A few areas of 3-5MBF per acre per stand at high-end micro sites. Fast growing dense stands causing mortality of understory competition.

YP, G/FD



YP, G/FD



3.2.4 SMALL SAW AND PEELER LOG [SS]

Average TPA – 372, QMD – 16" dbh. Maturing young growth stand of fast growing timber. Stand primarily generates small saw and peeler log size trees, with secondary production of clean and fuel chips. Approximate 12MBF per acre board foot stocking. Tall and dense stands with higher-end production of overstory competition, and understory mortality. Tight stands with much less understory stocking.

SS, G/FC



SS, G/FC



3.2.5 MEDIUM SAW AND PEELER LOG [MS]

Average TPA – 268, QMD – 26" dbh. Growing matured young growth stand. Growth beginning to culminate. Stand primarily generates medium saw and peeler log size trees, and minimum production of clean or fuel chips. Approximate 27MBF per acre board foot stocking. Tall and dense stands with higher-end production of overstory competition, and understory mortality. Mortality now on forest floor and lesser quantities still vertical. Unlogged stands are tight with small amounts of understory stocking, hardwood at fringes, etc.

MS, G/CS



MS, G/CS



3.2.6 LARGE SAW AND PEELER LOG [LS]

Average TPA – 193, QMD – 39” dbh. Some stands very defective trees, some not. Stand primarily generates MS to LS saw and peeler log size trees. Cull logs good for LWD recruitment to riparian areas and other areas lacking of such material. Approximate 89MBF per acre board foot stocking. Tall trees to 130 and 180 feet not uncommon. Unlogged stands exist, and are very dense in tree count stocking and crown canopy. These are usually stocked with more large MS size trees and scattered large LS trees, little understory vegetation. Previously logged stands with spaced trees and natural regeneration filling in the understory.

G/C



G/C



Attachment A Regulatory Compliance & Definitions

Assessment Development Procedure

Development Protocol – Regulatory and BMP Compliance

The plan was developed via utilization of applicable BMP compliance protocol outlined in PCGP's Erosion Control and Revegetation Plan (ECRP) (see Appendix I to the POD). Specifically:

- 1) ECRP "Table of Contents" Sections
 - 1.0 Introduction
 - 1.1 Project Description
 - 2.0 Existing Site Conditions
 - 3.0 Proposed Construction Activities
 - 3.1 Project Routing and Design
 - 3.2 Construction Schedule
 - 3.3 Pipeline Construction Sequence
 - 3.3.1 Preconstruction Survey
 - 3.3.2 Forest/Timber Clearing

Development Protocol – Forest/Timber Clearing Operation Scenarios

The plan was developed via application of proposed forest/timber clearing operation Scenarios designed relative to:

- 1) Project Schedules -
 - a) ECRP "Table 3.3-1 Spread Locations" and "3.2 Construction Schedule."
 - b) Attachment C – Summary of Seasonal Timing Restrictions for Migratory Birds, Endangered Species and Raptors Based on Pipeline Activity
- 2) Forest/Timber Clearing Operation Scenarios –

Scenarios are developed via application of professional forest harvest engineering methodology to identify and assess the site by site specific best-case techniques to achieve:

 - a) Operations designed in response to achieve timely systematic BMP compliance and completion of ECRP "3.3.2 Forest/Timber Clearing."

ECRP "3.3.2" - "All timber cleared from the right-of-way will be cut and cleared in accordance with landowner and land management agency requirements, where practical. If, based on site-specific conditions, the landowner or land management agency-recommended timber harvesting method is not feasible, an alternate timber harvesting method will be utilized with approval from the landowner or land managing agency."

Response: Clearing development regardless of ownership, assumes this process to include removal of merchantable and non-merchantable "trees" and "timber" as a

function of site-specific conditions and in compliance of sequential construction operations requirements.

ECRP “3.3.2” – “Merchantable timber will be cut and removed from the construction right-of-way and TEWAs to ensure that these areas are cleared prior to construction.

Response: Scenarios are considered best-case fit BMPs for clearing merchantable and non-merchantable “trees” and “timber.” Scenario utilization to clear and harvest is expected to result in production of high quality forest product(s).

ECRP “3.3.2” - “PCGP expects that the use of all logging methods may be necessary during construction to efficiently remove timber from the right-of-way depending on the specific location. Ground-based skidding and cable (where feasible) logging methods will likely be the standard method; however in some isolated rugged topographic areas with poor access, helicopter logging may be utilized. The specific logging methods will not be determined until a contractor has been selected through the bidding process for each spread.”

ECRP “4.1.1 Construction Ingress and Egress,” “PCGP has identified ingress/egress points to the construction right-of-way using existing public and private roads. These ingress/egress points are shown on the Environmental Alignment Sheets [...]. Traffic will move along the construction right-of-way within the construction right-of-way limits.”

ECRP “11.0 Steep and Rugged Terrain,” “The orientation of the ridges requires the Pipeline, in numerous areas, to descend and ascend steep ridge slopes to cross stream drainages [...].”

Response: Scenario design takes into consideration the projects primary intent of constructing a pipeline that crosses many hundreds of private and government parcels and acreages in mountainous forested terrains. Clearing Scenarios will generally parallel ECRP standard (logging) methods. The Pipeline Project is not designed as a traditionally engineered forest products harvesting plan with respect to ECRP excerpts “4.1.1” and “11.0,” and will require a subset of non-traditional or alternate forest product harvesting techniques to satisfy clearing and BMP compliance.

- b) Forest clearing is the initial construction operation and precedes other construction phases as defined in ECRP “3.3 Pipeline Construction Sequence.” PCGP construction operations are designed as a “sequence or in assembly-line fashion along the right-of-way with one crew following the next from clearing until final cleanup.”
- c) Proposed forest/timber clearing Scenarios guided by “EI” and contractor compliance is anticipated to successfully initiate, maintain, and achieve desired BMP completion outcomes in advance of proposed sequential construction operations.

Plan Support Information

Forest/ Timber Clearing Interrelated Terminology

Plan Development Protocol ECRP sections mention three operative interrelated forestry terms. It is important to clarify these terms in context to proposing operational Scenarios in regards to:

- 1) professional forestry interpretation and usage of terminology utilized in clarifying operations standards.
- 2) formulating a quantifiable and validatable approach to satisfy the “Mission” intent.
- 3) enhanced understanding of plan development for non-forestry project proponents.

Interrelated Terms –

“forest” - It is necessary to recognize a basic “forest” term concept in context to what type of landscape vegetation exist interior to project right-of-way alignment and TEWAs. This is strategic to plan development regarding what and how designated “forest” vegetation is proposed for ECRP “3.3.2 Forest/Timber Clearing” Scenario operations. BMP compliance will require knowledge of what shall, and shall not be cleared during this initial construction phase.

To establish an estimate of “forest” contents, vegetation type data was quantified for PCGP in November/December 2007 [ACRT] for each parcel intersected by the alignment. Alignment shifts have occurred since December 2007. A retrospect overview of October 2007 to October 2008 Master Line parcel owners and alignment ortho photography comparing “forest” vegetation types indicate variations. Alignment modifications are compensated for in this plan. [Referenced 2007 PCGP delivered documents not attached. Available upon request: Excel files – “County Info Summary,” and APN Owner Master Nov06”].

“tree” – Generally, “trees” include all woody plants that have genetic capacity to achieve heights greater than twenty feet with one to a few main stems. “Trees” are the primary vegetation make-up of “forest” areas proposed for clearing, and from which “timber” is derived and determined as either merchantable, or not.

“timber” – “tree[s] suitable for conversion into industrial forest products.” [wordnet.princeton.edu/perl/webwn]. The “timber” definition impacts plan development regarding two *key* “forest/timber clearing” Scenario elements:

- 1) The plan was designed to determine on a site by site landscape and forest vegetation basis, the designated merchantable timber [trees] suitable for harvest and conversion into industrial forest products [logs, chips, etc.] to be sold. This will include clearing a portion of non-merchantable timber [trees] not suitable for conversion, and will remain at site.
- 2) Same process as (1); however, pertains to which designated non-merchantable and merchantable trees are not suitable or determined for commercial harvest and shall remain onsite for proposed ECRP environmental mitigation.

Forest/Timber Clearing Assumptions

ECRP “3.3.2 Forest/Timber Clearing” states:

“All timber cleared from the right-of-way will be cut and cleared in accordance with landowner and land management agency requirements, where feasible. If, based on site-specific conditions, the landowner or land management agency-approved timber harvesting method is not feasible, an alternate timber harvesting method will be utilized with approval from the landowner or land managing agency.”

Response: Clearing scenario development regardless of ownership, assumes this process to include removal of merchantable and non-merchantable “trees” and “timber” as a function of site-specific conditions and in consideration of sequential construction operations.

“Merchantable timber will be cut and removed from the construction right-of-way and TEWAs to ensure that these areas are cleared prior to construction.

Response: Cleared merchantable and non-merchantable “trees” and “timber” is proposed for removal by proposed Scenarios that are designed for maximizing utilization of potential marketable forest products. Basically, two product types: logs and chips.

Attachment B

TIMBER CLEARING OPERATION DRAWINGS

(To be provided during development of the Timber Harvest Plans)

I. Maps

The PCGP Environmental Alignment sheets are included in Attachment AA. These were balanced against the most current PCGP pdfs for updated alignment and transportation corrections. By landowner parcel and each map, the following Forest/Timber Clearing Scenario Map Legend Items were scribed to geographically indicate a generalized pictorial map format of proposed clearing operation scenarios. Certain items are discussed to enhance Item clarification.

II. Timber Clearing Operation Legend Items and Notes

Code Harvest Scenario Code List.

L Potential temporary landing area [all scenarios].

Mild slope areas [0 to 25-30%+/-]: Landing position is selected to allow for uncongested clearing operation. Continuous landings are recommended within and paralleling the alignment. Using a continuous landing allows for uncongested and accelerated clearing operations whereby trees / logs are yarded or skidded short distances to mild terrain along a road and stacked accordingly for processing equipment and haul trucks to arrive. This leaves most slash at the felling site [erosion control BMP], or can be processed at the continuous landing [option]. Skid trails are kept to a minimum, short length, and mitigates soil impacts. Continuous landings negate existing landings since the areas are relatively flat and will be regenerated. For the same slope type, standard method traditional type landings are a sized specific area, and would be congested with a significant variety and quantity of trees and logs in a limiting space, pending flow of forest products trucked off-site. This results in a myriad of repetitive continual short to long skid patterns to bring trees, logs, and slash to a central location for processing. The alignment is well stocked with trees of assorted species and sizes in a regulated, compressed, elongated harvest area that is atypical to traditional forest harvests. As such, operations are spread out linearly, versus a specific set of conducive ingress / egress roads designed specifically for forestry operations.

Steeper than mild slope areas [>25-30%+/-]: These would be more conducive to standard method traditional landings within a specified area of confinement due to steepness of slope, watercourses, etc.

HP PCGP designated "Helicopter Usage" [service, etc.]. Designated by PCGP for specified TEWA location.

H,HL Potential new temporary helicopter landing for clearing operations only. Primarily selected to account for ECRP "3.3.2 ... areas of rough terrain."

- HS** Potential new temporary helicopter service landing for clearing operations only. Primarily selected to account for ECRP “3.3.2 ... areas of rough terrain.”
- <, >, <>** Tree or Log Yarding Direction. The legend symbology will be indicated on maps when yarding or skidding scenario logistics are impaired by obstacles such as unfavorable slope [e.g. slope too steep for adverse ground-based skidding (25-30%+/-)], blind lead [cable yarder skid lines not visible in hazardous area such as cliff, erratic terrain, etc.], watercourse [stream, spring, ditch], public infrastructure, utilities, fence, wildlife, archaeological, property line, etc. Generally, skid direction is given +/- towards a landing [continuous or otherwise].
- Where no directional skid symbology is shown, it is estimated there is sufficient volume of material that can be skidded favorably in either direction [i.e. slopes / gravity in favor of terrain to landing; or unfavorably (function of machine efficiency to skid logs upslope)]. Basically, terrain is favorable for any direction of skid.
- Const2** ECRP “3.3.3 Clearing and Grading” “non-forested lands.” Areas with small amounts of vegetation in concentration, or scattered pockets. Recent conifer plantations several feet in height +/- or less, brushfields, etc.. Not conducive to having traditional forest harvesting type operations attempt to clear.
- E -** Existing vehicle road or main skid trail that may be needed as additional TRA [temporary road access] for isolated alignment areas between watercourses, or long stretches of alignment basically too steep for adverse skidding and a secondary TRA is available.
- ~~~~** Proposed temporary forest/timber clearing road. Quantity and lengths minimized. Strictly proposed to connect nearby existing road with alignment for harvest scenario logistics [e.g. tree/log flow direction – downhill vs. uphill].
- Alignment Road Construction - ECRP “4.1.1 Construction Ingress and Egress,” ... “Traffic will move along the construction right-of-way within the construction right-of-way limits.” PCGP alignment and transportation maps indicate the current primary transportation system. The majority of (TRA) roads exist outside the alignment right-of-way. There is an assortment of TRAs that exist within. Identified TRA roads do not satisfy the totality of roads required to facilitate clearing scenarios. The additional road system required to satisfy proposed scenarios is the +/- alignment location. Specifically, where pipeline alignment [red line] exists on terrain and slopes favorable to satisfy favorable adverse or downhill usage of forest product haul vehicles [log truck, chip van, etc.] to and from landings and public road access, then it is assumed permissible to develop the necessary temporary road system to facilitate forest/timber clearing operations. Sequential construction operations will utilize the forest/timber clearing road system.
- O** Temporary installed small stream crossing for log skidding and haul road at alignment areas in between watercourses and no existing TRA for access and landing. Favorable slopes [15%+/-] within the alignment are equal in usage as ingress / egress access for tree / log skidding, hauling, and other vehicle use.

III. Data

The following Table B-1 is a summary of estimated Forest/Timber Clearing harvest scenario acres per landowner group:

**Table B-1
Harvest Scenario per Landowner (acres)**

Owner:	Scenario									Total:
	H/C	Ya/C	Yo/C	Yo/FC	G/C	G/CS	G/FC	G/F	Const2	
USFS Winema	0	0	0	0	3.8	0	74.5	2.6	1.0	81.8
USFS Umpqua	0	0	4.2	0	122.8	0	36.0	0	13.4	176.4
USFS Rogue	0	0	0	0	69.8	0	90.7	14.5	27.3	202.3
BLM-USA- CBWRGL	22	5.8	1.2	0	49.4	0	65.9	22.5	2	168.8
BLM-USA	12.9	0	0.9	0	23.1	0	80.9	0.2	0.2	118.2
BLM Public Domain	0.6	0	0	0	1.4	0	1.5	0	0	3.5
BLM O & C	25.2	3.2	1.7	0	58.3	0	79.4	1.5	0	169.3
All Others	22.1	47.5	7.2	1.7	291.2	1.8	426.5	48.8	199.7	1046.5
Total:	82.8	56.5	15.2	1.7	619.8	1.8	855.4	90.1	243.6	1966.9

Note: The differences in acreage between Table 2 and Table B-1 in Attachment B are explained by 1) the estimated acres provided in Table 2 for forest stand and volumes are based on PCGP's original route filed in the September 4, 2007 FERC Application and only includes forested acres. Miscellaneous land slivers of roads, landings, open areas such as rock pits, grasslands, shrublands or watercourses, etc. that are intermixed with stand types and do not have timber volumes were not included in the estimate acreage. 2) The acres of harvest scenarios provided in Table B-1 of Attachment B are based on the final May 2009 FERC FEIS route which incorporated various route modifications that affected both federal (BLM and FS) and private lands. The final FERC recommended route modifications were included to avoid or minimize impacts to Marbled Murrelet and Northern Spotted Owl as well as landowners. Examples of these route modifications included the Camas Valley East Route Variation, Oregon Women's Land Trust Route Variation, the Umpqua National Forest Route Variation (Peavine reroute) Clover Creek Road modifications, including other minor route or workspace adjustments. The Harvest Scenario acres provided in Table B-1 also include areas and land types affected by the project such as miscellaneous land roads, landings rock pits and some miscellaneous land type slivers such as grasslands and shrub lands intermixed with forested stands.

Attachment C

Summary of Seasonal Timing Restrictions for Migratory Birds, Endangered Species and Raptors Based on Pipeline Activities

Pipeline Activity	Seasonal Timing Restrictions for Timber Felling, Logging, Clearing and Construction Activities						
	Migratory Birds (wooded habitat) ¹	Northern Spotted Owl ²	Marbled Murrelet ²	Great Grey Owl ²	Bald Eagle ³	Golden Eagle ³	Peregrine Falcon ⁴
Felling and Brush Mowing ⁵	NO WORK Apr 1 - Jul 15	NO WORK Mar 1 - Sept 30	NO WORK Apr 1 - Sep 15 within 300-ft buffer from stand	NO WORK Mar 1 - Jul 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Jul 31
Logging, Skidding and Processing	NO RESTRICTION ⁶	NO WORK ⁶ Mar 1 - Jul 15	DTR ^{6,7} Apr 1 - Aug 5; Apr 1 - Sep 15 w/ helicopters ⁸	NO WORK Mar 1 - Jul 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Jul 31
Clearing, Grubbing, and Stump Removal	NO RESTRICTION ⁶	NO WORK ⁶ Mar 1 - Jul 15	DTR ^{6,7} Apr 1 - Aug 5	NO WORK Mar 1 - Jul 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Jul 31
Driving Through Restricted Area on Right-of-Way	NO RESTRICTION ⁶	NO RESTRICTION ⁶	DTR ^{6,7} Apr 1 - Aug 5	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION
Driving Through Restricted Area on Existing Access Road	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION
Pipeline Construction	NO RESTRICTION ⁶	NO WORK ⁶ Mar 1 - Jul 15	DTR ^{6,7} Apr 1 - Aug 5; Apr 1 - Sep 15 w/ helicopters ⁸	NO WORK Mar 1 - Jul 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Jul 31
Maintenance on Existing Access Roads	NO RESTRICTION ⁶	NO WORK ⁶ Mar 1 - Jul 15	DTR ^{6,7} Apr 1 - Aug 5	NO WORK Mar 1 - Jul 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Jul 31
Access Road Improvement and New Road Construction	NO RESTRICTION ⁶	NO WORK ⁶ Mar 1 - Jul 15	DTR ^{6,7} Apr 1 - Aug 5	NO WORK Mar 1 - Jul 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Aug 31	NO WORK Jan 1 - Jul 31

¹ Only considers migratory bird "wooded" habitat (meaning all forest regenerating areas [not including recent clear-cuts], deciduous tree groves, shrub/brush thickets, etc.) Note: understory and residual slash in felled timbered areas would not be considered migratory bird habitat.

² Applies to areas within 0.25 mile of nest site (northern spotted owl, great gray owl) or marbled murrelet stand (presumed occupied, occupied), unless otherwise noted.

³ Applies to areas within 0.5 mile of nest site (bald eagle, golden eagle).

⁴ Applies to areas within 1.5 miles of peregrine falcon eyrie as delineated by Umpqua National Forest.

⁵ Includes all forested areas (not including recent clear-cuts), deciduous tree groves, shrub/brush thickets (i.e., oak).

⁶ Applies if trees and brush are previously felled. Otherwise, see restriction for "felling and brush mowing."

⁷ DTRs (Daily Timing Restrictions) stipulate no work until two hours after sunrise and work must stop two hours before sunset.

⁸ Where large transport helicopter use is necessary to remove logs or supply pipe.



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Safety & Security Plan

Pacific Connector Gas Pipeline Project

September 2019

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1.0 INTRODUCTION

This Safety & Security Plan identifies measures to be taken by Pacific Connector Gas Pipeline, LP (PCGP) and its contractors (Contractor) to minimize hazards to persons working on and visiting the Pacific Connector Gas Pipeline Project (Pipeline or Pipeline Project) during construction as well as to the general public and to comply with all applicable safety requirements and regulations.

This plan is not an all inclusive plan covering all areas relating to pipeline construction activities. The following Plans of Development address specific concerns relating to specialized construction activities along the pipeline right-of-way. These other plans should be consulted for more specific detail relating to safety practices to be followed during and after construction.

- Blasting Plan
- Air/Noise and Fugitive Dust Control Plan
- Fire Prevention and Suppression Plan
- Contaminated Substances Discovery Plan
- Prescribed Burning Plan
- Transportation Management Plan
- Cathodic Protection Plan
- Emergency Response Plan
- Spill Prevention Containment and Countermeasures Plan

It also should be noted that PCGP and its contractors will follow the safety guidelines found in existing Federal Codes of Regulation as mandated by the Occupational Safety and Health Act (1971) and all other applicable laws, ordinances, rules, regulations and orders of any body having jurisdiction over safety and health of persons or property for construction activities and operations and maintenance activities. The intent of this plan is not to identify each safety stipulation or security scenario, but rather explain the procedure that PCGP will follow to address, notify and resolve safety or security issues during construction and operations of the PCGP.

The purpose of this plan is to describe safety standards and practices that will be implemented to minimize health and safety concerns related to the construction of the Pipeline Project.

2.0 RESPONSIBILITIES

2.1 PCGP

PCGP will comply and ensure compliance by its employees, suppliers, and visitors with all applicable occupational safety and health laws and regulations. PCGP will observe and monitor the Contractor's practices and procedures and will inform the Contractor of any observed, or otherwise informed, violations to the aforementioned regulations. If PCGP becomes aware of a violation of safety or security requirements that presents immediate danger to human life or property, PCGP will order an immediate stoppage of work until unsafe conditions or practices are corrected, as determined by PCGP's Project Manager. PCGP will notify the Agency Official or designated representative regarding the safety issue once work has been stopped. PCGP will again notify the Agency Official or designated representative that procedures to resolve the situation have been implemented and work can recommence. Where identified, PCGP will provide trained security personnel with communications capability with Federal, State, and local

law enforcement and emergency services at all times. PCGP's Inspection Staff will also be trained to identify and report security issues to the Federal, State, and local law enforcement agencies.

The construction right-of-way will be closed to the general public and monitored by PCGP on a regular basis during all construction activities. After the pipeline has been put in service, PCGP will conduct routine inspections of the permanent right-of-way (aerial fly over's, on the ground visits, etc.) to identify and correct any security or safety concerns. Any security or safety concerns discovered on federal lands affecting safety and/or security of the pipeline during construction or operation would be reported to the applicable federal land managing agency.

Only authorized personnel will have access to the construction right-of-way and areas of active construction. PCGP will require all authorized personnel and visitors to be safety trained and to wear appropriate protective gear (i.e., hard hat, vests, boots, etc.) for the site conditions. All visitors, workers, or monitors to the site during construction shall be required to attend safety training. After receipt of training, all employees and visitors will be issued a safety hardhat decal. The safety decal shall be visible at all times and be good for one year. A record of employee and visitor training will be kept at the jobsite. During construction, site safety meetings will be held on a daily basis to provide additional training, discussion concerning safety, and any other issues or concerns that need to be addressed. Those not completing the safety training will not be allowed on the right-of-way. The Environmental Briefings Plan (see Appendix G to the POD) provides protocol for review and approval by the federal agencies of construction compliance documents.

2.2 Notification

Prior to the installation of the Pipeline Project facilities, PCGP will provide the detailed construction schedule to Federal and State Agencies at least 90 days in advance identifying all Federal lands, roads, trails, or waterways that may require temporary closure or restriction orders to protect public health and safety. The schedule closure requests shall specify the period of time during which the closure restriction would apply and the personnel who are exempt from the closure or restriction. PCGP will follow the rules of conduct established by the Agency for the protection of Federal lands and resources, and for the protection, comfort and well being of the public.

During the operation phase of the Pipeline, PCGP will make every effort to notify the Federal and State Agencies 90 days prior to performing construction activities on Federal lands, trails, or waterways that may require a temporary shutdown. Where overriding code requirements commit PCGP to respond in a shorter time frame or handle an emergency condition on the construction right-of-way, PCGP will notify the Federal Agency as soon as the problem and remedy has been identified.

Federal road closure notifications guidelines and requirements are discussed in the Transportation Management Plan (Appendix Y to the POD), Section 3.0.

PCGP will provide the safety plan developed by the Contractor (see Section 2.3) to the federal agencies for review and approval 60 days prior to BLM's issuance of an NTP for construction.

2.3 Contractor

The Contractor has the prime responsibility for the safe construction and security of the pipeline and associated facilities during construction. The Contractor has the responsibility to provide PCGP with its comprehensive safety plan, which shall, at a minimum, comply with all regulatory and industry safety practices and Agency requirements. The Contractor is responsible for providing safety orientation to all Contractor personnel. Although the construction right-of-way will be closed to the general public, the Contractor will ensure that appropriate precautions are utilized to ensure public safety. The Contractor's comprehensive safety plan will address the precautionary measures that will be utilized at appropriate locations, such as installing signs and/or safety fence near areas of open trench at public road crossings or other areas where public use is likely. The Contractor's plan will also contain a communications section with local emergency response contact information and notification protocol in the event of an emergency. Section 3.3 of the Transportation Management Plan (Appendix Y to the POD) also describes the safety and traffic flow management measures that would be implemented to protect public safety.

2.4 Construction Inspectors

PCGP's Construction Inspectors will be responsible for ensuring Contractor compliance with its safety plan or any other regulatory requirements regarding safety. It is the Construction Inspectors' responsibility to be an attentive, willing and proactive monitor, and observer of the Contractor's work practices and to record, report and if necessary halt all seemingly unsafe work practices. The Construction Inspectors will also facilitate safety training for all visitors, agency personnel, and new construction personnel prior to entering the construction right-of-way during construction. During construction, the Construction Inspectors will guide all unauthorized personnel off of the construction right-of-way on public and private lands to protect public safety.

3.0 HEALTH AND SAFETY REQUIREMENTS

3.1 Safety Training

Prior to initiating construction activities, PCGP will arrange a meeting between the Contractor and PCGP's Construction management personnel and Inspection Staff to discuss safety aspects of the work, safety hazards particular to the work site, and to outline safety responsibility and authority of PCGP and Contractor personnel. During construction, it will be the responsibility of the Contractor to train workers and keep them up-to-date regarding safety matters. The Contractor will provide pre-job orientation as well as daily tail-gate meetings to discuss safety topics relevant to the work being completed that day as well as, any safety issues that were previously encountered, how they were dealt with, and how they will be addressed if similar incidents should occur in the future. The Contractor will ensure all workers are competent to perform any job requested. The Contractor will also make all of its workers available for any required PCGP orientation or safety training.

3.2 General Requirements

The Contractor will ensure that the following measures are implemented:

- Adhere to procedures presented in the Contractor's approved safety plan and to applicable federal, state, and local statutory requirements.

- Report all accidents and injuries to the Construction Inspector.
- Remedy any unsafe conditions or situations as requested by the Construction Inspector.
- Work safely so other employees are not placed at risk.
- Use specified and required personal safety equipment in performance of all duties.
- Maintain all construction sites in a safe, secure, and sanitary condition.
- Cease normal pipeline construction activities, except hydrostatic testing activities, by sunset unless approved by PCGP and all necessary precautions are made including supplemental lighting as deemed necessary.
- Provide fugitive dust control in accordance with federal, state, or local requirements.
- Ensure that equipment is properly maintained to reduce emissions and comply with federal, state, and local air quality emission standards and regulations.
- Prohibit firearms, hunting, alcohol, and drugs on the construction right-of-way, temporary extra work areas, access roads, and off-right-of-way work areas and facilities.
- Ensure, when radiographic equipment is used, that the area is clear and that all personnel are at a safe distance from the radiation source. Radiation warning signs will be placed at the edges of the safe area.
- Heed all OSHA, federal, state, and local trenching regulations, and implement measures as necessary to ensure the safety of workers working in the trench by using trench boxes, sheet piling, proper sloping, etc.
- Comply with all federal, state, and local fire regulations pertaining to the prevention of uncontrolled fires (see Fire Prevention and Suppression Plan (Appendix K to the POD)).
- Ensure that all hazardous and potentially hazardous materials are transported, stored, and handled in accordance with all applicable legislation (see Spill Prevention, Containment, and Countermeasures Plan (Appendix X to the POD)).
- Implement safety precautions during hydrostatic testing as specified in this plan.
- Comply with requirements in the Transportation Management Plan where personnel or equipment are working at or near road crossings.
- Allow emergency access
- Meet OSHA Competent person guidelines for all Pipeline Project related excavations.

3.3 Working Hours

With the exception of hydrostatic testing and horizontal directional drilling, working hours will generally be from sunrise to sunset Monday through Saturday unless approved otherwise by PCGP.

3.4 Hydrostatic Safety Measures

The Contractor will provide for the safety of all pipeline construction personnel and the general public during hydrostatic testing. The Contractor will:

- Place warning signs in or near populated areas.
- Restrict access to the area involving the hydrostatic test (i.e., test shelter, manifolds, pressure pumps, instruments, etc.) to only those personnel engaged in the testing operations.
- Prohibit major pipeline work not directly associated with the test operations around the pipeline sections being tested. While the pipeline facilities are being pressurized and during the test, all personnel not required for direct operations (checking for leaks, tightening gaskets, checking valve status, operating pumps, recording data, etc.) will be restricted from the area where the pipeline is being tested.

- Provide and maintain a reliable transportation and communication system during the test operations whereby all personnel directly involved in the test will be able to communicate test status or problems that develop during the test.
- Check all hoses, fittings, connectors, and valves for proper pressure rating.
- Restrain and secure fill and discharge lines/hoses.

3.5 Emergency Response

PCGP and the Contractor will utilize the Coos County, Douglas County, Jackson County, and Klamath County Emergency Contact Information. This information is attached to this plan.

Satellite phones will be issued to the PCGP Chief Inspector’s along the construction right-of-way. These phones will be used when cell phones do not have service in remote areas of the Pipeline Project. PCGP’s operations personnel are required to carry satellite phones in their trucks at all times.

3.6 Incident Reporting

All injuries, fires, accidents and security incidents will be recorded and reported to PCGP and the required regulatory agencies within the required timeframes. The BLM has primary authority to enforce the Right-of-Way Grant and Temporary Use Permit. County and State have jurisdiction over all lands crossed by the Pipeline Project by statute and/or ordinance. The BLM and USFS also have an MOU which provides for law enforcement reciprocity on each respective agency’s land. The federal land managing agencies will take the necessary and appropriate actions to formally close the federal lands to unauthorized users for public health and safety reasons.

If an incident occurs on National Forest System (NFS) lands, the appropriate Federal agent or designee will be notified as soon as reasonably possible, and certainly within 24 hours of the occurrence. Table 3-1 provides contact information for the Forest Service District Coordinators.

Table 3-1 Forest Service District Coordinator Contact Information		
National Forest	MPs	District Coordinator
Forest Service – Umpqua	99.31 to 99.83 100.39 to 100.68 101.20 to 101.89 102.32 to 102.85 104.10 to 113.20	David Krantz 541-618-2082
Forest Service – Rogue River-Siskiyou	153.81 to 154.93 155.45 to 168.01	Dave Palmer 541-560-3400
Forest Service – Fremont-Winema	168.01 to 169.37 170.04 to 171.39 171.59 to 172.71 173.11 to 174.81 174.95 to 175.37	Catherine Callaghan 541-947-6326

If an incident occurs on BLM-managed land, the appropriate District Coordinator will be notified within 24 hours of the occurrence. Table 3-2 provides contact information for the BLM District Coordinators.

Table 3-2 BLM District Coordinator Contact Information		
BLM District	MPs ¹	District Coordinator
Coos Bay District	0.00 to 45.70	Aimee Hoefs 541-756-0100
Roseburg District	45.70 to 109.10	Dorothy Dickey 541-440-4930
Medford District	109.10 to 166.41	Miriam Liberatore 541-618-2200
Lakeview District	166.4 to 228.81	Terry Austin 541-883-6916
¹ See Environmental Alignment Sheets for BLM-managed lands within the mileposts for each BLM District.		

If an incident occurs on lands under Bureau of Reclamation’s jurisdiction, the appropriate Klamath Basin Area Office (KBAO) Coordinator will be notified within 24 hours of the occurrence. Table 3-3 provides contact information for the KBAO Coordinator.

Table 3-3 KBAO Coordinator Contact Information		
Bureau of Reclamation	MPs ¹	Coordinator
KBAO – Klamath Project	200.51 to 214.18	Kirk Young 541-880-2589
¹ See Environmental Alignment Sheets for Reclamation-managed lands within the mileposts for the Klamath Project.		

Table 3-4 provides contact information for the local county sheriff’s offices and state police should an incident occur on federal lands that will require coordination and/or notification to local or state law enforcement.

Table 3-4 Law Enforcement Contacts for Federal Lands		
Department	Office Location	Phone Number
Coos County Sheriff	Coquille, Oregon	541-396-7800
Douglas County Sheriff	Roseburg, Oregon	541-440-4463
Jackson County Sheriff	Medford, Oregon	541-776-7206
Klamath County Sheriff	Klamath, Oregon	541-883-5130
Oregon State Police	Salem, Oregon – main office Central Point, Southern Command - Dispatch	503-378-3720 541-776-6111
Emergencies - 911		

3.7 Mechanical Damage to Underground Facilities

The Contractor will give at least three day advance notification of all work that will be performed within existing pipeline easements, right-of-ways, or property so that site preparation and supervision can be provided. Before commencing any excavation, the Contractor will receive authorization to proceed from PCGP’s Construction Inspector.

The Contractor will utilize the “One Call” system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavation.

3.8 Damaged Pipe

Any dents, gouges, scratches or other similar defects will be brought to the attention of PCGP’s Inspectors as soon as they are detected. Where these observations are not within tolerances specified in the construction contract, they will be repaired according to PCGP’s Policies and Procedures provided in the construction contracts.

911**Emergency Contact Information**
Coos, Douglas, Jackson, and Klamath Counties

Due to the unique location of the Pipeline Project, cell phones and satellite phones may not connect to the nearest 911 call center. If a 911 call center is not available, a direct 24-hour emergency contact number should be used as indicated below by county in the event of an emergency.

PRIMARY PUBLIC SAFETY ANSWERING POINTS FOR 911 DISPATCH

Organization	24-Hour Contact Number	City
Coos County		
Coos County Sheriff	541-396-2106	Coquille
Douglas County		
Douglas County Emergency Communications District	541-440-4471	Roseburg
Jackson County		
Medford Police Department	541-770-4784	Medford
Southern Oregon Regional Communications	541-776-7206	Medford
Klamath County		
Klamath County 9-1-1 Communications	541-884-2152	Klamath Falls

SECONDARY PUBLIC SAFETY ANSWERING POINTS FOR 911 DISPATCH

Organization	Phone	City
Coos County		
Bay Cities Ambulance	541-269-1155	Coos Bay
Coos Bay Police Department	541-269-8911	Coos Bay
Myrtle Point Police Department	541-396-2106	Myrtle Point
North Bend Police Department	541-756-3161	North Bend
Oregon State Police – Central Point Area Command	541-776-6236	Central Point
Oregon State Police – Coos Bay Area Command	541-888-2677	North Bend
Douglas, Jackson, and Klamath Counties		
Oregon State Police Southern Region Communications Center	541-776-6114	Central Point
Oregon State Police – Klamath Falls Area Command	541-883-5713	Klamath Falls
Oregon State Police – Roseburg Area Command	541-440-3334	Roseburg

Emergency Medical Services
Coos, Douglas, Jackson, and Klamath Counties

Facility	City/Department	Phone
Care Flight Services		
Mercy Flights	Medford	800-903-9000
Emergency Airlift	North Bend	541-756-6802
Coos County		
Bay Cities Ambulance	Coos Bay	541-269-1155
Bay Area Hospital 1775 Thompson Road Coos Bay, OR 97420	Level 3 trauma center	541-269-8111
Coquille Valley Hospital 940 East 5 th Street Coquille, OR 97423	Level 4 trauma center	541-396-1059
Southern Coos Hospital 900 11 th Street Bandon, OR 97411	No trauma rating	541-347-2426
Douglas County		
Medic 4 Ambulance	Roseburg	541-673-3225
Mercy Medical Center 2700 Stewart Parkway Roseburg, OR 97470	Level 3 trauma center	541-673-0611
Jackson County		
Asante Ashland Community Hospital 28 Maple Street Ashland, OR 97520	Level 4 trauma center	541-201-4100
Asante Rogue Regional Medical Center 2825 East Barnett Road Medford, OR 97504	Level 3 trauma center	541-789-7100
Providence Medford Medical Center 1111 Crater Lake Avenue Medford, OR 97504	Level 3 trauma center	541-732-6400
Klamath County		
Sky Lakes Medical Center 2865 Daggett Klamath Falls, OR 97601	Level 3 trauma center	541-882-6311

WHEN YOU CONTACT THE DISPATCH CENTER THE DISPATCHER WILL INITIALLY REQUEST THE FOLLOWING INFORMATION:

For medical:

- Exact location
- Your call-back number
- Chief complaint
- Gender and approximate age of subject/victim
- Is the subject /victim conscious and breathing

For fire:

- Exact location
- Your call-back number
- Any persons injured
- What: brush, structure, tree, etc.

For law:

- Exact location
- Your call-back number
- Chief complaint

- Dispatch will then contact the appropriate emergency personnel. It is important that you stay on the line with the dispatcher unless: the situation calls for the need to leave the area, the subject/victim needs your immediate assistance and you are unable to take the phone with you, or the dispatcher advises that it is ok to hang up.
- At this point the dispatcher may have several more questions for you depending on the situation.
- It is helpful to have someone available to meet and escort emergency personnel from a known location (i.e. a mapped county road) to the site of the emergency.

Attached is a form to be used in the event of an emergency. The form should be filled out and placed with any phone line that may be used to call for emergencies.

911
Coos County
Douglas County
Jackson County
Klamath County

THIS FORM SHOULD BE GIVEN TO YOUR SAFETY PERSONNEL, FILLED OUT AND PLACED IN AN ACCESSIBLE LOCATION IN THE EVENT OF AN EMERGENCY.

MAIN LOCATION _____

DIRECTIONS TO LOCATION _____

CALL BACK NUMBER(S) _____

SUPERVISOR CONTACT _____

LANDING ZONE COORDINATES _____

THE LANDING ZONE (LZ) SHOULD BE THE CLOSEST LARGE FLAT AREA TO YOUR MAIN LOCATION. AN OFFICER SHOULD BE ABLE TO GET THESE COORDINATES FOR YOU.



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Sanitation and Waste Management Plan

Pacific Connector Gas Pipeline Project

September 2019

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1.0 INTRODUCTION

The purpose of the Plan is to outline the procedures that will be implemented by Pacific Connector Gas Pipeline, LP (PCGP) and its contractors (Contractor) to manage sanitation and waste materials during construction and operations of the Pacific Connector Gas Pipeline Project (Pipeline or Pipeline Project). The Sanitation and Waste Management Plan is the principal source of direction for the management of solid and construction wastes that will be generated during construction. Definitions of these wastes, according to the Oregon Administrative Rules (OAR 340-093-0030), are provided in Section 2.0. The PCGP Project Plan of Development includes additional plans that describe waste management procedures; these plans include:

- 1) the Contaminated Substances Discovery Plan (Appendix E to the POD), which describes the procedures that would be implemented in the unlikely event that contaminated material is encountered during construction;
- 2) the Overburden and Excess Material Disposal Plan, which describes the measures and locations on federal lands that may be used for the permanent and temporary storage of excess rock, timber, and spoil generated during timber removal and pipeline construction; and
- 3) the Prescribed Burning Plan (Appendix R to the POD), which describes the procedures and Best Management Practices (BMPs) that would be utilized where burning is used to dispose of excess forest slash generated during the construction right-of-way clearing operations; and 4) the Spill Prevention, Containment, and Countermeasures (SPCC) Plan, which includes provisions for the disposal of contaminated articles and soils recovered during a spill event. The Sanitation and Waste Management Plan will be implemented consistently with these other Plans.

2.0 DEFINITIONS

Under OAR 340-093-0030

"Construction and Demolition Waste" means solid waste resulting from the construction, repair, or demolition of buildings, roads and other structures, and debris from the clearing of land, but does not include clean fill when separated from other construction and demolition wastes and used as fill materials or otherwise land disposed. Such waste typically consists of materials including concrete, bricks, bituminous concrete, asphalt paving, untreated or chemically treated wood, glass, masonry, roofing, siding, plaster; and soils, rock, stumps, boulders, brush and other similar material. This term does not include industrial solid waste and municipal solid waste generated in residential or commercial activities associated with construction and demolition activities.

"Solid Waste" means all useless or discarded putrescible and non-putrescible materials, including but not limited to garbage, rubbish, refuse, ashes, paper and cardboard, sewage sludge, septic tank and cesspool pumpings or other sludge, useless or discarded commercial, industrial, demolition and construction materials, discarded or abandoned vehicles or parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid materials, dead animals and infectious waste. The term does not include:

- (a) Hazardous waste as defined in ORS 466.005;

(b) Materials used for fertilizer, soil conditioning, humus restoration, or for other productive purposes or which are salvageable for these purposes and are used on land in agricultural operations and the growing or harvesting of crops and the raising of fowls or animals, provided the materials are used at or below agronomic application rates.

3.0 RESPONSIBILITIES

3.1 PCGP

PCGP will be responsible for:

- Ensuring that all company and Contractor management personnel understand and follow the sanitation and waste management requirements for the Pipeline Project.
- Ensuring that all wastes generated during the Pipeline Project are properly characterized/classified (hazardous, non-hazardous, sanitary, municipal, recyclable, universal and electronic waste).
- Providing the waste classification to the Contractors.
- Arranging for sampling, if waste classification is unknown, to determine classification according to EPA-approved analytical protocols.
- Approving all waste vendors/facilities prior to waste disposal.
- Ensuring that all waste is handled in a manner consistent with the health and safety standards set by federal, state, and local waste regulations, and the Pipeline Project's waste management requirements.
- Ensuring that all spills are handled in a manner consistent with the health and safety code standards set by federal, state and local waste regulations, and the Pipeline Project's waste management requirements (see SPCC Plan – Section VI, included as Appendix X to the POD). Spills and subsequent corrective actions occurring on federal lands would be documented and reported to the applicable federal land managing agency.

3.2 Contractor(s)

The Contractor(s) shall be responsible for:

- Ensuring that all applicable Contractor personnel, including subcontractors, understand and follow the requirements set forth in PCGP's Sanitation and Waste Management Plan.
- Preparing a Pipeline Project-specific Waste Management Plan for PCGP's review and approval.
- Managing and disposing of all waste materials generated during the Pipeline Project according to applicable federal, state, and local regulations, and the Pipeline Project's waste management requirements. In addition, all disposal will be at approved waste disposal facilities.
- Ensuring that all personnel handling waste materials are trained according to the standards set forth by federal, state, and local regulations, and the Pipeline Project's waste management requirements.
- Packaging and labeling all wastes and hazardous materials for storage or shipment in accordance with the requirements set forth by federal, state, and local regulations.
- Keeping records of sanitation and waste management training and disposal manifests and providing copies of these records to PCGP upon request.

- Ensuring that all spills are handled in a manner consistent with the health and safety code standards set by federal, state and local waste regulations, and the Pipeline Project's waste management requirements (see SPCC Plan – Section VI, included as Appendix X to the POD).

4.0 POLICY

PCGP and their Contactor(s) will ensure personnel are properly trained in techniques to minimize the volume of waste generation during construction, operations, and maintenance activities. Materials that would otherwise become a waste will be reused and waste materials will be recycled whenever feasible.

5.0 SANITATION

During construction, the Contractors will comply with sanitation rules under Oregon Occupational Safety and Health Division - OAR 437, Division 3 (Subdivision D, §1926.51). These rules include providing adequate potable water and toilets along the construction right-of-way. PCGP's Contactor(s) will be responsible for contracting with local vendors to supply the adequate number of portable toilets along the construction right-of-way, to maintain and service the toilets, as well as to move the toilets as necessary along the construction right-of-way to ensure areas of active construction are adequately serviced. PCGP will approve the Contactor's(s') selection of vendors and ensure that sanitary wastes are properly disposed of according to federal, state, and local regulations. On federal lands the agency-authorized representative would approve the location of portable toilets. Portable toilets will not be located in Riparian Reserves or other sensitive areas.

6.0 TRASH, FOOD WASTES, AND OTHER CONSTRUCTION DEBRIS

During timber removal, construction, operations and maintenance activities, PCGP will ensure that all trash, food waste, and other items attractive to crows, jays, other corvids, and other animals will be contained and covered at all times, and removed from the project area on a daily basis. PCGP and their Contactor(s) will be responsible for training all project personnel to remove these wastes from the right-of-way and to save/collect these wastes for disposal at the construction yards. PCGP Inspector and Contactor vehicles, crew buses, and equipment shall carry litter bags at all times. PCGP's Environmental Inspectors (EIs) and Utility Inspectors will ensure that these daily "house-keeping" measures are being conducted. The Contactor will provide adequate waste bins/receptacles, including recyclable material receptacles, for the collection and storage of these wastes materials at construction yards. The Contactor will be responsible for properly emptying/disposing of wastes in these receptacles at the construction yards on a weekly or an alternate regular basis in a permitted landfill and contracting with a disposal service to complete these responsibilities. During final cleanup, all construction debris (e.g., mats, garbage, pipe skids, and rope padding, etc.) will be cleared from the construction right-of-way and disposed of in accordance with state and local regulations. PCGP has identified potential solid waste disposal companies, landfills and recycling facilities that may be utilized during construction (see Table 1) and will require the Contactor(s) to identify all disposal locations proposed for use prior to construction. PCGP will ensure that all drilling mud is disposed of in a state and/or local approved landfill.

**Table 1
Solid Waste Disposal Companies, Potential Landfills and Recycling Facilities
Available for Solid Waste Disposal during Construction of the Pipeline Project**

County	Facility	Location
Coos	Bandon Disposal & Recycling	3432 Cedar Street, North Bend
	Coos County Solid Waste/Beaver Hill Disposal Site	55722 Highway 101, Coos Bay
	Public Disposal & Recycling	1210 South Broadway, Coos Bay
	West Coast Recycling & Transfer	1210 South Broadway, Coos Bay
Douglas	Canyonville Transfer Station	600 Jordan Creek Road, Canyonville
	Douglas County Disposal and Recycling Center	I-5 Exit 121, McLain Ave., Roseburg
	Glide Transfer Station	13921 Glide Transfer Road, Glide
	Myrtle Creek Transfer Station	300 Myrtle Creek Transfer Road, Myrtle Creek
	Roseburg Disposal	1308 NW Park Street, Roseburg
	Roseburg Landfill and Transfer Station	165 McLain West Ave., Roseburg
	Reedsport Transfer Station	300 Reedsport Landfill Rd., Reedsport
Jackson	Ashland Recycling Center	220 Water Street, Ashland
	North Pacific Recycling & Textiles	407 Boardman Street, Medford
	Recology Ashland	170 Oak Street, Ashland
	Rogue Disposal & Recycling, Transfer Station	8001 Table Rock Road, White City
	Southern Oregon Sanitation	42 Ball Road, Eagle Point
	Valley View Transfer Station	3000 North Valley View Rd., Ashland
Klamath	Klamath County Solid Waste – Landfill	801 Old Fort Road, Klamath Falls

7.0 TREATMENT OF FOREST SLASH

Treatment of forest slash is described in detail in Section 3.3.2 of the Erosion Control and Revegetation Plan (ECRP) (Appendix I to the POD).

8.0 ROCK REMOVAL/EXCESS OVERBURDEN

FERC's Upland Plan requires the removal of excess rock from the top 12 inches of soil to the extent practicable in all rotated and permanent croplands, hayfields, pastures, residential areas, and other areas as agreed between landowner and PCGP. In these areas, PCGP will clean up excess rock to a condition similar to adjacent portions of the construction right-of-way (e.g., size, density, and distribution of rock) unless the landowner and PCGP negotiate different stipulations. Excess rock and spoil materials will be redistributed along the construction right-of-way in upland areas during restoration regrading in a manner that reflects the original contours and preconstruction drainage patterns. Excess materials will be disposed of in existing quarries and in permanent disposal sites that have been identified along the construction right-of-way. Appendix Q to the POD provides PCGP's Overburden and Excess Material Disposal Plan which describes how these materials will be stored and disposed of on federal lands. (Table A.8-4 in Appendix A.8 to Resource Report 8 of PCGP's Certificate application also identifies the permanent disposal areas that will be located on private lands.) Large rock may be provided to the federal land-managing agencies to be used for instream restoration projects and habitat features. Large rocks and boulders may also be used as OHV barriers along the right-of-way and at road crossings to block access at OHV points to restrict traffic on the right-of-way as described in the Recreation Management Plan (Appendix S to the POD). Additionally, large rocks and boulders may be piled in upland areas along the construction right-of-way to create habitat diversity features where approved by the EI or PCGP's authorized representative and the landowner or land-managing agency. The use of alternate disposal locations will be approved by FERC and, if on federal lands, the respective land-managing agency.

9.0 HAZARDOUS WASTES

All spills will be cleaned up in accordance with the applicable federal, state and local regulations, and the Pipeline Project's SPCC Plan. The Pipeline Project's SPCC Plan, included as Appendix X to the POD, describes the BMPs to store oil; fuel and other hazardous materials; prevent spills of these materials; respond to spills if they occur; and to clean up and dispose of contaminated material resulting from a spill. Attachment B to the SPCC Plan includes a Hazardous Substance Inventory including hazardous waste. This inventory will include a listing of all hazardous waste, quantity of each hazardous waste, and its storage location. The Contractor(s) will store all hazardous waste in a secured location (i.e., fenced and locked) until such time as the material is transported off-site in accordance with the SPCC Plan (provided as Appendix X to the POD). PCGP's EI(s) will inspect these storage areas on a weekly basis to ensure that the waste materials are properly packaged, labeled, and stored according to federal, state, and local regulations. All waste characterized as "hazardous" must have the words "Hazardous Waste" marked on the outside of the storage container along with the date the container was put into storage as well as other OSHA-required labeling requirements. PCGP will ensure that the Contractor(s) disposes of all hazardous waste materials in approved facilities according to applicable federal, state, and local hazardous waste regulations and the SPCC Plan (Appendix X to the POD). PCGP will also ensure that the Contractor(s) transports all waste materials with the proper shipping papers, placards, labels, and manifests, as required by transportation regulations. The Contractor(s) will provide PCGP with all copies of hazardous waste transport manifests and hazardous waste disposal documentation. The Contractor(s) may utilize a remediation firm or a PCGP-approved waste management firm to complete waste disposal activities.



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Spill Prevention, Containment, and Countermeasures Plan

Pacific Connector Gas Pipeline Project

September 2019

SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURES PLAN FOR OIL & HAZARDOUS SUBSTANCES

1.0 INTRODUCTION

This Spill Prevention, Containment, and Countermeasures (SPCC) Plan identifies measures to be taken by Pacific Connector Gas Pipeline, LP (Pacific Connector) and its contractors (Contractor) to prevent, contain and respond to spills during the construction of the Pacific Connector Gas Pipeline (PCGP) Project.

2.0 PLAN DETAILS

The following is a description and listing of the different components of the SPCC Plan:

I. Provisions of Plan and Responsibilities of Employees

A. The goal of the plan:

1. To minimize the potential for a spill.
2. In the event of a spill to contain the spillage in the smallest area possible.
3. To protect areas that are of environmental concern.

B. Responsibilities:

It is Pacific Connector's intent that everything practical is done to minimize the potential for and consequences of a spill during the construction of the Pacific Connector Gas Pipeline Project. Therefore, it is the responsibility of every person associated with the project to be on the lookout for spills or leaks from equipment and take the appropriate action. *Pacific Connector will complete Attachment A (Emergency Contact List) prior to beginning work, provide the attachment to the contractor and inspection personnel and update as required during construction.*

II. Training

The Chief Environmental Inspector (EI) will hold Spill Prevention, Containment, and Countermeasure (SPCC) training prior to the start of any construction for all personnel involved with the project. All personnel added during the course of the project must receive the pre-job SPCC training. No one will be allowed to work on the construction right-of-way without project-specific SPCC training. A second training session will be held for all project personnel just prior to hydrostatic testing of the pipeline to train all those involved on response procedures in case of a hydrostatic test failure. Individual training sessions will also be conducted by the EI for those contractor employees responsible for completing the horizontal directional drills (HDDs). The contractor will be required to maintain a record of those workers that have received training.

III. Hazardous Materials Inventory

Attachment B provides an anticipated inventory of oil, fuel and hazardous substances that will be utilized during construction which, if released, may pose a threat to human health or the environment. In addition, Attachment B provides the reportable quantity

(RQ)¹ for each of these materials. Material Safety Data Sheets (MSDS) for each of these chemicals is presented in Attachment B. *Attachment B must be completed by the contractor and MSDSs provided by the contractor prior to beginning work and updated as required during construction.*

Any materials brought to the construction right-of-way, yard or temporary extra work areas will be inventoried, reported to the EI and managed in accordance with the guidelines in this plan.

IV. Precautions for Spill Prevention and Control Equipment and Material Locations

A. Spill Prevention and Control:

Hazardous substances, chemicals, fuels and lubricating oils will not be stored within 150 feet of waterbody banks or wetlands or within 200 feet of water supply wells (400 feet of municipal or community water supply wells). Equipment will not be fueled or maintained in wetlands or within 150 feet of waterbody banks or wetlands or within 200 feet of water supply wells (400 feet of municipal or community water supply wells) unless the procedures specified in Section IV. A. 1. e. of this Plan are utilized. Each of the no fueling areas will be clearly identified and their limits staked in the field. To assure that storage and fueling occur in an environmentally acceptable location, the EI must approve the location of all oil, hazardous substance, and chemical storage and fueling areas, other material storage areas and construction equipment maintenance areas prior to their use.

In compliance with 48 CFR Chapter 4 Part 452.236-74, pollutants such as fuels, lubricants, bitumens, raw sewage, and other harmful materials shall not be discharged on the ground; into or nearby rivers, streams, or impoundments; or into natural or man-made channels. Wash water or waste from concrete or aggregate operations shall not be allowed to enter live streams prior to treatment by filtration, settling, or other means sufficient to reduce the sediment content to not more than that of the stream into which it is discharged.

1. Fueling, lubricating or maintaining equipment.

- a. Fuels and lubricating oils will not be stored and equipment will not be fueled, lubricated or otherwise maintained in wetlands or within 150 feet of waterbody banks, wetlands, or Bureau of Reclamation (Reclamation) facilities or within 200 feet of water supply wells (400 feet of municipal or community water supply wells), unless the procedures specified in Section e. below are utilized. Each of these areas will be clearly identified and their limits staked in the field.
- b. All vehicles used to transport lubricants and fuel must be equipped with an emergency spill response kit. At a minimum this kit must include:
 - Ten, 48" x 3" oil socks;

¹ RQs for specific constituents can be found from one or more of the following:

- 1) 49 CFR 172;
- 2) 40 CFR Part 302; or
- 3) MSDS documents.

- Five, 17" x 17" oil pillows;
 - One, 10' x 4" oil boom;
 - Twenty, oil absorbent mat pads (Pigalog MAT415 or equivalent);
 - Garden size, 6 mil, polyethylene bags;
 - Ten pair of liquid proof gloves compatible with materials on-site; and
 - One, 55-gallon polyethylene open-head drum.
- c. Any fuel or lubricant spilled to the ground during fueling or maintenance of equipment will be cleaned up and properly disposed of immediately. This includes all soil contaminated by the spill.
- d. If vehicles/equipment require maintenance on-site, the contractor will install drip pans or other suitable containment devices to collect all fluids. Under no circumstances will the contractor allow material from the liner to spill on the ground surface. All waste fluids will be removed from the site and disposed of properly.
- e. Where site-specific conditions/constraints require equipment (including boring machines) to be refueled in wetlands or within 150 feet of waterbody banks, wetlands, or Reclamation facilities or within 200 feet of water supply wells (400 feet of municipal or community water supply wells), the following procedures will be implemented to avoid or minimize potential spills.
1. Where possible, the refueling location will be selected with the best topography to prevent or limit any potential spill from entering a wetland or waterbody.
 2. The equipment being refueled will only be filled to $\frac{3}{4}$ capacity to prevent accidental spills from overflowing.
 3. Oil absorbent mat pads or diapers will be placed around the equipment's fuel tank opening to absorb any drips/spills.
 4. Drip pans or other suitable containment/liner materials (i.e., plastic sheeting) will also be placed under equipment to ensure that any fuel spills or drips are contained. Under no circumstances will the contractor allow material from the liner to spill on the ground surface. All waste fluids will be removed from the site and disposed of properly.
2. Dewatering pumps, generators and hydrostatic test pumps.
- a. Pumps and generators used for dewatering or hydrostatic testing within or in the vicinity (within 150 feet) of waterbodies, wetlands, or Reclamation facilities or within 200 feet water supply wells (400 feet of municipal or community water supply wells) will be set in containment structures.
1. Containment structures may be constructed out of strawbales and lined with a minimum of 2 plastic sheets (6 mil plastic) that drape to the ground outside the structure. However, containment structures for small portable pumps/generators may consist of plastic basins such as a child's pool or other similar containers as approved by the EI. The EI may consult with a federal inspector to

- determine appropriate types of containment structures on federal lands. The basins shall not be reused if cracked, punctured or contaminated with oil or grease.
2. Fuel for pumps and generators will be carried in by hand and removed immediately after fueling takes place. Under no circumstances will fuel or lubricants be stored within the containment structure.
 3. "Heavy Duty" garbage bags for disposal of used materials and a supply of 40 absorbent pads will be kept in the containment structure.
 4. When the containment structure is dismantled, the plastic sheeting will be placed in trash bags and immediately hauled away for proper disposal.
3. Leaks in hoses or fittings on equipment.
 - a. The contractor will visually inspect all equipment for leaks and repair all leaks prior to moving the equipment onto the construction right-of-way.
 - b. Any leaks that develop while equipment is in use will be repaired immediately. The equipment will not be utilized until repairs are completed.
 - c. A minimum of 40 absorbent pads will be kept on all pieces of equipment. When used, they will be properly disposed of and replaced immediately.
 4. Hose or fitting (valves, seals, gaskets) failure or rupture. Contain spills immediately to reduce spill to the smallest area possible and follow the procedures in this plan.
 5. Fuel storage tanks and hazardous materials containers
 - a. All fuel storage tanks/hazardous material containers will be located inside earthen-diked berms designed to hold 1.5 times the capacity of the largest tank/container within the berm. The diked area will incorporate a 12-mil (or thicker) liner in its design. The tank will be set directly on the liner. Non-abrasive padding may be used under the tank to provide stability as long as the integrity of the liner is not compromised. The purpose of this liner is to protect soils located under the tank or used in dike construction from contamination. Any spilled materials located on the liner will be removed immediately and prior to dismantling the tank and dike.
 - b. Prior to their use, the contractor will visually inspect each tank for cracks, excessive corrosion, or other flaws which may compromise the integrity of the tank. Hoses and valves will be similarly inspected. If the contractor determines that the equipment is in good mechanical condition, it may be moved onto the right-of-way which includes staging areas and pipe yards. Otherwise, the equipment will be rejected and alternative equipment in good condition employed.
 - c. The contractor will inspect the integrity of all dikes and the liner at least daily and repair the dikes or replace the liner immediately if they become breached or torn.

- d. It may be necessary to drain accumulated stormwater from within the diked area containing fuel storage tanks. If the stormwater has been contaminated with fuel or other pollutants, all water will be removed by vacuum truck or similar means and hauled to a disposal facility approved by the State of Oregon. However, if no oil sheen is present and there are no other visible signs of pollution, the stormwater may be left to evaporate within the dike after the tank has been removed. Under no circumstances will the contractor allow the surface discharge or other release of water contained within the diked area without the prior approval of the EI or a federal inspector on federal lands.

B. Material locations:

1. Each work site will have on hand and maintain emergency response equipment. While construction activities are ongoing, all such equipment will be inspected daily for operability and accessibility. The location of fire extinguishers and related emergency response equipment will be clearly marked with signs. Each foreman in charge of construction activities will be provided with and will maintain readily accessible, a copy of this plan.
2. The contractor will designate a single individual who will be responsible for maintenance of all emergency response/spill response materials and equipment.
3. Spill absorbent material and booms of adequate size and number to handle a spill of fuel or other hazardous materials will be stored at a central location(s) readily accessible to each construction crew for immediate response in case of emergency. The location of these stockpiled materials will be at designated locations to be determined prior to the start of construction. If these materials are not stockpiled at the site as required by this plan, construction will not be allowed to commence.
4. At a minimum the following spill control materials will be included in each centrally located spill response kit stockpile:
 - Six bales (200 count each) of absorbent mat pads (Pigalog MAT423 or equivalent);
 - Four boxes of absorbent spaghetti strips (Pigalog PLP402 or equivalent);
 - Four boxes of absorbent pulp (Pigalog SA8010 or equivalent);
 - 300 feet of 5 or 8-inch diameter absorbent skimmer boom material (Pigalog BOM 408 or equivalent);
 - 20 straw bales;
 - 10 packages of garden size, 6 mil, polyethylene bags;
 - Ten pair of liquid proof gloves compatible with materials on site; and
 - One, 55-gallon polyethylene open-head drum.

Absorbent pads, spaghetti, pulp, and booms will be of the type that is capable of absorbing petroleum products but repels water. (The above list may be modified by the EI in consultation with Pacific Connector's Environmental Representative to better fit the needs of the project).

5. A minimum of 40 absorbent pads will be kept on each piece of equipment. When used, they will be properly disposed of and replaced immediately.

6. The contractor will stockpile bales of straw on or adjacent to the construction right-of-way for the sole purpose of emergency response. After construction is complete, the unused straw may be utilized as mulch in upland areas during reclamation.
 7. Contractor foremen and EIs will keep a minimum of one bale (200 count) of absorbent pads in their vehicles.
- V. Spill Response: Initial response to an emergency will be to protect human health and safety, and then the environment.
- A. Initiate Control, If Safe. Make every effort to stop source of spill and contain spill.
 - Shut off equipment;
 - Shut off source of spill, if possible;
 - Warn all personnel at the construction site, stop all vehicular traffic and work in the area, and remove unnecessary personnel;
 - Immediately contact the EI and report observer's name, location, nature and extent of spill;
 - Contain the spill to the smallest area possible and stop it from reaching waterways or other sensitive areas (i.e., wetlands, waterbodies, wells, etc.);
 - Block spill with backhoe or other equipment as necessary;
 - Construct ditch or dike around spill as necessary - earthen dike, strawbales, sand bags;
 - Install straw barriers and booms in stream;
 - Excavate side pool and isolate spill; and
 - Dam stream channel to stop movement of the spill, if necessary.
 - B. Conduct Initial Assessment (note the following):
 - Observers name;
 - Any injuries and their extent;
 - Location, time and approximate size of spill area;
 - Type and approximate amount of material spilled;
 - Status of source;
 - Did the spill enter a waterbody? Is there a threat to a waterbody; and
 - If not contained, direction spill is heading and rate of release.
 - C. Contact Pacific Connector's Environmental Inspector (EI) Or Chief Inspector
 - Provide the information collected above;
 - EI or Alternate will be the Emergency Coordinator; and
 - The EI will contact and dispatch necessary personnel. If the accident is beyond the capabilities of the equipment and material located on-site to handle, the EI will contact appropriate County emergency assistance (i.e., County HazMat Team) and Pacific Connector's Environmental Representative.

- D. EI or Alternate Contact Pacific Connector's Environmental Representative (ER)
- Obtain initial assessment Information;
 - Contact County emergency response agency as appropriate;
 - Notify appropriate State officials;
 - Report any spill that enters any water to the U.S. Coast Guard National Response Center (800) 424-8802;
 - Report any spill that enters any facility, land, or waterbody under the Bureau of Reclamation, Klamath Project's jurisdiction (541) 883-6935 (Environmental Management Systems Coordinator or Environmental Compliance Branch);
 - Assist contractor and EI in coordinating response and clean-up; and
 - Assist contractor and EI to ensure proper dispose of all waste.
- E. Pacific Connector's Construction Superintendent
- Provide equipment and manpower as necessary to quickly and safely control and cleanup the spill; and
 - Evaluate spill source and determine if procedural changes are necessary to prevent similar future events.
- F. Pacific Connector's Environmental Representative
- Evaluate initial assessment information and assist as required in notification of agencies;
 - Coordinate and approve disposal of waste materials;
 - Conduct cleanup inspection if required; and
 - Evaluate spill source and determine if procedural changes are necessary to prevent similar future events

VI. Cleanup and Disposal of Spills

The following section outlines specific procedures to be followed by the Contractor and Pacific Connector when addressing releases. At all times, worker and public safety is a paramount consideration and should be contemplated in all spill response situations.

1. All spilled liquids and contaminated materials will be cleaned up immediately. Restrict spills to the containment area if possible by stopping or diverting flow from the oil/fuel tank. Every effort shall be made to prevent the seepage of oil into soils and waterways.
2. If a release occurs into a facility drain, nearby stream, or wetland, immediately pump any floating layer into drums. For streams and wetlands, place a barrier between the release area and the site boundary. This barrier may include but is not limited to oil booms, hay bales, and under flow dams. As soon as possible excavate contaminated soils and sediments.
3. Cleanup of contaminated materials includes the removal of all soils which have been subjected to the pollutant. If necessary, the EI may require the contractor to collect samples of soil strata below the spill to assure that all contaminated soils have been removed from the site. On federal lands, soil samples may be required by a third party after any cleanup of contaminated materials. For larger quantities of soils,

- construct temporary waste piles using plastic liners. Plastic-lined roll-off bins shall be leased for storing this material as soon as feasible.
4. All materials used to clean-up the spill will be double bagged and inspected prior to removal from the spill site. All vegetation contaminated by the spilled material will be similarly collected, bagged and disposed at an approved State of Oregon Department of Environmental Quality (DEQ) disposal facility.
 5. Dispose of oily soils and contaminated articles in accordance with applicable federal, state and local regulations. Decontaminate all emergency response equipment used during the incident before storing. Decontamination of equipment used to clean any spill shall occur within a containment structure such as a drip pan or other suitable container/liner such that the contaminated material can be properly contained and hauled off to a DEQ approved disposal facility.
 6. Transportation manifests, disposal receipts and weight tickets will be supplied to the EI and be made available to federal inspectors upon request.

Disposal of Contaminated Materials/Soils

1. The Contractor shall be responsible for the proper disposal of wastes generated by their actions, including obtaining applicable authorization, registrations, and/or EPA/State I.D. Numbers.
2. All contaminated articles and soils recovered during a release event shall be properly handled and stored in approved DOT containers.
3. In accordance with Pacific Connector's policy, all wastes generated as a result of spill response activities shall be analyzed to determine if they are hazardous, unless knowledge of contaminant(s) is applied to classify these wastes/spill materials as non-hazardous.
4. Those wastes determined to be hazardous shall be properly labeled, profiled, and manifested to an authorized DEQ hazardous waste treatment, storage, and disposal facility.
5. Pacific Connector may utilize a remediation firm or a waste management firm to initiate waste disposal activities.
6. At no time shall hazardous waste be stored on-site for a period exceeding 90 days.
7. Hazardous wastes shall be stored in a secured location (i.e., fenced and locked) until such time as this material is transported off-site.
8. Non-hazardous, oil contaminated soils and articles shall be properly disposed of at authorized non-hazardous land disposal facilities. While on-site, these materials shall be managed in accordance with the procedures outlined previously, and with applicable federal, state, and local regulations.

VII. Response to Hydrostatic Test Failure

All available personnel will be put into groups of 2 or 3. The groups will be strategically located along the test section. Each group will have a radio, a minimum of one bale (200 count) of absorbent pads, 200 feet of double absorbent booms, 10 fence posts, 1 post driver, 200 feet of rope, and a knife. Radio communication will be used to alert others of the rupture location. Booms and pads will be used at the site and downstream of the rupture on any waterbody to which the ruptured water may be headed. The EI will take water samples to check for oil and grease residues from the rupture pit and downstream of each set of booms installed. A proper chain of custody form will be completed and samples sent to a local laboratory for analysis. On federal lands, all hydrostatic test failure sites resulting in any breach shall be reviewed by a federal inspector in conjunction with EI.

ATTACHMENT A Emergency Contact List

Emergency all Counties– 911

Coos County Fire and Sheriff's Department – 541-488-1095

Douglas County Fire and Sheriff's Department – 541-440-4450

Jackson County Fire and Sheriff's Department – 541-774-6800

Klamath County Fire and Sheriff's Department – 541-883-5130

Oregon Department of Environmental Quality – Spills contact nearest DEQ office

Coos Bay – 541-269-2721

Medford – 541-776-6010

Roseburg – 541-440-3338

Oregon Emergency Response System (OERS) – 800-452-0311

National 24-Hour Spill Response Center (Coast Guard) - 1-800-424-8802

Forest Service Contacts (to be updated prior to construction)		
Name	Title	Telephone Number
Umpqua National Forest		
Robert Marshall	Tiller Ranger District Hazardous Materials Coordinator & Spill Coordinator	541-825-3122
Kevin Sands	Tiller Ranger Alternate	541-825-3132
John Beagle	Forest-wide Hazardous Materials Coordinator	541-957-3397
Mikeal Jones	Forest-wide Spill Coordinator	541-957-3356
Debra Gray	Forest-wide Alternate	541-957-3405
If above personnel are unavailable	Forest Dispatcher	During business hours: 541-957-3325 After business hours: 541-672-6601
Rogue River-Siskiyou National Forest		
Steve Rucker	High Cascades Ranger District Hazardous Materials & Spill Coordinator	541-560-3421 (cell: 541-944-9916)
Pete Jones	Forest-wide Hazardous Materials & Spill Coordinator	541-858-2632
If above personnel are unavailable	Forest Dispatcher	During business hours: 841-618-2510 After business hours: 541-776-7114 or 541-858-2200
Fremont-Winema National Forest		
Waiyen Yee	Hazardous Materials & Spill Coordinator	541-883-6813 (cell: 541-891-6977)
Rich Kehr	Alternate Contact	541-883-6722 (cell: 541-891-0143)
If above personnel are unavailable	Forest Dispatcher	During business hours: 541-883-6850 After business hours: 541-884-0516 or 541-947-6200
Bureau of Land Management – Coos Bay & Roseburg Districts (to be updated prior to construction)		

Paul Gammon	Hazardous Materials and Spill Coordinator	541-751-4463
Bureau of Land Management – Medford District (to be updated prior to construction)		
Sonia Mason	Hazardous Materials Alternate	541-618-2287
Bureau of Land Management – Lakeview District (to be updated prior to construction)		
Tom Cottingham	Hazardous Materials Coordinator	541-883-6916
Bureau of Reclamation (to be updated prior to construction)		
Kirk Young	Natural Resource Specialist & Environmental Management Systems Coordinator	541-883-6935
Kristen Hiatt	Environmental Compliance Branch Chief; Alternate Contact	541-883-6935

EMERGENCY SPILL COORDINATOR (ESC), usually the Chief EI

Name: _____ Method of Contact: _____
 Alternate Phone #:

AUTHORIZED ALTERNATE (Contact only if you are unable to reach the ESC)

Name: _____ Method of Contact: _____
 Alternate Phone #:

CONTRACTOR

Name of construction foreman and his/her designated representative, and method of contact. This information to be provided by contractor.

Name: _____ Method of Contact: _____
 Alternate Phone #:

CONTRACTOR SPILL MATERIAL COORDINATOR

This person is responsible for maintaining all spill control equipment and material. This information to be provided by contractor.

Name: _____ Method of Contact: _____
 Alternate Phone #:

PACIFIC CONNECTOR'S ENVIRONMENTAL REPRESENTATIVE

Name:
 (Office)
 (Cell)

PACIFIC CONNECTOR'S ALTERNATE ENVIRONMENTAL REPRESENTATIVE

Name:
 (Office)
 (Cell)

ATTACHMENT B

HAZARDOUS MATERIALS INVENTORY

Material	Quantity (gallons)	Storage Location	Reportable Quantity (include reference)
Oil/Fuel:			
Commercial Chemicals:			
Hazardous Wastes:			

The contractor will designate an individual who will be primarily responsible for maintenance and placement of spill control materials and equipment. This individual will assure that all control equipment is in place and operational prior to the start of construction.



**Pacific
Connector**
GAS PIPELINE

Pacific Connector Gas Pipeline, LP

Transportation Management Plan

Pacific Connector Gas Pipeline

September 2019

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Timber Removal and Construction (2014 versions provided; BLM is updating A1, B1, C1, C2, and C3)

Appendix A1	Authorized Roads Maps - Timber Removal and Construction
Appendix B1	Road Maintenance Maps – Timber Removal and Construction
Appendix C1	BLM/COQ Authorized Roads Table – Timber Removal and Construction
Appendix C2	BLM/COQ Authorized Roads Table – Timber Removal Only (Federal and Non-Federal)
Appendix C3	BLM/COQ Authorized Roads Table – Federal Timber Removal Only
Appendix D1	FS/BOR - Authorized Roads Table – Timber Removal and Construction (updated September 2019)

Operations and Maintenance (to be generated in coordination with BLM/FS/BOR following construction)

Appendix A	Authorized Roads Maps – Operation and Maintenance of the Pipeline
Appendix B	Road Maintenance Maps – Operation and Maintenance of the Pipeline
Appendix C	BLM Authorized Roads Table – Operation and Maintenance of the Pipeline
Appendix D	FS/BOR – Authorized Roads Table – Operation and Maintenance of the Pipeline

Appendix E	Definitions
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1.0 INTRODUCTION

Federal regulations require a Plan of Development (POD) for gas pipeline rights-of-way over federal lands with the estimated schedule for constructing, operating, maintaining and terminating the project. This Transportation Management Plan (TMP) describes the measures to be employed by Pacific Connector Gas Pipeline, LP (PCGP) and its contractors (Contractor) in the construction, use, and maintenance of Roads under the jurisdiction of the BLM, USFS and Bureau of Reclamation (Reclamation), (Agency(ies)) which are necessary to provide and maintain access to the Pacific Connector Gas Pipeline (Pipeline or Pipeline Project) during construction and operation. This TMP describes the anticipated use of these Roads for construction and/or timber removal for the duration of the Temporary Use Permit (TUP), serial No. OR 63542-01 and for operation, maintenance and/or termination of the pipeline during the duration of the Right-of-Way Grant (Grant) serial No. OR 63542. This TMP also includes details regarding timber removal and construction access Road improvements, Road maintenance and management of use before, during, and after construction. A final TMP will be submitted by PCGP to the Agencies for approval prior to issuance of the TUP and Grant. This TMP applies to Agency-jurisdiction Roads located on Agency and privately-owned land. PCGP will be required to comply with this TMP during the term of the TUP and Grant.

This TMP includes sections covering the following topics:

- Defines Agency and PCGP roles and responsibilities and identifies required agreements and permits and necessary coordination with other non-project activities.
- Identifies activities related to the construction, reconstruction, upgrading, decommissioning, and maintenance of Pipeline Project-affected roads, bridges, culverts, and other miscellaneous Pipeline Project-induced impacts; as well as traffic management and reporting requirements.
- Discusses the procedures for how the TMP may be updated and revised over the term of the TUP and Grant. Supplementing this TMP are 1) the TUP Exhibit F – Transportation Stipulations (for construction, timber removal and Initial Operation Period) of the pipeline which provides authorizations, definitions, Road use reporting and license agreement requirements as well as general Road use rules and construction stipulations that apply for all Agency-jurisdiction roads, and 2) the Grant Exhibit F – Transportation Stipulations which provides authorizations, definitions and requirements for Road use for operations, maintenance and/or termination of the Pipeline and PCGP shall also comply with all provisions and requirements found in the Grant and TUP Exhibits F. The Exhibits F go hand-in-hand with and must be administered with the TMP.

1.1 PURPOSE AND INTENT

The TMP is intended to cover all Pipeline Project transportation-related activities involving Agency-jurisdiction roads or rights-of-way and identifies ongoing cooperative procedures. The purpose and intent of the TMP is to:

- Identify a process to annually coordinate all transportation-related activities required for the continued operation of the Pipeline.

- Identify all Agency-authorized Roads and bridges necessary for the continued efficient operation of the Pipeline through the term of the Grant.
- Provide for a uniform federal response to Pipeline-related actions within Federal Lands through the identification and consistent application of roadway policies, requirements, and construction and maintenance specifications and Best Management Practices (BMPs).
- Provide for the protection of Road and adjacent off-road resources during road use and construction and as per any agreements or stipulations set forth in the Grant or TUP.
- Comply with policies and prescriptions identified in the Agencies Land and/or Resource Management Plans.
- Maintain the authorized transportation-related facilities to agreed-upon standards and avoid or mitigate impacts to off-road resources.
- Provide for public health and safety during and following Pipeline activities.

1.2 PLAN IMPLEMENTATION ACTIVITIES SUMMARY

The TMP addresses resource management needs and related transportation system actions for the Pipeline. The TMP includes a number of specific activities:

- **Road Maintenance, Modifications and Reconstruction:** defines the Road maintenance, reconstruction and related modification activities of PCGP and discusses road reconstruction, modification and maintenance standards, design proposal review and approval scheduling and coordination.
- **Road Decommissioning:** defines Roads to be decommissioned by PCGP and scheduling and decommissioning standards.
- **Culvert/Bridge Upgrades:** defines culverts and/or bridges to be replaced or upgraded by PCGP and identifies applicable standards, design review and approval requirements and scheduling.
- **New Road Construction:** defines a process for new or temporary Road development for Pipeline Project purposes.
- **Traffic Management:** addresses road and work area signing standards, and hazard analysis. Discusses the process for PCGP proposing and implementing measures for management of Off-Highway Vehicle (OHV) use of Pipeline facilities to the extent feasible.
- **Annual Transportation Meeting:** to facilitate efficient coordination and action with the Agencies. The annual transportation meeting will be held prior to March 1 of each construction year and will identify activities within the Pipeline Project area and coordination with other planned activities. At the completion of Pipeline construction, transportation management meetings will be held between PCGP

Operations and Agency staff specialists to address road access requirements for the operation of the Pipeline.

- Consistency with Other Plans: the TMP is one of several Plans of Development that provide implementation direction and guidance for PCGP. The TMP is the principal source of implementation direction for the activity listed and will be implemented to be consistent with other applicable Plans.

2.0 RESPONSIBILITIES

PCGP will be responsible for ensuring that all company and Contractor personnel understand the requirements for transportation uses over Federal Lands and Roads. PCGP will be responsible for performing or paying their commensurate share for maintenance and cost recovery/cost share in accordance with applicable federal regulations, including but not limited to 36 CFR §212.5(c), 36 CFR §212.5(d), and 43 CFR §§429, 2812, 2800 and 2880. All reconstruction and use activities on Road segments affected by Pipeline Project activities will abide by all stipulations shown in the Grant and/or TUP. Any damage to Roads as a result of PCGP's use will be repaired to match pre-existing or better condition in accordance with Agency-specific guidelines. Roads will be maintained as necessary to minimize resource impacts and prevent Road damage. Maintenance standards shall be consistent with the Maintenance Level of the Road. All maintenance, Road modifications, reconstruction and decommissioning shall comply with applicable Agency BMPs. All required permitting, surveys (biological, cultural, etc.) and NEPA activities will be performed by PCGP and performed to a standard to comply with current Agency requirements. PCGP will provide funding to reimburse the Agencies for any expenses incurred by the Agency in performing required design reviews, approvals, and monitoring during planning, construction and operation. PCGP will ensure that access is maintained where pipeline construction crosses existing roads.

PCGP will provide open communication with other Road users, landowners, and land managing agencies to ensure they are apprised of the pipeline construction schedule so that all appropriate measures can be taken to minimize potential Road use impacts and conflicts. Where necessary, PCGP will enter into Road maintenance agreements with third-party users to ensure that adequate maintenance is performed. PCGP will ensure that construction schedules are developed and communicated to Contractors to minimize potential Road use impacts. PCGP will notify the Agencies, private landowners, and interested third parties at least seven (7) business days in advance of planned road work. This notification will include planned road work on any non-federal roads that would directly affect access to federally-managed Roads or lands. In some instances, unforeseen changes to the construction schedule or emergency actions may limit the advance notice to agencies and landowners. PCGP will make every effort to provide at least a 48-hour notice in these cases.

2.1 Existing Access to the Right-of-Way

Existing Agency-jurisdiction Roads proposed for use by PCGP are shown on the **TMP Maps** as follows:

- Appendix A - Authorized Roads Maps – Operation and Maintenance of the Pipeline
- Appendix B – Road Maintenance Maps – Operation and Maintenance of the Pipeline

- Appendix A1 - Authorized Roads Maps - Timber Removal and Construction
- Appendix B1 - Road Maintenance Maps -- Timber Removal and Construction

The authorized Roads are also listed in tabular form on the following **TMP Tables**:

- Appendix C - BLM Authorized Roads Table – Operation and Maintenance of the Pipeline
Appendix D - FS/BOR – Authorized Roads Table – Operation and Maintenance of the Pipeline
- Appendix C1 - BLM/COQ Authorized Roads Table – Timber Removal and Construction
- Appendix C2 - BLM/COQ Authorized Roads Table – Timber Removal Only (Federal and Non-Federal)
- Appendix C3 - BLM/COQ Authorized Roads Table – Federal Timber Removal Only
- Appendix D1 - FS/BOR - Authorized Roads Table - Timber Removal and Construction

Roads are also shown on the following **Grant and TUP Exhibits**:

- Grant Exhibit A – As-Built Alignment Sheets and Site Location Drawings (to be provided after project completion)
- Grant and TUP Exhibit A1 - Alignment Sheets and Site Location Drawings Issued for Construction

These Roads are either located on lands administered by the Agency or acquired via an easement obtained by the Agency from a private landowner.

Roads were selected by PCGP to minimize transportation impacts and allow for safe, efficient construction and movement of equipment and materials. The Agencies will authorize PCGP to use these Roads to the extent that existing access rights are available and use is consistent with the limitations and stipulations as presented in this TMP and all Appendices herein. PCGP will be required to secure any additional access rights where necessary. Authorized uses in the TUP and/or Grant will include access for timber removal and/or construction, ingress and egress, and operation, maintenance and/or termination of the pipeline as presented in the Appendices, with some Roads being limited to removal of timber only.

The TMP document and corresponding appendices will be updated by PCGP prior to any commensurate share Road maintenance cost calculations and during the construction and maintenance phases of the Pipeline Project as access roads are added or removed from use. The updated information provided by PCGP will include actual truck counts per access Road segment in a format acceptable to the jurisdictional agency. Any additional Roads proposed for Pipeline Project use will be submitted for approval through the Federal Agencies having jurisdiction over the requested access Road.

2.1.1 Federal, State, and County

PCGP will acquire all required federal, state, and county road use permits and approvals and the Contractor will be responsible for following any maintenance or improvement requirements associated with the Road use permits or approvals.

2.1.2 Private

PCGP will obtain landowner agreements for any use of private roads. All conditions agreed to with the landowner must be met by the Contractor for continued use of the road. Where access is not available to Agency lands or Roads, and in cases of private roads of mutual interest, PCGP will coordinate with the appropriate Agency(ies) in the identification and acquisition of access rights related to the right-of-way locations for the Grant and TUP.

2.2 Anticipated Road Work

Road maintenance and improvement/reconstruction (i.e., spot rocking, grading to remove ruts, resurfacing, culvert replacement, clearing of vegetation, dust abatement, danger tree removal, drainage cleanout, road widening, turnout construction, etc.) may be needed on some Agency roads to accommodate oversized and heavy construction equipment. In general, roadwork will involve a minimal amount of site disturbance and earthwork necessary to make the roads useable for timber removal and construction access needs. However, where construction schedules require Road use outside of the normal operating season, more substantial work such as surfacing or resurfacing of Roads may be necessary. No maintenance or improvements will be allowed on any road not authorized for use or approved for improvements. All construction, reconstruction and improvement of Road crossings of Reclamation canals or drains will meet the standards of the Reclamation document, "Engineering and O&M Guidelines for Crossings," (April 2008) (Exhibit H of the Grant and TUP); construction and improvement designs would be reviewed by Reclamation engineering staff. All maintenance and improvements will be completed in accordance with Pipeline Project requirements and Agency, state, county and private landowner standards. PCGP has initiated and will complete all required cultural and environmental surveys along the proposed access Roads identified on the Alignment Sheets (Grant Exhibit A and TUP/Grant Exhibit A1) and in Appendices A and A1 to this TMP prior to approval of the Grant and TUP.

2.2.1 New Permanent and Temporary Road Construction

PCGP proposes to construct new temporary access Roads (TARs) and permanent access Roads (PARs) across Federal Lands at locations shown on maps in:

TMP Appendices A, A1
TMP Appendices C, C1, C2, C3, D and D1.

PCGP will submit design drawings, including plan and profile sheets, to the affected land managing agency for review and written approval prior to the commencement of Road construction activity. PCGP will be responsible for performing Road maintenance on all newly-constructed Roads on Federal Lands and decommissioning of temporary Roads as specified in this plan. New Permanent and Temporary Access Roads constructed for Pipeline Project use will meet Agency engineering design and road management standards consistent with the intended use of the road and all applicable Agency BMP's.

2.2.2 Maintenance Standards

PCGP will perform or make commensurate share payment(s) for maintenance on existing Agency roads used during construction and any subsequent non-casual use in accordance with USDA-FS Manual Chapter 7730, the USDA-FS Handbook section 7709.59, Chapter 60, BLM Manual 9100 Series and the various BLM District Resource Management Plans and as shown in TMP Appendices C1, C2, C3, D, and D1.

Existing Agency-jurisdiction Roads will be maintained to ensure compliance with any applicable Road Use Permit, Reclamation standards for “Engineering and O&M Guidelines for Crossings” (Exhibit H of the Grant and TUP), the Grant and TUP, this TMP and in consultation with the Agencies regarding current standards for the maintenance level identified for the Road(s). Roads constructed by PCGP on Agency lands will be maintained to standards approved by the Agency.

To facilitate consistency across the Pipeline Project, Agencies have agreed to utilize the most current USDA-FS, Pacific Northwest Region (Region 6), standard timber sale road maintenance specifications (“T-specs”) and Pipeline Project specific supplemental specifications as appropriate. Agency Roads requiring PCGP maintenance and associated specifications are shown on maps in TMP Appendices B and B1 and in tables in TMP Appendices C, C1, C2, C3, D, and D1. Copies of the specifications are available from the Supervisor’s Office of any National Forest in Region 6.

Paved Roads will be kept free of mud and other debris that may be deposited by construction equipment. Track-driven equipment would cross paved Roads on tires or equipment pads to minimize Road damage. Any paved, gravel, or dirt roadways damaged by construction activities will be repaired to a condition equal to or better than the condition prior to damage. Agencies may require PCGP to provide selected pre-use Road and/or sign condition surveys, including photos or video, to aid in assessing use-induced changes.

2.2.3 Straightening, Widening, Cut and Fill, Culverts and Bridges

In general, BLM- and USFS-jurisdiction Roads are single-lane forest Roads designed and built primarily for removal of timber using conventional log trucks. PCGP’s pipe-stringing trucks will be hauling 40- to 80-foot sections of pipe to the construction right-of-way. The total length of these vehicles will be approximately 100 feet. These vehicles may track outside of the existing Road width, especially on corners. Due to the size of vehicles that will use access Roads, some minor improvements (straightening, widening, cut and fill, and/or culvert improvements) may be required to some of these existing Roads. These Roads have been identified and are shown or described on:

TMP Appendices B and B1 maps

TMP Appendices C, C1, C2, C3, D and D1 tables

In some circumstances, it may also be necessary to construct turnouts for oncoming traffic to “pull out” of the existing Road footprint for passing purposes.

Areas requiring these minor improvements will be flagged by PCGP for field review by the authorizing Agency prior to construction. Proposed modifications to existing Roads to accommodate equipment access will be submitted for review to the applicable Agency Office

and will meet the agreed-upon Agency design criteria. No improvements will be made until signed approval from the Agency is received.

All required permitting, surveys (biological, cultural, etc.), and NEPA activities will be performed by PCGP and performed to a standard to comply with current Agency requirements. All applicable Agency BMPs will be implemented. PCGP will be responsible for their commensurate share of expenses incurred in the use of existing Roads and will provide funding to reimburse the Agencies for any expenses incurred by the Agency in performing required design reviews, monitoring, and approvals during planning and construction.

These improvements will be accomplished by PCGP and with the Agency's and/or landowner's approval. For all TEWAs (Temporary Extra Work Areas), disposal sites and other temporary and permanent site modifications, PCGP will ensure that existing drainage features (culverts, ditches, dips, grade sags, etc.) continue to function properly, or employ suitable substitute measures to ensure that drainage is controlled to prevent off-site erosion or other resource damage. All applicable Agency BMPs for erosion control will be implemented.

Culverts or other drainage features damaged during construction or operations will be repaired or replaced in consultation with the applicable Agency. PCGP's Contractors will conduct an assessment of major culverts crossed by PCGP access Roads to determine those that may require modifications or replacement for necessary equipment access. Any subsequent culvert modifications or replacements shall be developed in consultation with the Agency and will adhere to the Agency standards.

PCGP will develop and submit site specific proposals for bridge modifications required for pipeline construction to the applicable Agency for approval. If an existing publicly accessible bridge is not suitable for Pipeline Project use, PCGP may elect to construct an adjacent temporary bridge provided all Agency requirements are satisfied and access is restricted to PCGP and Contractor vehicles and personnel. PCGP will accept liability for all temporary construction bridges and any damage to existing bridges caused as a result of construction activities. (Details regarding temporary bridges installed on the construction right-of-way are provided in the Wetland and Waterbody Crossing Plan/Appendix BB to the POD.)

2.2.4 Reconstruction, Resurfacing and Decommissioning

Where reconstruction and/or resurfacing are necessary on an existing Agency-jurisdiction Road segment, PCGP will comply with the engineering standards established for the individual Road. Crossings of Reclamation water conveyance facilities will be in accordance with the Reclamation document, "Engineering and O&M Guidelines for Crossings (Exhibit H of the Grant and TUP)." All proposed reconstruction designs (including those of section 2.2.3) shall be submitted to the Forest Service, Reclamation and BLM for review. Unless directed otherwise by the Agency in writing, the general guideline will be to reconstruct/resurface the road segment to its previous alignment, grade and width, such that drainage features and surfacing standards function as originally intended or better. Backfill and compaction practices at pipeline road crossings shall comply with or exceed Agency standards to prevent roadway subsidence. Any subsequent subsidence shall be repaired by PCGP. PCGP shall consult with the jurisdictional Agency to ensure that pipeline Road crossing reconstructions include any mitigation measures and specialized road design features needed to allow heavy equipment access for the anticipated future Road use (i.e. adequate for timber harvesting yarder, dozer/lowboy or other vehicle configurations that may exceed ODOT load limits but permitted by the Agencies for timber sale, fire suppression or other land management activities). All applicable Agency BMPs will be implemented.

TARs and previously decommissioned Roads that are constructed or reconstructed for use during the Pipeline Project will be reclaimed or decommissioned as specified by the Agency. In addition, as mitigation for impacts to various late-successional and riparian-dependent species as well as soil productivity losses, PCGP proposes to decommission off-site Roads in cooperation with the Agency in accordance with Agency specifications and the Compensatory Mitigation Plan (Exhibit G, Appendix CC to the Grant and TUP).

2.3 Wet and/or Freezing Weather Access

PCGP's construction equipment access to the right-of-way may be outside of the normal operating period in order to conduct timber clearing in forested areas and pipeline construction in specific areas. Road surfaces during the late fall, winter and early spring are generally more susceptible to damage because of moisture conditions and freeze/thaw cycles. Agency roads are classified as limited-strength roads and may not be designed or constructed for all-weather use. To minimize the potential for both road-related and off-road resource damage, PCGP will perform road surfacing structural capacity assessments to a standard acceptable to the Agency and place additional road surfacing (aggregate or bituminous as appropriate) as needed for the planned use. It is anticipated that this work will be performed prior to the start of Year 1 or Year 2 activities. PCGP shall submit proposed surfacing enhancements to the jurisdictional Agency for approval prior to implementation. In addition, PCGP will install appropriate erosion and sediment control BMPs along the access Roads as determined necessary by PCGP's Environmental Inspector (EI) in cooperation with Agency Officials. All Agency-jurisdiction Roads are subject to short term traffic restrictions and/or closures due to seasonal or unusual weather conditions, user safety or when necessary to prevent facility or resource damage. Any commercial use of an Agency-jurisdiction Road must be suspended when such use is unsafe and/or will cause damage to the Roads or other Agency resources. Such suspension shall be effective when the commercial user is notified in writing or by Road closure orders posted on the Road per applicable CFR regulations. PCGP will abide by applicable Forest Service Road Rules and Road Damage policies related to Road use (Reference Regulation 36 CFR 261.10(a), 36 CFR 261.12, 36 CFR 261.54, 36 CFR 261.56 and individual Forest Road Rules and Road Damage policies). All work necessary to place the Roads in a useable condition for seasonally weakened use will be completed prior to use and monitored during use. PCGP will obtain an approved snow plowing permit from the Agency prior to removal of snow from any Agency-jurisdiction Road.

2.4 Controlling Off-Highway Vehicle Use of the Right-of-Way

To minimize OHV access on the construction right-of-way, PCGP will install OHV barriers at appropriate locations in coordination with the land management Agency. PCGP will consult with the land managing Agencies for review and approval of site-specific designs for OHV barriers. OHV barrier protection measures are described in PCGP's Erosion Control and Revegetation Plan (ECRP) (Appendix I to the POD) and Recreation Management Plan (Appendix S to the POD). All designs will meet Agency standards, and may include dirt/rock berms, log barriers, vegetative screens, signs, and locked gates. Slash from clearing operations will also be redistributed on the right-of-way which will help discourage OHV use. The proposed OHV barriers will be designed and constructed in a manner that attempts to prevent unauthorized motor vehicle/OHV use to and along the Pipeline right-of-way. It has been PCGP's experience that unauthorized OHV trespass can be difficult to control in some heavy OHV use areas. PCGP will be responsible to annually monitor and control unauthorized OHV use during the life of the Grant and will implement additional measures as necessary to control OHV access.

3.0 TRANSPORTATION MANAGEMENT PRACTICES

PCGP will acquire all necessary overweight and oversize permits for the use of Agency-jurisdiction Roads and at structural crossings (bridges, culverts, canals, ditches). Any loads in excess of limitations set forth in Oregon Revised Statutes (ORS) 818.010 (Maximum Allowable Weight – Tables I, II, or III only, as applicable), or 818.080 (Maximum Size Limits), or as posted on any Road(s) will require prior approval of the Authorized Officer or Agency Official. PCGP will contact each applicable Agency prior to the start of construction to verify restrictions that may apply to Agency facilities on Roads which are authorized for use. Noxious weed control measures as outlined in section 12.0 of the ECRP, Appendix I to the POD, shall be implemented by PCGP. Such measures include requirements for equipment cleaning and inspections and the use of noxious weed free materials.

3.1 Notifications

PCGP will provide open communication with landowners and land managing agencies to ensure they are apprised of the pipeline construction schedule so that all appropriate measures can be taken to minimize potential access impacts. PCGP will make every effort to notify the Agency(ies) at least seven (7) days in advance of road closures. This includes work on any non-federal roads that would directly affect access to Agency-managed roads. In some instances, unforeseen changes to the construction schedule may limit the advance notice to agencies and landowners. At a minimum, a 48-hour notice will be provided in these cases.

3.2 Road Crossing Methods

3.2.1 Bore

Some major Roads may be crossed by conventional boring to avoid traffic disruptions. Boring requires the excavation of a pit on each side of the crossing, placement of boring equipment in the pit, boring a hole under the Road equal to or greater than the diameter of the pipe and installation of a prefabricated pipe section that will be pushed through the borehole. For long crossings, pipe joints/sections may be welded onto a pipe string before being pushed through the borehole. PCGP will ensure that little or no disruption to traffic at the Road or highway crossings will occur.

3.2.2 Open Cut

The majority of the Road crossings are proposed as open cut crossing method. During an open cut Road crossing, PCGP will attempt to maintain at least one lane of traffic with detours around construction, plating over the open portion of the trench or other suitable methods. However, in some cases, the open cut construction method may require the Road to be closed for up to approximately 24 hours. Traffic control measures such as flaggers, signs, lights, and barriers will be used during construction to ensure public safety, to provide for efficient movement of traffic through or around work areas and to provide safe working conditions for construction workers. Traffic control measures used by PCGP on Agency-jurisdiction Roads will meet the most current standards of USDA-FS FSM 7100-15 regarding signs, posters and traffic control measures. In addition, advanced signage may be utilized in some situations which would provide notice of construction activities and expected delays. Where Road closures occur, PCGP will communicate with landowners and Agencies regarding construction scheduling to minimize potential access impacts and allow emergency vehicles and residential access.

3.2.3 Material Sources and Disposal Sites

PCGP may need to use material sources on USDA-FS or BLM-managed lands for the production of aggregate for Road surfacing, pipe bedding, slope armoring, or other Pipeline Project needs. PCGP's contractor will apply for the appropriate removal permit from the federal land managing agency for any material to be removed from a federal quarry for Pipeline Project use. TMP Appendices, as applicable, shall be amended as needed during the permit application process to include any necessary maintenance and upgrading of Roads used for access to the material source(s) and disposal site(s).

PCGP has prepared an Overburden and Excess Material Disposal Plan (Appendix Q to the POD) which will include a detailed site survey of the disposal site(s) to show how surplus Pipeline Project material is planned for placement and how the site will be reclaimed and the erosion control and revegetation measures implemented. The Overburden and Excess Material Disposal Plan will be approved in writing by the Agency as part of the Grant and TUP and shall be updated upon the Contractor(s) final material quantity estimates and evaluation of the proposed disposal sites.

Once available, PCGP will provide a listing of Roads necessary for the transporting of water for pipeline hydrostatic testing (see Hydrostatic Testing Plan (Appendix M of the POD)). These Roads, and the associated traffic type and quantity, shall be added to the TMP Appendices A1-D1 as appropriate. PCGP shall perform or pay their commensurate share for Road maintenance and cost recovery on these Roads as determined by the jurisdictional Agency.

3.3 Safety and Traffic Flow Management

Agency Roads are used by the public, timber companies, contractors, adjacent landowners, etc. PCGP will conduct construction activities during the average workday, as practical, to minimize traffic congestion impacts to other valid users. The construction yards will be used as the primary parking area for personal vehicles, and the majority of pipeline construction workers are anticipated to be transported to the construction right-of-way by buses, as practical. Construction equipment would remain on-site during construction. Construction equipment will be dropped off in one location on the right-of-way and will move generally in a linear direction along the construction right-of-way as work progresses, minimizing traffic on local roads. The amount of equipment moved by hauling from site-to-site will be minimized via the accessibility created along the construction right-of-way. PCGP will comply with local road and bridge weight limits or restrictions as well as Agency, Oregon Department of Transportation, local or private hauling permit requirements regarding weight and size restrictions as defined in the Grant and TUP.

Appropriate traffic control signs will be used at equipment crossings of improved Roads (paved or gravel), and when a high volume of traffic will be entering or exiting an improved Road from the right-of-way, or where engineering judgment shows there is a need. All traffic control measures used by PCGP on Agency Roads will meet the most current standards of USDA-FS FSM 7100-15 and Manual on Uniform Traffic Control Devices (MUTCD) regarding signs, posters and traffic control measures. Flaggers, signs, barricades, guard rails, safety fence, and signals will be placed and maintained at road crossings as required in federal, state, or county permit stipulations. In the absence of such regulations, PCGP will place signs 500 feet or as feasible in each direction from the crossing identifying that construction or flagmen are ahead. Certified Flaggers will be used on each side of the Road crossing whenever equipment is working in or crossing over any improved Road. Flaggers will be equipped with high visibility

safety apparel and stop/slow paddles. At the Agencies' request, PCGP will provide appropriate signing to identify roads not authorized for Pipeline Project access to prevent inadvertent unauthorized use. Posted speed limits will be observed on highways, county roads, and Agency-jurisdiction Roads. If necessary to protect public health and safety, the Agency(ies) may issue temporary closure orders on some roads used by PCGP.

3.4 Fugitive Dust Control

Fugitive dust generated from Road construction or use will be controlled as described in the Air/Noise and Fugitive Dust Control Plan (Appendix B of the POD) and as specified by the Agencies in TMP Appendices C, C1, C2, C3, D, and D1. Whenever vehicles or equipment will access a paved Road directly from the right-of-way, a dust control apron adjacent to the paved structure would be installed to keep all paved Roadways free of accumulated mud and dirt. Construction entrances will be constructed in accordance with the appropriate Agency Road design requirements.

3.5 Potential Federal Facility or Resource Damage Related to Pipeline Project Activities

Refer to Slope Stability Stipulation D.20 of Exhibit D to the Grant and TUP.

3.6 Emergency Response Plan

PCGP has prepared, will maintain, and as it is updated, provide to the Agency(ies) an Emergency Response Plan (ERP) (Appendix H to the POD). The ERP shall contain contact names, organizations, and phone numbers to be used in the event of a Pipeline Project emergency. Both jurisdictional Agency and PCGP personnel information shall be included. In addition, PCGP shall provide to the agencies a listing of access Roads necessary for operation and maintenance during the life of the Pipeline Project. This list should consider that many Agency system Roads are not routinely maintained and may be inaccessible due to snow, downed trees, slope failures, etc. for extended periods of time.

Timber Removal and Construction

Appendix A1

Authorized Roads Maps - Timber Removal and Construction

(2014 versions provided; BLM is updating)

Timber Removal and Construction

Appendix B1

Road Maintenance Maps – Timber Removal and Construction

(2014 versions provided; BLM is updating)

Timber Removal and Construction

Appendix C1

BLM/COQ – Authorized Roads Table - Timber Removal and Construction

(2014 versions provided; BLM is updating)

Timber Removal and Construction

Appendix C2

BLM/COQ - Authorized Roads Table - Timber Removal Only (Federal and Non-Federal)

(2014 versions provided; BLM is updating)

Timber Removal and Construction

Appendix C3

BLM/COQ – Authorized Roads Table – Federal Timber Removal Only

(2014 versions provided; BLM is updating)

Timber Removal and Construction

Appendix D1

FS/BOR – Authorized Roads Table – Timber Removal and Construction

(updated September 2019)

				DATE: 12/8/14 (w/yellow cell & red text updates - gh)				USFS & BOR - AUTHORIZED ROADS TABLE - TIMBER REMOVAL AND CONSTRUCTION																	
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ : A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS	
Umpqua National Forest																									
3230000	Callahan Creek	Jct. County Rte. 1 - Tiller Trail Highway	Jct. 3220000	3.26	EAR	15A	N/A	FS-FED, FS-XESMT	4	USFS	Private/USFS	All	Easement Deeds Inst. Nos. 233073 and 84-8744.	USFS	AC	Callahan Bridge, Rd. 3230000 m.p. 10.1 (NOTE: FS files incorrectly show location at m.p. 0.1), Structure No. 06150200001449, Type 3 = 38T, Type 3S2 = 60T, Type 3 = 76T	1	A B C	25 41 190	ESA Oct Yr 1 to Nov YR 2	Collect/no performance	Surfacing evaluation if used outside Normal Operating Season.	Note: road segment is part of Cost Share Agreement with Roseburg Forest Products. Estimate 20% of total traffic.		
3220000	Green Butte	Jct. 3230000	Jct. 3220792	6.04	EAR	15, 15A	102.30	FS-FED	2	USFS	USFS/BLM	All	BLM ROW OR-014499	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season is 6/1-11/1.	1	A B C	35 51 265	May YR 1 to Nov YR 2	T-811 (post-project), T-836	Surfacing evaluation if used outside Normal Operating Season.	Note: road segment to jct. with rd. 3220300 is part of Cost Share Agreement with Roseburg Forest Products. Estimate 20% of total traffic	
3220705	None	Jct. 3220000	Section 19/24 boundary & across USFS in Section 13	0.5 (FS)	EAR	15	100.00-100.75	FS-FED, No Federal Authorization, BLM-FED	2	USFS/ Private/ BLM	USFS, Private, BLM	All except none beyond Section 19/24 boundary except all where crossing Section 13.	No recorded access authority beyond Forest boundary at Section 19/24 boundary.	PCGP	Native	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season is 6/1-11/1.	2	A B C	74 62 443	May YR 1 to Nov YR 2	T-838	Site specific design needed for widening. Work includes construction staking, clearing & grubbing, excavation/embankment, haul, surfacing, seeding & mulching.	Widening 50' x 50' at origin planned. Widening 3' from intersection w/Rd. 3220 to ROW planned. NOTE: no federal access rights beyond section 19/24 boundary.	
N/A	TAR - 101.70	NonInv 31-3-24-A	EOR	0.29	TAR	15	101.70	TAR	N/A	Private / USFS	Private / USFS	None	None - TAR	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season is 6/1-11/1.	2	A B C	15 61 274	May YR 1 to Nov YR 2	Temporary Access Road to be decommissioned after use	Site specific design needed for construction and decommissioning of road upon completion of use. Work may include, clearing, excavation, drainage installation, surfacing, and upon completion of use; ripping, drainage structure removal, constructing approved closure device, mulching and planting.	Temporary Access Road 1517' x 25' to be constructed and decommissioned after use.	
3220792	Sweetheart TS	Jct. 3220000	EOR	0.66	EAR	15	102.25, 102.62-102.83	FS-FED	2	USFS	USFS/BLM	All	BLM ROW OR-40739	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season is 6/1-11/1.	2	A B C	62 123 546	ESA Oct Yr 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	None	
3220000	Green Butte	Jct. County Rte. 36	Jct. 3220792	5.41	EAR	15, 15B	102.30	FS-FED, FS-XESMT	2	USFS	USFS, Private, BLM	All	ROW Deed Inst. No. 97624 (Redfield), ROW Deed Inst. No. 97625 (Meyer), BLM ROW OR-013873, ROW Deed Inst. No. 97834 (Shattuck), BLM ROW OR-014499, ROW Deed Inst. No. 2013-011096 (Kimmell), ROW Inst. No. 2013-011095 (Barnes)	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season is 6/1-11/1.	1	A B C	142 204 1058	ESA OCT YR 1 to NOV YR 2	T-811 (post-project), T-836	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Estimate 80% of total traffic	
3230000	Callahan Creek	Jct. 3220000	Jct. 3230100	5.71	EAR	15A, 16	N/A	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season is 6/1-11/1.	1	A B C	25 41 190	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Estimate 20% of total traffic	
3230100	Granite TS	Jct. 3230000	Pipeline ROW	1.33	EAR	16	104.27, 104.84, 105.14-105.32	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Most is within Winter Range Closure (12/1-4/30). Normal Operating Season 6/1-11/1.	2	A B C	62 123 547	ESA Oct Yr 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	None	
3230135	None	Jct. 3230000	EOR	0.36	EAR	16	N/A	FS-FED	2/1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	29 32 162	May YR 1 to Nov YR 2	T-839	Surfacing evaluation if used outside Normal Operating Season.	Note: no federal access rights beyond section 31/36 boundary within C&D Quarry.	
3230136	Jeep TS	Jct. 3230135	Jct. 3230137	0.40	EAR	16	104.14	FS-FED, FS-XESMT	2	USFS	USFS, Private	All	ROW Easement Deed Inst. No. 85-15609 (Silver Butte Timber Co.)	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	29 32 162	May YR 1 to Nov YR 2	T-838	Site specific design needed for widening. Work includes construction staking, clearing & grubbing, excavation/embankment, haul, surfacing, culvert extensions or replacement, seeding & mulching.	Widening 3' x 300' @ mp 0.2 planned.	
3230137	Jeep TS	Jct. 3230136	Jct. C&D Road	0.23	EAR	16	None	FS-FED, FS-XESMT	2	USFS	USFS, Private	All	ROW Easement Deed Inst. No. 85-15609 (Silver Butte Timber Co.)	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	34 52 243	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	None	

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(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ : A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS	
C&D Lumber	None	Jct. 3230137	EOR	Unknown	EAR	16	103.60-103.66, 103.79, 103.93	No Federal Authorization	N/A	C&D Lumber	C&D Lumber	None	None	Contact private	Unknown	None	Contact private	2	A B C	23 51 222	May YR 1 to Nov YR 2	Contact Private	Contact Private	Widening 3' x 4100' (entire length) planned. Note: no federal access rights.	
3230000	Callahan Creek	Jct. 3230100	Jct. 3200000	1.11	EAR	16	104.24	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	94 164 758	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Estimate 80% of total traffic	
3200000	Cow Creek	Jct. County Rte. 36	Jct. 3230000	1.76	EAR	16	N/A	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	171 301 1365	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. 2) Estimate 50% of total traffic.	
3200000	Cow Creek	Jct. 3230000	3200255	1.29	EAR	16	105.39-105.56	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	137 241 1092	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Estimate 40% of total traffic	
3200255	Neu Thin TS	Jct. 3200000	EOR	0.38	EAR	16	105.69-106.00	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	36 72 319	ESA Oct Yr 1 to Nov YR 2	T-839	Surfacing evaluation if used outside Normal Operating Season.	None	
3200000	Cow Creek	Jct. 3200255	3200260	0.50	EAR	16	N/A	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	137 241 1092	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. 2) Estimate 40% of total traffic.	
3200260	East Fork TS	Jct. 3200000	EOR	0.46	EAR	16	106.13-106.35	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	3	A B C	7 31 136	ESA Oct Yr 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	None	
3200000	Cow Creek	Jct. 3200260	Jct. 3200300	1.36	EAR	16	106.78-106.84	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	137 241 1092	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Estimate 40% of total traffic.	
3200300	None	Jct. 3200000	EOR (Jct 3200270)	0.35	EAR	16	107.1-107.47	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	52 102 456	ESA OCT YR 1 to NOV YR 2	T-839	Site specific design needed for widening. Work includes construction staking, clearing & grubbing, excavation/embankment, haul, surfacing, culvert extensions or replacement, seeding & mulching.	Widening 25' x 25' at origin planned.	
3200301	Wildcat Ridge TS	Jct. 3200300	EOR	0.18	EAR	16	107.47-107.63	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	52 101 456	ESA OCT YR 1 to NOV YR 2	T-839	Surfacing evaluation if used outside Normal Operating Season.	None	
3200000	Cow Creek	Jct. 3200300	Jct. 3200500	1.88	EAR	16	108.09, 108.32, 108.96	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	102 180 819	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Renamed this segment. Estimate 30% of total traffic.	
3200500	Red Cloud	Jct. 3200000	Pipeline ROW	1.15	EAR	16	109.15, 109.37, 109.59	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	77 201 861	ESA Oct Yr 1 to Nov YR 3	T-838	Surfacing evaluation if used outside Normal Operating Season.	None	
3232891	None	Jct. 3232000	EOR	0.45	EAR	17	110.15, 110.52	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	42 82 365	ESA Oct Yr 1 to Nov YR 4	T-839	Surfacing evaluation if used outside Normal Operating Season.	None	

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ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ : A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS	
3200000	Cow Creek	Jct. 3200500	Jct. 3232000, 3200600	1.84	EAR	16, 17	None	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	102 180 819	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. 2) Renamed segment. Estimate 30% of total traffic.	
3200600	Long Prairie	Jct. 3200000	Jct. County Rte. 1 - Tiller Trail Highway	4.47	EAR	17, 17A	None	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	2	A B C	102 186 852	May YR 1 to Nov YR 2	T-811 (post-project), T-836	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use.	
3232000	S.Fork Cow Creek	Jct. 3200000	Jct. 3232895	8.46	EAR	16, 17	None	FS-FED, FS-XESMT	2	USFS	USFS, Private	All	ROW Easement Deed No. 112055 (Ponsonby)	PCGP	AGG	East Fork Cow Creek Bridge, Rd. 3232000 m.p. 0.9, Structure No. 06150200001452, Type 3 = 67T, Type 3S2 = 84T, Type 3 = 93T	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	24 47 770	ESA Oct Yr 1 to Nov YR 2	T-811 (post-project), T-836	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Renamed segment. Estimate 20% of total traffic.	
3232000	S.Fork Cow Creek	Jct. 3232895	Jct. 3232891	0.32	EAR	17	None	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	24 47 770	ESA OCT YR 1 to NOV YR 2	T-811 (post-project), T-836	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Renamed segment. Estimate 20% of total traffic.	
3232895	None	Jct. 3232000	EOR	0.30	EAR	17	None	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	3	A B C	12 51 227	ESA OCT YR 1 to NOV YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Peavine Pit access	
3232896	None	Jct. 3232895	Jct. 3232898	0.15	EAR	17	None	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	3	A B C	12 50 202	ESA OCT YR 1 to NOV YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Peavine Pit access	
3232898	None	Jct. 3232896	Jct. 3232895	0.17	EAR	17	None	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	3	A B C	12 50 202	ESA OCT YR 1 to NOV YR 2	T-839	Surfacing evaluation if used outside Normal Operating Season.	Peavine Pit access	
3232000	S.Fork Cow Creek	Jct. 3232891	Jct. 3200000, 3200600	0.54	EAR	17	110.40, 110.55	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	98 187 843	ESA OCT YR 1 to NOV YR 2	T-811 (post-project), T-836	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Renamed this segment. Estimate 80% of all traffic.	
3200000	Cow Creek	Jct. 3232000, 3200600	Jct. 3200750	1.22	EAR	17	111.66-111.79, 112.07	FS-FED	3	USFS	USFS	All	N/A	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	171 301 1365	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Estimate 50% of total traffic.	
3200750	OL Blue/ET AL TS	Jct. 3200000	Pipeline ROW	1.16	EAR	17	112.07, 112.56-113.05	FS-FED	2/1	USFS	USFS	All	N/A	PCGP	AGG/ Native	None	Forest Road Rules and applicable TES/NSO restrictions. Peregrine falcon closure 1/1-7/31. Normal Operating Season 6/1-11/1.	2	A B C	72 142 639	ESA Oct Yr 1 to Nov YR 2	T-839	Surfacing evaluation if used outside Normal Operating Season.	None	
3200000	Cow Creek	Jct. 3200750	State Highway 227 Tiller Trail Highway	3.49	EAR	17, 17A	112.07	FS-FED	3	USFS	USFS/BLM	All	BLM ROW OR-09772	USFS/PCGP	AGG	None	Forest Road Rules and applicable TES/NSO restrictions. Normal Operating Season 6/1-11/1.	1	A B C	171 301 1365	ESA OCT YR 1 to NOV YR 2	T-811, T-813, T-891	Surfacing evaluation if used outside Normal Operating Season.	Notes: 1) Dust abatement (per T-812F, Type: Non-bituminous) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible. Water source, if on federal land, shall be approved by Agency prior to use. Estimate 50% of total traffic.	
Rogue River-Siskiyou National Forest																									
2815000	None	Jct. State Highway 140	Jct. 3707000	1.32	EAR	23	N/A	FS-FED, FS-XESMT	3	USFS	USFS/Private	All	Road easement (recorded 9/30/55, Jackson Co., vol. 416, p. 314)	PCGP	AGG	Structural Plate Pipe, Rd. 2815000, m.p. 0.4, span 11'-7".	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	1	A B C	199 367 1664	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	USFS does not have 100% granting rights. Estimate 90% of total traffic.	
2815000	None	Jct. 3707000	Jct. 2815410 & 2815300	1.55	EAR	23	156.77	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	1	A B C	153 286 1289	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	Estimate 70% of total traffic	

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(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)
ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS
2815410	None	Jct. 2815000	Pipeline ROW	1.36 (FS)	EAR	23	155.03, 155.49-156.00	FS-FED, No Federal Authorization	2	USFS/ Private	USFS/ Private	All on USFS lands. Private land (NW1/4, S10) begins at about mp 1.36.	No USFS access rights beyond USFS/private boundary.	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	51 122 527	May YR 1 to Nov YR 2	T-838	Site specific design needed for widening. Work includes construction staking, clearing & grubbing, excavation/embankment, haul, surfacing, seeding & mulching.	Widening 3' x 6100' from origin to mp 1.36 planned.
3700000	None	Jct. State Highway 140	Jct. 3707000	0.79	EAR	24B	N/A	FS-FED	4	USFS	USFS	All	N/A	PCGP/ USFS	AC	Structural Plate Pipe, Rd. 3700000, m.p. 7.5, span 8'-2".	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Portion has Winter Recreation Road Closure.	1	A B C	166 325 1459	May YR 1 to Nov YR 2	T-803, T-832, T-834, T-841, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Estimate 80% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Portion has Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3707000	None	Jct. 3700000	Jct. 3707500	1.01	EAR	24B	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	2	A B C	52 102 456	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Estimate 50% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3707500	None	Jct. 3707000	Jct. 2815300	1.49	EAR	24B	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	2	A B C	39 101 431	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Estimate 50% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3707500	None	Jct. 2815300	Jct. 3730000	1.23	EAR	24, 24B	158.72-159.41	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	2	A B C	52 102 456	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Estimate 50% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3707000	None	Jct. 3707500	Jct. 2815000	2.29	EAR	23, 24B	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	52 102 456	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Estimate 50% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan.
2815000	None	Jct. 2815410 & 2815300	Jct. 3730000	2.46	EAR	23	N/A	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	1	A B C	97 203 899	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	Estimate 50% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan.
3730000	None	Jct. 2815000	Jct. 3707500	1.54	EAR	23, 24	N/A	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	5 10 41	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	Estimate 10% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan.
3730000	None	Jct. 3707500	Jct. 3700000	1.85	EAR	24	159.99-160.60	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	2	A B C	42 83 73	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	Estimate 90% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3700000	None	Jct. 3730000	Jct. 3707000	1.24	EAR	24, 24B	N/A	FS-FED	4	USFS	USFS	All	N/A	PCGP/ USFS	AC	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	2	A B C	166 325 1458	May YR 1 to Nov YR 2	T-803, T-832, T-834, T-841, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Estimate 80% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3700130	None	Jct. 3700000	Jct. 3700133	0.66	EAR	24	160.84-160.89	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	32 61 274	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan.

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(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ : A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED SPECIFIED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS	
3700134	Big Elk Cinder Pit	Jct. 3700133	Jct. 3730000	0.49	EAR	24	160.61, 160.84	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	42 83 73	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	May also be used by ODOT for permit cinder crushing from 2011 to 2021	
3700133	None	Jct. 3700130	Jct. 3730000	0.22	EAR	24	160.61-160.84	FS-FED	2	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	3	A B C	2 11 55	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan.	
3700131	None	Jct. 3700130	Pipeline ROW	0.25	EAR	24	161.20	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	3	A B C	7 31 136	ESA Oct Yr 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan.	
2815300	None	Jct. 2815000	Jct. 2815320	0.75	EAR	23	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	26 51 229	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Estimate 50% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan.	
2815320	None	Jct. 2815300	Pipeline ROW	0.06	DEC	23	157.38	FS-FED	D (see Remarks)	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	3	A B C	0 1 350	May YR 1 to Nov YR 2	T-838	Road is decommissioned and requires site specific reconstruction design for use and re-decommissioning of road upon completion of use. Work may include, clearing, excavation, drainage installation, surfacing, and upon completion of use; ripping, drainage structure removal, constructing approved closure device, mulching and planting.	Road is decommissioned. Requires reconstruction prior to use, see Specified Road Work. Note: heavy winter recreation use area - see Recreation Management Plan.	
2815300	None	Jct. 2815320	Jct. 3707500	2.03	EAR	23, 24	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	26 51 270	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Estimate 50% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan.	
3700000	None	Jct. County Rte. 722	Jct. 3720000	3.06	EAR	24A	N/A	FS-FED, FS-XESMT	4	USFS	USFS/Private	All	ROW Deeds (2), Jackson Co. vol. 268, p. 105-106, & vol. 599, p. 390	PCGP/USFS	AC	Structural Plate Pipe, Rd. 3700000, m.p. 1.6, span 8'-2".	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	1	A B C	42 82 365	May YR 1 to Nov YR 2	T-803, T-832, T-834, T-841, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Estimate 20% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.	
3700000	None	Jct. 3720000	Jct. 3700100	1.65	EAR	24	N/A	FS-FED	4	USFS	USFS	All	N/A	PCGP/USFS	AC	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	1	A B C	62 122 548	May YR 1 to Nov YR 2	T-803, T-832, T-834, T-841, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Estimate 30% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.	
3700000	None	Jct. 3700100	Jct. 3700130	1.24	EAR	24	161.41	FS-FED	4	USFS	USFS	All	N/A	PCGP/USFS	AC	Structural Plate Pipe, Rd. 3700000, m.p. 5.1, span 9'-4".	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	1	A B C	83 162 730	May YR 1 to Nov YR 2	T-803, T-832, T-834, T-841, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Estimate 40% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.	
3700000	None	Jct. 3700130	Jct. 3705000	0.02	EAR	24	N/A	FS-FED	4	USFS	USFS	All	N/A	PCGP/USFS	AC	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	1	A B C	166 325 1459	May YR 1 to Nov YR 2	T-803, T-832, T-834, T-841, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Estimate 80% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.	
3700000	None	Jct. 3705000	Jct. 3730000	0.15	EAR	24	N/A	FS-FED	4	USFS	USFS	All	N/A	PCGP/USFS	AC	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	1	A B C	166 325 1459	May YR 1 to Nov YR 2	T-803, T-832, T-834, T-841, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Estimate 80% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.	

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(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)
ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS
3720000	None	Jct. 3700000	Jct. 3705000	2.89	EAR	24	164.29-165.93	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	1	A B C	156 305 1367	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	Estimate 75% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3705080	None	Jct. 3705000	Pipeline ROW	0.29	DEC	24	162.02	FS-FED	D (see Remarks)	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	1	A B C	199 367 1664	May YR 1 to Nov YR 2	T-838	Road is decommissioned and requires site specific reconstruction design for use and re-decommissioning of road upon completion of use. Work may include, clearing, excavation, drainage installation, surfacing, and upon completion of use; ripping, drainage structure removal, constructing approved closure device, mulching and planting.	Road was decommissioned in 1992. Requires reconstruction prior to use. See Specified Road Work. Note: heavy winter recreation use area - see Recreation Management Plan.
3705100	None	Jct. 3705000	Pipeline ROW	0.21	EAR	24	168.18	FS-FED	2	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	3	A B C	5 21 107	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3700100	None	Jct. 3700000	Pipeline ROW	0.98	EAR	24	163.14	FS-FED	2	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	2	A B C	52 102 456	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3700113	None	Jct. 3700100	Pipeline ROW	0.55	EAR	24	162.80-162.90	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2			ESA Oct Yr 1 to Nov YR 2	T-839	Currently open ML 1 road. Install approved closure device upon completion of use. Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan.
3705000	None	Jct. 3700000	Jct. 3720000	4.49	EAR	24	165.66	FS-FED	4	USFS	USFS	All	N/A	PCGP/USFS	AC	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	2	A B C	79 104 507	May YR 1 to Nov YR 2	T-803, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-892	Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3720000	None	Jct. 3705000	Jct. County Rte. 533	3.99	EAR	25	164.29-165.93, 167.31	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31. Winter Recreation Road Closure.	1	A B C	53 102 456	May YR 1 to Nov YR 2	T-803, T-811, T-812, T-813, T-831, T-832, T-834, T-841, T-842, T-851, T-854, T-891	Surfacing evaluation if used outside Normal Operating Season.	Estimate 25% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.
3720500	None	Jct. 3720000	Jct. 3720510	0.18	EAR	25	165.71	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	52 102 456	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Closed year-around by gate. 100 % of traffic on this road will use this segment. Note: heavy winter recreation use area - see Recreation Management Plan.
3720500	None	Jct. 3720510	Jct. 3720520	0.26	EAR	25	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	50 92 416	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Closed year-around by gate. 90% of total traffic. Note: heavy winter recreation use area - see Recreation Management Plan.
3720520	None	Jct. 3720500	Pipeline ROW	0.53	EAR	25	166.45	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	24 100 415	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Note: heavy winter recreation use area - see Recreation Management Plan.

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ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ : A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED SPECIFIED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS	
3720510	None	Jct. 3720500	Pipeline ROW	0.28	DEC	25	166.10	FS-FED	D (see Remarks)	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	3	A B C	5 21 107	May YR 1 to Nov YR 2	T-838	Road is decommissioned and requires site specific reconstruction design for use and re-decommissioning of road upon completion of use. Work may include, clearing, excavation, drainage installation, surfacing, and upon completion of use; ripping, drainage structure removal, constructing approved closure device, mulching and planting.	Road was decommissioned in 1993. Requires reconstruction prior to use. See Specified Road Work. Note: heavy winter recreation use area - see Recreation Management Plan.	
3740000	None	Jct. County Rte. 821	Jct. 3740100	1.19	EAR	24C	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	Not Estimated	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Access for Rum Rye Pit for mitigation purpose to store log storage.	
3740100	None	Jct. 3740000	Rum Rye Pit	0.60	EAR	24C	N/A	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	Not Estimated	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Access for Rum Rye Pit for mitigation purpose to store log storage.	
3720700	None	Jct. 3720	Pipeline ROW	0.48	EAR	25	167.56	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	24 100 415	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Road was added as part of the PCT re-routeNote: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.	
3720706	None	Jct. 3720700	Pipeline ROW	0.37	EAR	25	167.87	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Use Rules, applicable TES/NSO restrictions. Normal Operating Season 6/1-10/31.	2	A B C	42 82 365	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Road was added as part of the PCT re-routeNote: heavy winter recreation use area - see Recreation Management Plan. Winter Recreation Road Closure (Order No. RSF-245) for snowmobile use.	
3700750	West Muddy	Jct. County Rte. 533	Pipeline ROW	0.85	EAR	25	168.26-168.60	FS-FED	2	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules. Normal Operating Season: May-Nov.	2	A B C	42 82 365	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Any approach work on Dead Indian Memorial County Road must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Dead Indian Memorial County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
3800960	None	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.02	EAR	25	170.85	FS-FED	2	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules. Normal Operating Season: May-Nov.	2	A B C	47 92 410	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Any approach work on Clover Creek County Road must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
Unauthorized Road (Existing road not on USFS system)	None	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.02	EAR	25	170.98	FS-FED	N/A	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules. Normal Operating Season: May-Nov.	3	A B C	25 2 168	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	INSERTED THIS SEGMENT TO ACCOUNT FOR ACCESS ROAD SHOWN AT MP 170.98. NO SYSTEM ROAD SHOWN ON FOREST MAPPING AT THIS LOCATION. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
3800950	Quarry	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.05	EAR	25	171.09	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules. Normal Operating Season: May-Nov.	2	A B C	21 41 182	May YR 1 to Nov YR 2	T-813, T-838	Surfacing evaluation if used outside Normal Operating Season.	Access to Spencer Creek Quarry. Any approach work on Clover Creek County Road must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
3800940	None	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.02	FS EAR	25	171.41, 171.60	FS-FED, No Federal Authorization.	1	USFS/ Private	USFS/ Private	All on USFS	No USFS access rights beyond Section 02/11 boundary	PCGP	Native on USFS	None on USFS	Forest Road Rules. Normal Operating Season: May-Nov.	2	A B C	26 51 228	May YR 1 to Nov YR 2	T-838	Surfacing evaluation if used outside Normal Operating Season.	Any approach work must be approved by Klamath County. Crosses USFS and Klamath Co. ROW for short distance then enters private land. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	

				DATE: 12/8/14 (w/yellow cell & red text updates - gh)				USFS & BOR - AUTHORIZED ROADS TABLE - TIMBER REMOVAL AND CONSTRUCTION																	
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS	
3800900	None	Jct. 3800000 (County Rte. 603)	Jct. 3800903	0.11	EAR	26	172.08	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules. Normal Operating Season: May-Nov.	2	A B C	21 31 147	May YR 1 to Nov YR 2	T-813, T-838	Surfacing evaluation if used outside Normal Operating Season.	Any approach work must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
3800903	None	Jct. 3800900	Pipeline ROW	0.21	EAR	26	172.10	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules. Normal Operating Season: May-Nov.	2	A B C	26 51 228	May YR 1 to Nov YR 2	T-839	Surfacing evaluation if used outside Normal Operating Season.		
3850000	Desolation	Jct. 3800000 (County Rte. 603)	Pipelng ROW	0.14	EAR	26	172.60	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules. Normal Operating Season: May-Nov. Snowplowing with tracked equipment prohibited.	2	A B C	26 51 228	May YR 1 to Nov YR 2	T-813, T-838	Surfacing evaluation if used outside Normal Operating Season.	Paved approach, any approach work must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
38-5-12 NonInv	None	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.02	EAR	26	173.02	No Federal Authorization	N/A	Private	Private	None	No USFS access rights	Contact private	Unknown	Contact private	Contact private	2	A B C	52 102 456	May YR 1 to Nov YR 2	Contact Private	Contact Private	Note: no federal access rights. Any approach work must be approved by Klamath County.	
3800820	None	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.13	EAR	26	173.80	FS-FED	1	USFS	USFS	All	N/A	PCGP	Native	None	Forest Road Rules. Normal Operating Season: May-Nov.	2	A B C	26 51 228	May YR 1 to Nov YR 2	T-839	Surfacing evaluation if used outside Normal Operating Season.	Dirt berm at beginning of road will need to be replaced after project work. Any approach work on Clover Creek County Road must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
3800790	None	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.23	EAR	26	174.15	FS-FED	2	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules. Normal Operating Season: May-Nov. Snow plowing is not permitted unless an alternate snowmobile or ski route is available, from 11/15-3/31; permit required.	2	A B C	36 72 319	May YR 1 to Nov YR 2	T-813, T-838	Surfacing evaluation if used outside Normal Operating Season.	Any approach work on Clover Creek County Road must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
3852000	Buck Peak	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.03	EAR	26	174.68	FS-FED	3	USFS	USFS	All	N/A	PCGP	AGG	None	Forest Road Rules. Normal Operating Season: May-Nov. Snow plowing is not permitted unless an alternate snowmobile or ski route is available, from 11/15-3/31; permit required. No haul on weekends & holidays.	2	A B C	31 52 238	May YR 1 to Nov YR 2	T-813, T-838	Surfacing evaluation if used outside Normal Operating Season.	Any approach work on Clover Creek County Road must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use.	
3852015	None	Jct. 3800000 (County Rte. 603)	Jct. w/Private Rd. in pipeline ROW	0.03	EAR	26	175.40	No Federal Authorization	1	Private to Forest boundary	Private to Forest boundary	No recorded access authority.	No USFS access rights	Contact private	AGG	None	Contact private	2	A B C	36 72 319	May YR 1 to Nov YR 2	Contact private	Contact private	Private land between Clover Creek County Road and Forest boundary. PCGP will need to acquire access permit from Klamath County and private land owner. Forest Service DOES NOT have an easement across the private land.	
3828000	Clover Butte (BLM 38-6E-35)	Jct. 3800000 (County Rte. 603)	Pipeline ROW	0.03	EAR	27	179.81	FS-XESMT	2	USFS	Private	All (Note: landowner retains title to merchantable timber within 80' road ROW - timber disposal requires landowner approval)	BLM ROW OR-11170 & Agency road jurisdictional transfer from BLM to FS, 6/13/1977.	PCGP	Cinder	None	Forest Road Rules. Normal Operating Season: May-Nov. Snowplowing with tracked equipment prohibited.	2	A B C	36 72 319	May YR 1 to Nov YR 2	T-813, T-838	Surfacing evaluation if used outside Normal Operating Season.	Any approach work on Clover Creek County Road must be approved by Klamath County. Dust abatement (per T-812) shall be applied by PCGP for user safety if dust reduces vehicle visibility to less than 100' or vehicle tail lights and turn signals are not visible (also includes visibility on Clover Creek County Road County Road). Water source, if on federal land, shall be approved by Agency prior to use. Any timber disposal from within 80' road ROW requires landowner approval.	
Reclamation - Klamath Project																									
BOR 735	Old Midland Road (C-4 Lateral)	Jct. County Rte. 888 - Old Midland Road	Pipeline ROW	0.24	EAR	30	203.97-204.13	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	1890 Canal Act ROW/BOR Index No. K-9-13	PCGP	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	2 10 41	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance.	

				DATE: 12/8/14 (w/yellow cell & red text updates - gh)				USFS & BOR - AUTHORIZED ROADS TABLE - TIMBER REMOVAL AND CONSTRUCTION																
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)
ROAD NO.	ROAD NAME	TERMINI (FROM)	TERMINI (TO)	LENGTH (MILES)	EAR, PAR OR TAR	MAP SHEET No.	PIPELINE M.P. INTERSECT	Appendix A Map Designation	OPERATIONAL MAINTENANCE LEVEL	ROAD JURISDICTION/ CONTROLLED BY	LANDOWNER	USFS/BOR ACCESS RIGHTS (all or limitations)	FEDERAL ACCESS INSTRUMENT (easement/ROW no.)	MAINTENANCE RESPONSIBILITY FOR PROJECT USE	ROAD SURFACE TYPE	BRIDGE NO. & OPERATIONAL LOAD RATINGS	ROAD USE RESTRICTIONS & NORMAL OPERATING SEASON (NOS)	ROAD USE TYPE ⁽¹⁾ : 1 2 3	VEHICLE TYPE ⁽²⁾ A B C	ESTIMATED VEHICLE TRAFFIC (PASSES)	PLANNED PERIOD OF ROAD USE	REQUIRED PCGP ROAD MAINTENANCE (SPECIFICATIONS)	ESTIMATED REQUIRED SPECIFIED ROAD WORK FOR DESIGN (WORK ITEM LISTING)	REMARKS
BOR 736	Road on Levee (C-4-f Lateral)	Jct. BOR 735	Jct. TAR 204.32	0.34	EAR	30/31	204.12-204.34	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	1890 Canal Act ROW/BOR Index No. K-9-13/33	PCGP	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	2 10 41	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance.
BOR 737	Spring Lake Rd (No. 3 Drain)	Jct. Spring Lake Road (County Rte. 876)	Pipeline ROW	0.15	EAR	30/31	204.65-204.75	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	1890 Canal Act ROW/BOR Index No. K-9-13/14	PCGP	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	2 10 41	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance.
BOR 738	Existing Field/Canal Rd (C-4-d Lateral)	Jct. County Rte. 888 - Old Midland Road	Pipeline ROW	0.33	EAR	30/31	205.07	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	1890 Canal Act ROW/BOR Index No. K-9-28/29/30	PCGP	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	10 40 65	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance. Note that Canal Act access road may end slightly before planned pipeline ROW.
BOR 739	Existing Field Rd (C-4-c Lateral)	Jct. Homedale Road (County Rte. 830)	Pipeline ROW	0.42	EAR	31	205.39/205.64	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	1890 Canal Act ROW/BOR Index No. K-9-28/29/30	PCGP	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	5 20 82	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance.
BOR 742	Road on Levee (5-A Drain)	Jct. State Highway 39	Pipeline ROW	0.30	EAR	31	207.98-208.18	BOR-L- NESMT, No Federal Authorization	2	BOR/ Private	Private	Limitations - landowner approval required. Driveway (southerly) fork is private beginning at jct. with Highway 39.	1890 Canal Act ROW/BOR Index No. K-10-33/34/46 (for northerly fork along 5-A Drain only).	Contact private owner. PCGP for 1890 ROW along 5-A Drain.	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	7 30 122	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	Northerly fork along 5-A Drain is 1890 Canal Act ROW - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance on this segment. Southerly fork beginning from Highway 39 jct. is a private driveway.
BOR 743	Road on Levee (Wong Rd)	Jct. Wong Road (County Rte. 918)	Jct. Chin Road (County Rte. 982)	0.25	EAR	31	210.27	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	1890 Canal Act ROW/BOR Index No. K-10-61/62/63	PCGP	AGG	None	Normal Operating Season June 1 - Oct 15.	2	A B C	2 10 41	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance.
BOR 744	17987 Hwy 39 (5-H Drain)	Jct. State Highway 39	Pipeline ROW	0.04	EAR	31/32	210.86	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	Bunnell/Bunnell easement dated 6/15/21, book 58, p. 249, Klamath County, OR - contact BOR/BOR Index No. K-10-74	PCGP	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	10 40 65	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-813	Surfacing evaluation if used outside Normal Operating Season.	Non-exclusive easement - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance.
BOR 746	Gaston Driveway (G Canal)	Jct. Hill Road (County Rte. 566)	Jct. TAR 212.45	0.60	EAR	32	none	BOR-L- NESMT	2	BOR/ Private	Private	Limitations - landowner approval required	1890 Canal Act ROW/BOR Index No. K-10-87/92/93, additional non-exclusive easement - contact BOR	PCGP	Native	KLAM-117; Structure is a concrete culvert (on G Canal). Culvert is owned/maintained by Klamath County	Normal Operating Season June 1 - Oct 15.	2	A B C	14 60 243	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW & another non-exclusive easement - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance.
BOR 747	Private Drive (G-3 Lateral)	Jct. Taylor Road (County Rte. 980)	Pipeline ROW	0.20	EAR	32	214.70	BOR-L- NESMT, No Federal Authorization	2	BOR/ Private	Private	Limitations - landowner approval required. No BOR rights beyond G-3 Lateral crossing.	1890 Canal Act ROW/BOR Index No. K-10-106/109 (applies to segment to G-3 Lateral crossing only).	PCGP for portion to G-3 Lateral. Contact private owner for remainder.	Native	None	Normal Operating Season June 1 - Oct 15.	2	A B C	2 10 41	SEP 1 Yr 1 to MAY 1 Yr 2	T-803, T-811, T-812, T-836 & required T-891 for T-811 & T-812	Surfacing evaluation if used outside Normal Operating Season.	1890 Canal Act ROW to the G-3 Lateral crossing - landowner permission required prior to any activity. BOR has jurisdictional responsibility for road maintenance on this portion. Beyond the G-3 Lateral crossing, contact private road owner.

⁽¹⁾ ROAD USE TYPE:

- | | | |
|---|--|--|
| <p>1 - <u>Primary road providing overall access to pipeline</u>
Heavy equipment, pipe, & material haul road
Major road for overall worker access
High daily vehicle traffic
Long term, frequent use
All vehicle types</p> | <p>2 - <u>Secondary road providing localized access to pipeline</u>
Heavy equipment, pipe, & material haul road
Secondary road for localized worker access
Medium vehicle traffic
Medium term, less frequent use
All vehicle types</p> | <p>3 - <u>Minor road providing localized access to pipeline</u>
Unimproved road for localized worker access
Low vehicle traffic
Short term, infrequent use
Light vehicle types</p> |
|---|--|--|

⁽²⁾ VEHICLE TYPE

- | | | |
|---|---|--|
| <p>A - <u>Equipment & Material Transport - 80,000# GVW (30,000# Unloaded)</u>
3 Axle Tractors Pulling 2 or 3 Axle Trailers of All types:
Typical loads are Dozers, Booms, Excavators, Loaders, Maintainers, Forks, Padders, Back Fillers, Farm Tractors, Discs, Drills, Rock Pickers, Yarders, Cranes, Hoes, Drills, Compressors, Pumps, Weights, Blades, Rippers, Mats, Strippers, Logs, Trench Plates, Trench Boxes, Pipe, Valves, Fittings, Etc.</p> | <p>B - <u>Support, Maintenance & Material Transport - approx. 60,000# GVW (25,000# Unloaded)</u>
3 Axle Bob Tail Trucks without Trailers or Pups:
Typical loads are Fuel, Skids, Mats, Water, Fire Water, Drilling Mud, Joint Coating, Vehicle Maintenance Equipment (Mechanic Truck), Soil, Gravel, Sand, Asphalt, Spoil, Rock, Lifting Equipment (Boom Truck), Etc.</p> | <p>C - <u>Light Duty Support & Transport - approx. 9,000# GVW</u>
2 Axle Vehicles:
Typical loads are Crews, Inspectors, X-Ray Equipment, Welding Equipment, Supervisors, Permitting Agency Reps, Fire Watch, Observers, Etc.</p> |
|---|---|--|

Operations and Maintenance

Appendix A

Authorized Roads Maps – Operation and Maintenance of the Pipeline

(to be generated in coordination with BLM/FS/BOR following construction)

Operations and Maintenance

Appendix B

Road Maintenance Maps – Operation and Maintenance of the Pipeline

(to be generated in coordination with BLM/FS/BOR following construction)

Operations and Maintenance

Appendix C

BLM/COQ – Authorized Roads Table – Operation and Maintenance of the Pipeline

(to be generated in coordination with BLM/FS/BOR following construction)

Operations and Maintenance

Appendix D

FS/BOR – Authorized Roads Table – Operation and Maintenance of the Pipeline

(to be generated in coordination with BLM/FS/BOR following construction)

Appendix E

Definitions

Definitions:

EXPLANATION OF TERMS AND DEFINITIONS

The definitions of terms and concepts used in this TMP are relevant to Pipeline Project-related transportation system facilities, operations, maintenance and termination.

Approval - Confirmation or concurrence with plans, design, projects and schedules prior to implementation by the party or parties assigned responsibility in the Right-of-Way Grant (Grant).

Authority - The legal right to approve or modify an action or proposed action; this is based on statute, regulations, or legal agreements.

Capital Improvement - The construction, installation, or assembly of a new fixed asset, or the significant alteration, expansion, or extension of an existing fixed asset, to accommodate a change of purpose.

Casual Use or Insignificant Use - Occasional commercial use by pickups and line and bucket service vehicles on an intermittent basis that does not generate a significant maintenance requirement. Also, non-commercial activities that are not prohibited by closure of lands to such activities, and involve practices that do not ordinarily cause any appreciable disturbance or damage to the public lands, resources or improvements thereon, and, therefore, do not require a written authorization (i.e., ingress and egress on existing Roads and trails where no commercial activity is being conducted such as hauling logs, ore, or use of heavy equipment). The determination of whether the use is casual or insignificant will rest with the Agency depending upon the jurisdictional location. If a need to control the use through stipulations exists, then the use would be formally authorized using the appropriate agreement.

Construction - The erection, construction, installation, or assembly of a new fixed asset.

Consultation - Formal or informal discussions for the purposes of developing and/or reviewing proposed projects and implementation plans. Consultation involves providing another party an opportunity for review and input regarding a proposed plan or project. The objective of consultation is to obtain input and reach a joint understanding of requirements for the proposed project or plans. The results of consultation are generally documented in reports or letters. Informal consultation generally pertains to the results of meetings, exchange of e-mail, or other informal communication between parties. Formal consultation involves procedures that are covered by agency regulations, such as consultation with USDI Fish and Wildlife Service under the Endangered Species Act, and tribal consultation.

Decommissioning - Activities that result in the stabilization and restoration of unneeded Roads to a more natural state (36 CFR 212.1, revised as of July 1, 2006). Existing Roads that are no longer needed for access to and management of Agency lands are candidates for decommissioning. The objectives for decommissioning of a road are to reestablish vegetation and, as necessary, to restore ecological processes interrupted or adversely impacted by the

road and its operation. Decommissioning includes various levels of treatments to stabilize and rehabilitate the road. Treatments may include one or more of the following activities:

- Blocking the entrance to the road;
- Removing culverts and reestablishing former drainage patterns;
- Installing waterbars on the road surface;
- Pulling back road shoulders and removing unstable road fills;
- Ripping of the roadbed to promote water infiltration;
- Stabilizing slopes;
- Scattering slash over the roadbed;
- Restoring vegetation in the road prism; and
- Other methods designed to meet specific conditions associated with the road.

In some instances, road decommissioning may involve complete elimination of the roadbed by restoring natural contours and slopes.

The specific treatments for an individual road are best identified by an interdisciplinary team of resource specialists based on the site specific conditions along that road.

Emergency Access - Access required because of a facility failure, such as a transmission line, canal, or penstock, or because of a disruption of service where power cannot be rerouted on the grid system. Such access is allowed, though immediate agency notification is required and possible mitigation may follow.

Engineering Judgment - The evaluation of available pertinent information, and the application of appropriate principles, standards, guidelines, and practices as contained in agency manuals and other sources, for the purpose of deciding upon the applicability, design, operation, or maintenance of Roads or facilities. Engineering judgment will be exercised by an engineer, or by an individual working under the supervision of an engineer, through the application of procedures and criteria established by the engineer. Documentation of engineering judgment is not required.

"Federal Lands" means all lands or interests in lands to be included in the Grant and associated TUP and owned by the United States, except lands in the National Park System, lands held in trust for an Indian or Indian Tribe, and lands on the Outer Continental Shelf.

Flood Emergency Road Maintenance Plan (FERM) - Flooding conditions are common to federal lands in southwest Oregon. The resultant damage varies with the intensity of the runoff and local conditions. It is important to recognize the potential for flooding damage and take positive action to minimize it through preventative measures and aggressive action prior to and during high runoff periods.

The FERM is designed to align the project with FSM 7734 (Repairs Performed with Emergency Relief-Federally Owned Funds) and also to provide an outline to follow in the event of a storm with enough magnitude to cause damage to forest Roads and resources.

Emergency actions begin when damaging conditions are imminent and continue until the need for immediate action diminishes.

The Agency Official will declare a flood emergency when it can be determined that the storm will cause damage severe enough to warrant such action.

Guideline - A statement of recommended, but not mandatory, practice in typical situations, with deviations allowed if professional judgment or scientific/engineering study indicates the deviation to be appropriate.

Implementation – Accomplishment of on-the-ground or on-site construction, restoration, reconstruction, maintenance, or operational activities. Implementation may involve actual ground or habitat disturbance. Implementation normally will not take place until the appropriate agencies or officials approve required permits, NEPA decisions, designs and/or implementation plans.

Maintenance - The ongoing upkeep of a road necessary to retain or restore the road to the approved road management objective. The act of keeping fixed assets in acceptable condition. It includes preventive maintenance, normal repairs, replacement of parts and structural components, and other activities needed to preserve a fixed asset so that it continues to provide acceptable service and achieves its expected life. Maintenance excludes activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than, those originally intended.

Maintenance includes work needed to adhere to laws, regulations, codes, and other legal direction as long as the original intent or purpose of the fixed asset is not changed.

Four types of maintenance are identified in the Plan including annual (recurrent), deferred, critical deferred, and emergency.

- Annual Maintenance - Maintenance that is recurrent. Such road maintenance is performed to comply with standards and policies and does not arise out of an emergency condition, and is not reconstructive in nature. This includes both traffic-generated and non-traffic-generated road maintenance. Recurrent maintenance is conducted as a matter of course on a periodic basis.
- Deferred Maintenance - Deferred maintenance is maintenance that was not performed when it normally would have been or when it was scheduled; and therefore, was put off or delayed for a future period of one or more years until it can be economically or efficiently performed. When allowed to accumulate without limits or consideration of useful life, deferred maintenance typically leads to deterioration of performance, increased costs to repair, and decrease in asset value. Deferred maintenance needs may be categorized as critical or noncritical at any point in time. Continued deferral of noncritical maintenance will normally result in an increase in critical deferred maintenance.

Code compliance (e.g. life safety, ADA, OSHA, environmental, etc.), Forest Plan Direction, Best Management Practices, Biological Evaluations other regulatory or Executive Order compliance requirements, or applicable standards not met on schedule are considered deferred maintenance.

- Critical Deferred Maintenance - Maintenance that was not performed when it should have been or when it was scheduled and which, therefore, was put off or delayed for a future period; and is to the point that its is a serious threat to public health or safety, a natural resource or the ability to carry out the mission of the organization.

- Emergency Maintenance - An urgent maintenance need that may result in injury, illness, or loss of life, natural resource, or property; and must be satisfied immediately. Emergency needs generally require a declaration of emergency or disaster, or a finding by an Agency Official that an emergency exists.

New Construction - Activities that result in the addition of National Forest authorized or temporary road miles (36 CFR 212.1).

Parties - Parties to the TMP including PCGP, the USDI-BLM, the USDA-FS, and the Bureau of Reclamation.

Pipeline Project - The Pacific Connector Gas Pipeline, including all lands associated therewith as described in the BLM Right-of-Way Grant (Grant), serial number OR 63542.

Pipeline Project-Induced Traffic - Traffic occurring on a road or bridge that is a direct result of the existence or continued operation of the Pipeline Project and would not otherwise occur without the Pipeline Project.

Re-commissioning – Improve a previously decommissioned road for transportation needs required for the construction of the Pipeline Project.

Reconstruction (Rehabilitation) - Replacement of an existing facility involving the reconstruction, reinstallation, or reassembly of a fixed asset. Activity that results in improvement or realignment of an existing road, including: 1) road improvement - where an activity results in an increase in an existing road's traffic service level, an expansion of its capacity, or a change in its original design function, and 2) road realignment – where an activity results in a new location of an existing road or portions of an existing road and treatment of the old roadway (36 CFR 212.1).

Restoration - Work necessary, as a result of major damage, to restore a road, bridge or other transportation facility to the designated standard and serviceability.

Right-of-Way - the Federal Lands which PCGP will be authorized to use or occupy under the Grant or associated TUP.

"Roads" means existing roads located on Federal Lands and/or under the jurisdiction of the Agency (including United States easements) or roads approved for construction on Federal Lands which are necessary for access to and from the Right-of-Way for construction, operation, maintenance or termination of the PCGP.

Road and Bridge Operations - The management and control of traffic, road use, and inspection and evaluation of the condition and safety of roads and bridges.

Road Maintenance Levels (USDA-FS) - The USDA-FS levels of service provided by, and maintenance required for, a road consistent with road management objectives and maintenance criteria. The USDA-FS has defined five road maintenance levels listed below.

- USDA-FS Level 1 - Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed one year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road

deterioration may occur at this level. Appropriate traffic management strategies are “prohibit” and “eliminate.”

Roads receiving Level 1 maintenance may be of any type, class, or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at Level 1, they are closed to vehicular traffic, but may be open and suitable to non-motorized uses.

- USDA-FS Level 2 - Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log hauling may occur at this level. Appropriate traffic management strategies are either to (1) discourage or prohibit passenger cars, or (2) accept or discourage high clearance vehicles.
- USDA-FS Level 3 - Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities.

Roads in this maintenance level are typically low speed (nominally 15-25 mph), single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either “encourage” or “accept.” “Discourage” or “prohibit” strategies may be employed for certain classes of vehicles or users.

- USDA-FS Level 4 - Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is “encourage.” However, a “prohibit” strategy may apply to specific classes of vehicles or users at certain times.
- USDA-FS Level 5 - Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is “encourage.”

Road Maintenance Levels (USDI-BLM) - The USDI-BLM levels of service provided by, and maintenance required for, a road consistent with road management objectives and maintenance criteria. Like the USDA-FS, the USDI-BLM also has defined five maintenance levels. All of the USDI-BLM road maintenance levels, including Western Oregon guidance, are listed in Exhibit S. However, under the USDI-BLM road maintenance definitions, Level 2 roads are defined differently compared to the USDA-FS system. In addition, one special road/trail requirement exists in the Susan Creek area. For transmission line access roads on USDI-BLM-managed land, Level 1 and 2 roads are defined as the following plus special considerations for the Susan Creek Trail:

- USDI-BLM Level 1 - This level is assigned to roads where minimum maintenance is required to protect adjacent lands and resource values. These roads are no longer needed and are closed to traffic. The objective is to remove these roads from the transportation system. In Western Oregon, the objective of this maintenance level

should also include road segments which are closed to vehicles on a long-term basis, but that may be used again in the future. This will facilitate assigning decommissioned roads at this level.

- USDI-BLM Level 2 - This level is assigned to roads where management objectives require the road to be opened for limited administrative traffic. Typically, these roads are passable by high clearance vehicles. In Western Oregon, traffic is generally administrative with some minor specialized use, or moderate seasonal use. These roads are typically low standard, low volume single lane roads, natural and aggregate surfaced, and are functionally classified as a resource road.
- Special Road/Trail Consideration - Special requirements exist for the road alignment that is also used as the Susan Creek Trail (road to access TL39_04/23). This road alignment is shared for both purposes for approximately 500 feet. The accessible hiking trail was constructed to Americans with Disabilities Act (ADA) guidelines to a width of 3.5 feet using compacted crushed rock. To protect both the investment in the trail and the public recreation opportunity, a special standard applies to this segment when transmission line maintenance activities may damage the trail.

Road Maintenance Specifications - The guidelines for the maintenance of roads as identified in the TMP and Appendices B and D (USDA-FS, USDI-BOR) and Appendices B, C1, C2 and C3 (USDI-BLM).

Standard - A statement of required, mandatory, or specifically prohibitive practice regarding land management, safety, or other procedures.

Temporary Roads - Roads authorized by contract, permit, lease, other written authorization, or emergency operation not intended to be a part of the Forest Service transportation system and not necessary for long-term resource management (36 CFR 212.1).

Transportation Management Plan (TMP) - The transportation planning and policy document that describes implementation activities and policies related to the coordination of all transportation-related needs of the Pipeline Project and the agencies for roads and bridges necessary for Pipeline Project operations in the Pipeline Project vicinity for the term of the new right-of-way.

Watershed Analysis - Watershed analysis is a process used to characterize the human, biological and physical conditions, processes, and interactions within a watershed. It is an intermediate analysis between land management planning and project planning. The analysis focuses on specific issues, values and uses identified within the landscape that are essential for making sound management decisions.



Jordan Cove LNG, LLC

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Unanticipated Discovery Plan

Jordan Cove Energy Project

And

Pacific Connector Gas Pipeline Project

July 2018

(Revised 05.07.19)

Unanticipated Discovery Plan

1.0 Introduction

This document provides an Unanticipated Discovery Plan (UDP) that will be followed by Jordan Cove Energy Project, LP (JCEP) and Pacific Connector Gas Project, LP (PCGP) (JCEP and PCGP are collectively referred to as “Jordan Cove”). JCEP is seeking authorization from the Federal Energy Regulatory Commission (FERC) to site, construct and operate a natural gas liquefaction and liquefied natural gas (LNG) export facility on the North Spit of Coos Bay, Oregon (LNG Terminal). PCGP will simultaneously be seeking an authorization from FERC to construct and operate an approximately 229-mile long, 36-inch diameter natural gas transmission pipeline from near Malin, Oregon to the LNG Terminal (the LNG Terminal and Pipeline are collectively referred to as the “Project”). This UDP provides the procedures Jordan Cove, its personnel and consultants will follow in the event that unanticipated discoveries of historic properties, archaeological objects, archaeological sites, or human remains, funerary objects, sacred items and items of cultural patrimony are made during the construction and operation of the Project.

Potential unanticipated discoveries fall into two primary classes. The first class includes archaeological objects, materials or features such as hearths, pit features, or remains of dwellings. The second class consists of human remains, funerary objects, sacred items and items of cultural patrimony. The two classes are governed by different laws and regulations and require different treatment procedures.

Procedures for dealing with unanticipated discovery of human remains are outlined in Section 3.0, and procedures for dealing with the unanticipated discovery of archaeological objects are outlined in Section 4.0.

This UDP is intended to:

- Comply with applicable Federal and State and local laws and regulations – the National Historic Preservation Act of 1966, 16 U.S.C. § 470 and its implementing regulations at 36 CFR Part 800, 36 CFR Part 63; 36 CFR Part 61; the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), 25 U.S.C. §§ 3001 *et. seq.* and its implementing regulations at 43 CFR Part 10; Archaeological Resources Protection Act of 1979, as amended and its implementing regulations at 36 CFR Part 296; Oregon Revised Statutes (ORS) 97.740-97.760 for Indian Graves and Protected Objects; ORS 358.905-358.961 for the Protection of Archaeological Objects and Sites; ORS 390.235 for Archaeological Permit Requirements; OAR 736-051-0080 through 0090 Administrative Rules for Oregon Archaeological Excavation Permits; the Government to Government Cultural Resource Cluster Group “Treatment of Native American Human Remains Discovered Inadvertently or Through Criminal Investigations on Private and Non-Federal Public Lands in Oregon”; and Federal Energy Regulatory Commission’s Guidelines for Reporting on Cultural Resources Investigations for Pipeline Projects (July 2017);
- Describe to regulatory and review agencies the procedure Jordan Cove and its contractors will follow to address the unanticipated discovery of archaeological

objects, historic properties or human remains, funerary objects, sacred items and items of cultural patrimony; and

- Provide direction and guidance to Project personnel as to the proper procedure to be followed should an unanticipated discovery occur.
- Provide contact information for all parties that require notification – State police, LCIS, SHPO and affected Tribes.

2.0 Training and Orientation

Jordan Cove, in consultation with the FERC, will designate a Cultural Resources Coordinator (CRC) who will be responsible for all archaeological materials and historic properties-related activities on the Project. The CRC will be a professional archaeologist (meeting the Secretary of the Interior's Guidelines as defined in 36 CFR 61). For practical purposes, the CRC may designate an Environmental Inspector (EI) or other supervisor to provide notifications required under this UDP but may not delegate any of the CRC's other responsibilities, unless the EI is a professional archaeologist and meets the requirements of 36 C.F.R. Part 61, in which case the EI may act in the CRC's place if the CRC is unavailable. The CRC will provide archaeological/cultural resource orientation for Jordan Cove and advise construction contractors and personnel on the procedures to follow in the event that an unanticipated discovery is made. Training will occur as part of the pre-construction on-site training program for foremen, environmental inspectors (EIs), construction supervisors, and all other supervisory personnel who supervise any construction or inspection activities. An initial training will involve both general and detailed instructions regarding how to follow the requirements of the UDP, basic archaeological artifact and site identification, and an overview of the state and federal laws pertaining to the protection of archaeological resources. Tribes will be invited to participate. Refresher trainings will be provided annually to all personnel supervising any construction or inspection activities.

General instructions shall include:

- Ensure that all construction supervisors have contact information for the CRC.
- Stop work immediately if archaeological objects (artifacts, historic or prehistoric features [wells, privies, shell middens, etc.], bones, or any item suspected of being archaeological), funerary objects, sacred items and/or items of cultural patrimony are identified.
- Contact the construction supervisor immediately. The construction supervisor shall notify the CRC or its designee as soon as possible.
- Restrict access to the discovery.
- Drawings, photographs, or analysis will not be permitted without consultation and approval from the appropriate Indian Tribes.
- The discovery will not be shared with the media or individuals not pertinent to the assessment or protection of the remains.
- Comply with all unanticipated discovery procedures.
- Treat human remains, funerary objects, sacred objects, and objects of cultural patrimony with dignity and respect. Do not touch any human remains.

- A description of the potential penalties for failure to report discoveries or to comply with the procedures outlined in this UDP.
- The penalties that could be incurred by anyone who illegally collects, damages, or destroys any archaeological objects, archaeological sites, or historical artifacts, funerary objects, sacred objects and objects of cultural patrimony and associated materials and/or their context.

3.0 Procedures for the Inadvertent Discovery of Human Remains or Burial Sites

Any human remains, burial sites, or burial related objects that are discovered during construction will at all times be treated with dignity and respect.

Pursuant to ORS 97.745(4), if suspected Native American remains are encountered on private or non-federal public lands, Jordan Cove will notify the state police, SHPO, the Oregon Legislative Commission on Indian Services (LCIS), the FERC, and the appropriate Indian Tribe(s) as soon as possible but in all cases, within twenty-four hours of the determination.

In accordance with NAGPRA, if the remains are found on federal lands, , the CRC will immediately contact the applicable federal land management agency in accordance with the requirements of 43 C.F.R. § 10.4. The federal land management agency will then be responsible for further contact with any appropriate Indian Tribes, in accordance with any applicable rules or guidance documents

Indian Tribes that may have ancestral burial sites in the Project area include the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians, the Confederated Tribes of Grand Ronde, the Confederated Tribes of Siletz, the Coquille Indian Tribe, the Cow Creek Band of Umpqua Tribe of Indians, and the Klamath Tribes. The CRC and all EIs will comply with the following procedures:

A. DISCOVERY MADE: STOP WORK

If any Jordan Cove personnel or contractors believe he or she has made an unanticipated discovery of human remains (skeletal, teeth or hair), the remains will not be moved or disturbed, and the construction supervisor shall be immediately notified. The construction supervisor shall, in turn, immediately notify the CRC and the appropriate EI.

B. SECURE THE DISCOVERY

The CRC or its designee will be responsible for taking appropriate steps to protect the discovery. The construction activity that resulted in the exposure of the discovery will be immediately halted, followed, as soon as possible, by the cessation of all other ground-disturbing activity within 300 ft (91 m) of the discovery, unless a greater distance is required by SHPO to protect a discovery. Construction activities may continue elsewhere on the Project site, with a dedicated cultural resource monitor present. After all construction activity within 300 ft (91 m) of the discovery has been halted, the following steps will be taken to ensure that no further disturbance occurs to the discovery:

- i. Secure an area at least 300 ft (91 m) around the discovery using orange safety fencing or a similar material, as necessary;

- ii. Prevent vehicle traffic through the area immediately surrounding the discovery except as necessary to remove vehicles and equipment already present in the area;
- i. Consult with the SHPO to determine whether a 24-hour guard is needed to ensure that the find is secure at all times or consult with the applicable federal land management agency if the lands are federal;
- i. Limit access to the area surrounding the discovery to essential personnel, who will be identified by the CRC; and
- i. If the remains are suspected to be Native American, no photographs will be allowed unless approval is provided by the appropriate Indian Tribe(s). If the state police determine the discovery to be a crime scene, then any photographs will be taken at the direction of the state police.

C. NOTIFY THE AUTHORITIES

(Non-federal public lands): The CRC or its designee will immediately call the state police, SHPO, the LCIS, the appropriate Indian Tribe(s) and FERC, who will, according to their responsibilities, examine the discovery and determine whether it should be treated as a crime scene or as a human burial/cemetery. The CRC or its qualified designee will also have a physical anthropologist or osteo-archaeologist examine the discovery to concur with the coroner on whether the remains are human and whether or not they are contemporary. The physical anthropologist or osteo-archaeologist will have been previously agreed upon by the Indian Tribe(s). In the event of a disagreement between the coroner and the physical anthropologist or osteo-archaeologist, the opinion of the physical anthropologist or osteo-archaeologist shall control. A forensic anthropologist may also be required to determine whether the remains are of Native American ancestry. If the remains are determined to be or suspected to be of Native American ancestry, no photographs will be taken.

(Federal lands): If the discovery occurs on federal lands, the CRC will also immediately notify the applicable federal land management agency, and the Federal Land Archaeologist, if qualified to do so, will make, in consultation with the appropriate Indian Tribe(s), the determination as to whether the remains are human and of possible Native American ancestry. If the Federal Land Archaeologist is not qualified to determine whether the remains are human, the Federal Land Archaeologist will engage a forensic anthropologist or osteo-archaeologist, who shall consult with the appropriate Indian Tribes to determine whether the remains are of Native American ancestry. All work within 300 ft buffer around the discovery will halt until permission to resume work is provide by FERC, the SHPO or the applicable federal agency for finds on federal lands.

D. DETERMINE NATURE OF FIND

If the discovery is:

- i. **NOT HUMAN and NON-ARCHAEOLOGICAL:** If the remains are determined to be non-human by the osteo-archaeologist and/or forensic anthropologist, and are not associated with an archaeological context, then the osteo-archaeologist or forensic anthropologist will inform the CRC, who will notify the Construction Superintendent that construction can resume. The CRC will complete the Discovery Form and take photographs of any find definitively determined to be non-human. The photographs shall be sufficient for a trained archaeologist to determine that the remains are not human by reviewing them. The Discovery Form and photographs shall be

- submitted to FERC, the SHPO and the appropriate Indian Tribe(s) within 15 days of the discovery.
- ii. NOT HUMAN and ARCHAEOLOGICAL: If the remains are determined to be non-human by the archaeologist and/or forensic anthropologist, but associated with an archaeological site, the CRC shall follow the procedures identified in Section 4 below.
 - iii. HUMAN and NON-ARCHAEOLOGICAL: If the remains are determined to be human and associated with a crime scene by the appropriate county coroner, then the CRC shall immediately inform the Construction Superintendent to follow the coroner's protocol for removal of the remains. The CRC will complete the Discovery Form of the find to the extent allowed by State law. The Discovery Form shall be submitted to FERC within 15 days of the discovery.

E. DISCOVERY IS OF NATIVE AMERICAN ANCESTRY

If the remains are determined to be human, within an archaeological context, and of Native American ancestry, the CRC shall follow the steps in Section 4 subparagraphs (5) - (13) for the unanticipated discovery of an archaeological site and the following:

- i. Notifications to the appropriate agencies and Indian Tribes shall indicate that human remains have been identified.
- ii. No photographs shall be taken of Native American human remains except for the purpose of identification as approved through consultation with the appropriate Indian Tribes. Any photographs taken must be deleted immediately after positive identification.
- iii. Non-essential personnel will be excluded from the site.
- iv. The discovery will not be shared with the media or any individuals who are not required for the assessment and protection of the remains.
- v. The CRC shall request that the appropriate Indian Tribe(s) inform them of any requests they have regarding the treatment of the remains and such requests shall be honored to the greatest extent possible.
- vi. Field investigations to determine the NRHP-eligibility of materials shall avoid contact with the human remains which will be treated as NRHP-eligible. (ORS 97.740-97.760 and 43 C.F.R. §§ 7.5 and 7.6).
- vii. The CRC will consult with the SHPO and appropriate Tribe(s) to develop field investigations designed to evaluate the potential for additional human remains to be present without disturbing them.
- viii. The CRC will consult with the Construction Superintendent, the SHPO, and appropriate Tribe(s) to determine if the remains can be avoided by an alternative construction technique. If such a technique is possible, construction shall resume upon approval from SHPO and will be monitored by a professional archaeologist and the appropriate Indian Tribe(s) if they request to do so.
- ix. If disturbance of the remains cannot be avoided and the remains are not part of a crime scene and are part of a historic cemetery, the CRC will consult with the SHPO and appropriate Indian Tribe(s), if applicable, and/or likely descendants to develop a treatment plan. The treatment plan will outline measure to be implemented, including addressing how the remains should be excavated, repatriated, reinterred and reported. The treatment plan will clearly state that Jordan Cove shall be responsible for all costs

associated with implementation of an approved treatment plan. Human remains will not be permanently curated.

- x. If disturbance of the remains cannot be avoided and the remains are part of an archaeological site, the CRC will consult with the SHPO and appropriate Tribe(s) to develop a treatment plan for the site that includes provisions for excavation, reporting, repatriation and re-internment of the human remains and disposition of any artifacts. The treatment plan will be implemented after approval from the SHPO. Human remains and associated funerary objects will not be permanently curated.

F. The FERC will consult with the appropriate Indian Tribes to determine best practices for handling human remains of Native American ancestry. No work is to take place 300 feet of the area of the delineated discovery of human remains until a treatment plan has been approved and implemented.

G. Jordan Cove will offer to compensate the appropriate Indian Tribe(s) for their time and expenses related to any activities associated with the implementation of this UDP. In the event Jordan Cove has entered into a cost recovery agreement with a Tribe addressing such costs, Jordan Cove will abide by the terms of such agreement.

H. Jordan Cove will be responsible for any reburial costs associated with any human remains encountered during construction of the Project that are not associated with a criminal site.

4.0 Procedures for the Inadvertent Discovery of Archaeological Objects or Sites

In Oregon, it is illegal to disturb an archaeological site or object on private or non-federal public land without obtaining an archaeological excavation permit (ORS 358.920[1] [a]). When archaeological objects or archaeological sites are identified inadvertently, this law applies once the discovery is determined to be archaeological. Similarly, federal laws prohibit the disturbance of archaeological resources on federal lands in the absence of a valid permit (43 C.F.R. §§ 7.5 and 7.6). The CRC and the EIs will be aware of and follow the procedures set out below:

A. If any Jordan Cove personnel or contractors believe he or she has found archaeological object or an archaeological site, all work within 100 ft (30 m) of the discovery will stop and the Construction Superintendent will be notified immediately. The Construction Superintendent shall notify the EI and the CRC or its designee as soon as possible but no later than within 24 hours of the discovery. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the objects found and therefore may need to be greater than 100 ft depending on the nature of the find. Examples of archaeological objects include but are not limited to:

- i. An area of charcoal or charcoal-stained soil;
- ii. An arrowhead, stone tool, or stone flakes (chips);
- iii. A cluster of animal bones or burned rocks in association with stone tools or flakes (chips);
- iv. A cluster of tin cans, bottles, or other historic materials older than 50 years that have not previously been identified as objects that can be removed; or
- v. A dense pocket of shells.

B. The CRC or the EI onsite will make an initial assessment regarding whether the discovery consists of an archaeological site and/or an archaeological object. Appropriate Indian Tribes shall be notified of the discovery and preliminary assessment. The CRC or EI shall prepare a report regarding the assessment. The report shall be provided to appropriate Indian Tribes and SHPO for review and comment. If the CRC or EI initially determines it is not an archaeological site or object and an Indian Tribe disagrees, the SHPO shall make the final determination.

C. If it is determined that the discovery consists of archaeological objects or a site, the Construction Superintendent, CRC, and/or EI will take appropriate steps to protect the discovery site. At a minimum, the construction activity that resulted in the exposure of the discovery will be immediately halted, followed as soon as possible by the cessation of all other ground-disturbing activity within 100 ft (30 m) of the discovery. Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the buffer zone around the site, provided, however, a travel corridor will be allowed along the edge of the buffer zone furthest removed from the discovery, provided that:

- i. vehicles will not be allowed to pass closer than 45 ft from the discovery;
- ii. the edge of the travel corridor nearest the discovery will be secured using orange safety fencing or similar material; and
- iii. the CRC will consult with the SHPO to determine whether a 24-hour guard is needed to ensure that the find is secure at all times or if the discovery occurs on federal lands, the CRC will consult with the applicable federal land management agency regarding implementation of any security measures.

D. Work in the immediate area will not be re-started until treatment of the discovery has been completed and authorization to proceed has been provided by FERC and/or the SHPO as applicable, and after any required permits have been issued.

E. The buffer zone of 100 ft (30 m) will be established using orange safety fencing or a similar material.

F. The CRC or its qualified designee will arrange for the discovery to be evaluated by a professional archaeologist as soon as possible. The archaeologist must meet the Secretary of the Interior standards as described in 36 CFR Part 61. The appropriate Indian Tribe(s) shall be notified and afforded an opportunity to monitor the examination and provide comments on any written reports provided to Jordan Cove by the archaeologist.

The professional archaeologist shall apply for an expedited SHPO permit and examine the find within 48 hours of permit issuance. The archaeologist will recommend whether the discovery is potentially eligible for listing in the National Register of Historic Places (NRHP) pursuant to 36 CFR §800.4 and 36 CFR Part 63. The CRC will consider the archaeologist's conclusion, make its own recommendation, and then submit documentation, including any documentation or comments provided by an Indian Tribe(s) about the find, the archaeologist's recommendation and its recommendation to FERC, the SHPO and any appropriate Indian Tribe(s) for concurrence within 72 hours of receipt of the professional archaeologist's recommendation. The documentation will be in memorandum form with appropriate photographs included to facilitate FERC and SHPO's review of the conclusions reached.

G. If FERC, in consultation with the SHPO, Jordan Cove, and the appropriate Indian Tribe(s) determines that the discovery is eligible for listing under the NRHP (“NRHP-eligible”), FERC, Jordan Cove, the SHPO, and the appropriate Indian Tribe(s) will consult to determine if the Project will adversely affect the resource pursuant to 36 CFR 800.5.

H. If FERC, in consultation with the SHPO, Jordan Cove, and the appropriate Indian Tribe(s) determines that the discovery is not NRHP-eligible, then Jordan Cove will prepare a memorandum to this effect and deliver it to the SHPO and the FERC for concurrence. A copy will also be provided to the appropriate Indian Tribe(s). To the extent any Indian Tribe disagrees with the conclusions in such memorandum, the Indian Tribe reserves its rights pursuant to paragraph M below.

I. If FERC, in consultation with the SHPO, Jordan Cove, and the appropriate Indian Tribe(s) determines that the resource is NRHP-eligible and that the Project will have an adverse effect on it, Jordan Cove will first propose whether or not avoidance or minimization of adverse effects is possible via alternative construction techniques.

J. If it is determined that avoidance or minimization of adverse effects via alternative construction techniques to an NRHP-eligible site is not possible, then Jordan Cove will develop a treatment plan in consultation with the appropriate Indian Tribe(s), designed to mitigate the adverse effect pursuant to 36 CFR 800.6. Jordan Cove will consult with the FERC, SHPO, and the appropriate Indian Tribe(s) and follow state and federal regulations for applicable treatment measure(s). Jordan Cove will provide FERC, the SHPO and the appropriate Indian Tribe(s) with a draft treatment plan for review and comment. The SHPO will provide approval of the treatment plan, which will be implemented in accordance with any schedule set out in the plan. Treatment measures may include mapping, photography, subsurface testing and sample collection, complete data recovery, or other activities that may be developed with the appropriate Tribe(s). Jordan Cove will provide a report on the methods, analysis, and results in compliance with 36 CFR 800.11 and in accordance with the treatment plan. The specific work plan and schedule for these procedures will be included in the treatment plan.

K. If FERC, in consultation with the SHPO, Jordan Cove, and the appropriate Indian Tribe(s) determines that the resource is NRHP-eligible but that the Project will not adversely affect it, then Jordan Cove will prepare a memorandum to this effect and deliver it to the SHPO and the FERC for concurrence and provide a copy to the appropriate Indian Tribe(s).

L. Jordan Cove will ensure that field investigations, research, analysis, reporting, and curation of any materials collected during these investigations are sufficiently funded and implemented and follow all federal and state guidelines and procedures. On private and non-federal public lands, all treatment efforts shall be conducted under an Oregon permit for archaeological excavation (OAR 736-051-0080 through 0090). Treatment efforts on federal lands will be conducted under a federal permit.

M. If any Indian Tribe does not agree with the findings of the SHPO and Jordan Cove’s archaeologist, such Tribe reserves the right to address its concerns with the Advisory Council on Historic Preservation pursuant to 36 C.F.R. Part 800, and otherwise reserves all rights under state and federal law to obtain relief.

N. Upon completion of the treatment plan, Jordan Cove will submit a summary report to the SHPO and appropriate Indian Tribe(s) within thirty (30) days of completion of

the treatment plan. If archaeological data recovery is a component of the treatment plan, a full report will be submitted to the SHPO, appropriate Indian Tribes, and the LCIS in accordance with any schedule set out in the treatment plan.

5.0 Parties to Contact

Notice required under this UDP shall be made to those parties set out in the table below. Any party may update its contact information at any time. An effort will be made to update this information on an annual basis during the life of the Project.

Contacts for the Discovery of Archaeological Resources (multiple Tribes and agencies may need to be contacted)				
Organization	Name	Role	Contact Information	Mailing Address
Jordan Cove	Dustin Kennedy	Cultural Resource Coordinator (CRC)	Office: (971) 386-2044 Mobile: (541) 517-8452 Email: dkennedy@pembina.com	111 SW 5 th Ave, Suite 1100, Portland, OR 97204
Historical Research Associates	Bradley Bowden	Archaeological /Historical Consultant	Office: (503) 247-1319 Direct: (971) 386-2042 Mobile: (206) 898-5781 Email: bbowden@hrassoc.com	1825 SE 7 th Ave, Portland, OR 97214
Oregon State Historic Preservation Office (SHPO)	Dr. Dennis Griffin	State Archaeologist	Office:(503) 986-0674 Fax: (503) 986-0793 Email: dennis.griffin@oregon.gov	Heritage Conservation Division Oregon Parks and Recreation Dept., 725 Summer Street NE, Suite C, Salem, OR 97301-1266
Oregon State Historic Preservation Office (SHPO)	John Pouley	Assistant State Archaeologist	Office: (503) 986-0675 Fax: (503) 986-0793 Email: john.pouley@oregon.gov	Heritage Conservation Division Oregon Parks and Recreation Dept., 725 Summer Street NE, Suite C, Salem, OR 97301-1266
Federal Energy Regulatory Commission (FERC)	Paul Friedman	FERC Cultural Resources Contact	Office: (202) 502-6353 Fax: (202) 208-0353 Email: paul.friedman@ferc.gov	888 First Street NE, Washington, D.C. 20426
Federal Energy Regulatory Commission (FERC)		Alternate FERC Contact	Office: Fax: (202) 208-0353 Email:	888 First Street NE, Washington, D.C. 20426
Federal Land Owners				

Contacts for the Discovery of Archaeological Resources (multiple Tribes and agencies may need to be contacted)				
Organization	Name	Role	Contact Information	Mailing Address
BLM	Allen Bollschweiler	Project Manager PCGP	Office: (541) 756-0100 Phone: Email: abollsch@blm.gov	2164 Spalding Ave. Grants Pass, OR 97526
BLM Coos Bay District	William Kerwin	Archaeologist	Office: (541) 756-0100 Phone: (541)751-4306-3246 Email: wkerwin@blm.gov	1300 Airport Lane North Bend, OR 97459
BLM—Medford District	Cheryl Foster-Curley	Archaeologist	Office: (541) 618-2200 Phone: (541) 618-2280 Email: cfostercurley@blm.gov	3040 Biddle Road Medford, OR 97504
BLM—Roseburg District	TBD	Archaeologist	Office: (541) 440-4930 Phone: (541) 440-3284 Email: TBD	777 NW Garden Valley Blvd. Roseburg, OR 97471
BLM—Lakeview District: Klamath Falls Resources Area	Laird Naylor II	Archaeologist	Office: (541) 883-6916 Phone: (541) 885-4139 Email: lnaylor@blm.gov	2795 Anderson Avenue, Bldg. #25 Klamath Falls, OR 97603
Umpqua National Forest	Christopher Kelly	Heritage Program Manager/Tribal Liaison	Office: (541) 957-3200 Phone: (541) 957-3350 Email: cjkelly@fs.fed.us	2900 NW Stewart Parkway, Roseburg, OR 97471
Rogue River – Siskiyou National Forest	Melissa Julien	Heritage Program Manager/Tribal Liaison	Office: (541) 618-2200 Phone: (541) 618-2077 Email: melissajulien@fs.fed.us	3040 Biddle Road, Medford, OR 97504
Fremont – Winema National Forest	TBD	Klamath Ranger District Forest Archaeologist	Office: (541) 883-6714 Phone: (541) 947-6260 Email: jkaiser@fs.fed.us	2819 Dahlia Street Suite A, Klamath Falls, OR 97601
Fremont – Winema National Forest	Roland Giller	Tribal Government Relations	Office: (541) 883-6741 Email: rgiller@fs.fed.us	
Bureau of Reclamation	Melissa Ivie	Regional Cultural Resources Officer	Office: (916) 978-5028 Cell: (916) 978-335-3816 Email: mivie@usbr.gov	

Contacts for the Discovery of Human Remains (multiple Tribes and agencies may need to be contacted)				
Organization	Name	Role	Contact Information	Mailing Address
Oregon State Police	Sergeant Chris Allori		Office: (503) 731-4717 Mobile: (503) 708-6461 Dispatch: (503) 731-3030	
Coos Bay Area Command State Police	Lieutenant Jeff Lewis		Office: (541) 888-2677 Email: jeffrey.lewis@state.or.us	

Contacts for the Discovery of Human Remains (multiple Tribes and agencies may need to be contacted)				
Organization	Name	Role	Contact Information	Mailing Address
Oregon Medical Examiner's Office	Karen Gunson	Oregon State Medical Examiner	Office: (971) 673-8200	
Oregon Medical Examiner's Office	Eugene Gray	Forensic Administrator	Office: (971) 673-8200 Email: Eugene.Gray@state.or.us	
Oregon Medical Examiner's Office	James Olson, M.D.	Deputy State Medical Examiner-Southern Region	Office: (541) 440-4453	
Bureau of Reclamation	(Elisa) Melanie Ryan	Regional Physical Anthropologist/NA GPRA Specialist	Office: (916) 978-5526 Cell: (916) 425-2348 Email: emryan@usbr.gov	
Tribal Contacts				
Oregon Commission on Indian Services (LCIS)	Daniel Santos	Executive Director	Office: (503) 986-1067 Fax: (503) 986-1071 Email: LCIS@oregonlegislature.gov	900 Court Street NE, Rm. 167, Salem OR 97301-1347
Coquille Indian Tribe	Kassandra Rippee	THPO & Archaeologist	Office: (541) 756-0904 ext. 1216 Mobile: (541) 808-5554 Fax: (541) 756-0847 Email: kassandraripee@coquilletribe.org	3050 Tremont Street, North Bend, OR 97459
Confederated Tribes of Coos, Lower Umpqua & Siuslaw Indians	Stacy Scott	THPO, Cultural Resources Protection Specialist	Office: (541) 888-7513 Mobile: (541) 297-5543 Fax: (541) 888-2853 Email: sscott@ctclusi.org	1245 Fulton Avenue, Coos Bay, OR 97420
Confederated Tribes of Grand Ronde	Briece Edwards	Deputy THPO	Office: (503) 879-2084 Fax: (503) 879-2126 Email: THPO@grandronde.org	9615 Grand Ronde Road, Grand Ronde, OR 97347
Confederated Tribes of Siletz	Robert Kentta	Cultural Resource Program Director	Office: (541) 444-2532 Home: (541) 444-2204 Mobile: (541) 351-0148 Fax: (541) 444-2307 Email: Rkentta@ctsi.nsn.us	PO Box 549, Siletz, OR 97380
Cow Creek Band of Umpqua Tribe of Indians	Jessie Plueard	THPO and Cultural Programs Manager	Office: (541) 677-5575 X5577 Fax: (541) 677-5574 Email: jplueard@cowcreek.com	2371 NE Stephens St. Suite 100, Roseburg OR 97470

Contacts for the Discovery of Human Remains (multiple Tribes and agencies may need to be contacted)				
Organization	Name	Role	Contact Information	Mailing Address
The Klamath Tribes	Perry Chocktoot	Director of Culture and Heritage	Office: (541) 783-2219 X159 or (541) 891-5450 Fax: (541) 783-2764 x107 Email: perry.chocktoot@klamathtribes.com	PO Box 436, Chiloquin, OR 97624