BIOLOGICAL ASSESSMENT

(continued)

APPENDIX F

Pacific Connector's Erosion Control and Revegetation Plan

Pacific Connector Gas Pipeline, LP

Erosion Control and Revegetation Plan (ECRP)

Pacific Connector Gas Pipeline Project

(During the previous NEPA process, PCGP submitted a Plan of Development to meet BLM Right-of-Way Grant requirements based on BLM regulations. These plans will be updated in consultation with the Federal land managing agencies [BLM, USFS, and Reclamation]) during the current NEPA process.).

October 2017

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1.0 INTRODUCTION

This Erosion Control and Revegetation Plan ("ECRP") outlines the erosion control and revegetation procedures that PCGP Gas Pipeline, LP ("PCGP") will utilize during construction of the Pipeline to minimize erosion, sedimentation and enhance revegetation success on all lands crossed by the Pipeline.

The goal of this ECRP is to identify and specify the Best Management Practices ("BMPs") that will be utilized to protect soil productivity and water quality by controlling soil erosion, mass wasting, soil displacement and the loss of surface organic matter. This ECRP also describes the measures that will be implemented to minimize impacts from potential soil compaction. The revegetation measures outlined in this ECRP have been prescribed to stabilize disturbed areas and to revegetate the right-of-way to a condition which supports the preconstruction land use (i.e., forest lands, rangelands, croplands, hayfields and pasturelands) as quickly as possible following construction. Measures outlined in this ECRP have also been designed to mitigate impacts to wildlife habitat, wetlands, and riparian areas. In addition to the restoration measures outlined in this ECRP, the Aesthetics Management Plan, included as Appendix A of the Plan of Development ("POD"), provides additional restoration measures that would be implemented to minimize the Pipeline's visual impacts at various Key Observation Points located on federal lands. The Contaminated Substances Discovery Plan (Appendix E of the POD) also provides site-specific erosion control measures that would be applied between about MPs 109 and 111 on the Umpqua National Forest, where the alignment crosses the historic Thomason cinnabar claim group. These site-specific erosion control measures have been recommended by the Forest Service, despite the low levels of mercury in recent soil samples, to prevent the potential mobilization of naturally-occurring mercury. The 2015 FERC FEIS (Appendix L - Biological Evaluation) also provides specific conservation measures to restore Bellinger's meadowfoam habitat near MP 154.8 on the Rogue River National Forest.

The erosion control and revegetation procedures outlined in this plan were developed using the Federal Energy Regulatory Commission's ("FERC's") Upland Erosion Control, Revegetation, and Maintenance Plan ("Upland Plan") and FERC's Wetland and Waterbody Construction and Mitigation Procedures ("Wetland and Waterbody Procedures") which are provided in Attachments A and B of this plan. In addition, this ECRP incorporates erosion control and revegetation recommendations provided by the U.S.D.A. Forest Service ("Forest Service") and Bureau of Land Management ("BLM") for their respective federally-managed lands. Erosion control and revegetation guidelines provided by the Natural Resource Conservation Service ("NRCS") have also been incorporated for use on private lands. Appendix 7B to Resource Report 7 included in PCGP's Certificate application provides the specific erosion control and revegetation recommendations provided by the Forest Service, BLM, and NRCS. This plan has been reviewed extensively by various agencies, including the Forest Service and BLM, during the FERC pre-filing process initiated in 2006, the 2007 FERC Certificate application process, the Plan of Development process, and again during the FERC pre-filing process initiated in 2012, the 2013 FERC Certificate application process, as well as the Oregon Department of Environmental Quality's ("ODEQ's") 401 Water Quality Certification and 1200-C Stormwater permit processes; agency review comments have been incorporated into this plan.

1.1 Project Description

The Pipeline will involve construction of approximately 229 miles of 36-inch diameter pipeline within Coos, Douglas, Jackson, and Klamath counties in southwestern Oregon. The Pipeline

will be capable of transporting approximately 1,200,000 dekatherms per day (Dth/d) of natural gas from interconnections with two existing interstate natural gas pipelines (Ruby Pipeline LLC's Ruby Pipeline and Gas Transmission Northwest LLC's GTN Pipeline) near Malin, Oregon, to the proposed Jordan Cove Liquefied Natural Gas ("LNG") export facility ("LNG Terminal") being developed by Jordan Cove Energy Project, L.P. ("JCEP").

Aboveground facilities associated with the Pipeline include:

- the Klamath Compressor Station with two operating compressor units totaling approximately 61,200 ISO horsepower (with one additional standby unit of 31,100 ISO horsepower) at MP 228.81;
- Three meter station locations (3 interconnects: Jordan Cove Meter Station/MP 0.00; Klamath-Beaver Meter Station [GTN]/MP 228.81; and Klamath-Eagle Meter Station [Ruby]/MP 228.81);
- five new pig launcher/receiver units (co-located with other aboveground facilities);
- 17 mainline block valves spaced along the Proposed Route (Coos, Douglas, Jackson, and Klamath counties, Oregon) according to DOT safety requirements; and
- new communications towers and equipment buildings and usage of existing communications towers and equipment buildings along the Proposed Route (Coos, Douglas, Jackson, and Klamath counties, Oregon).

Because these permanent aboveground fenced facilities will be located within PCGP's permanent operational right-of-way and will be stabilized by gravel, these facilities will not be discussed further in this ECRP.

Detailed topographic maps (USGS 7.5-minute topographic quadrangles) of the alignment and photo-based Environmental Alignment Sheets are included in the Mapping Supplement, Appendix G.1 and Appendix H.1 to Resource Report 1, respectively.. The Environmental Alignment Sheets show the proposed alignment, construction right-of-way, temporary extra work areas ("TEWAs"), and uncleared storage areas ("UCSAs") that are required for construction. The alignment sheets (1":200') provide 2016 aerial photography of the alignment and show contours, ownership, legal locations, jurisdiction, locations of wetland and waterbodies as well as other pertinent environmental information.

2.0 EXISTING SITE CONDITIONS

The topography in the Pipeline project area varies from flat to gently sloping and rolling to rugged and steep. On the west end, the topography is generally flat to gently sloping within the floodplains and terraces of narrow river and slough valleys. The topography along the eastern portion where the proposed pipeline alignment traverses the eastern footslopes of the Cascades and the Klamath Basin is also characterized as flat to gently sloping. However, the topography becomes more rugged and steep through the Southern Coast Range and Cascade foothills where there are numerous steeply dissected drainages that must be negotiated as the alignment proceeds in a southeasterly direction toward the terminus near Malin, Oregon. The topography traversed by the proposed Pipeline is shown on the topographic maps and the Environmental Alignment Sheets. Section 11.0 of this ECRP describes the routing and planning efforts that were implemented, as well as construction methods and restoration and erosion control measures that will be utilized to ensure the safety, stability, and long-term integrity of the Pipeline in areas where the alignment crosses steep and rugged terrain. These measures will

also minimize the potential for the Pipeline to increase mass wasting, erosion and subsequent direct or indirect resource impacts.

The climate across the Pipeline project area varies and influences the properties of the soils that are traversed by the alignment. For example, precipitation varies between a high of more than 100 inches/year in the Coast Range to a low of between 10 to 18 inches/year in the Klamath Basin east of the Cascades. Temperatures and the length of the growing season, which affect soil formation, also vary considerably in the Pipeline project area between the coast, the Cascades and the interior Klamath Basin. Many soils form because of the microclimates which result from the differences in elevation, air drainage, and topography, including slope gradient and aspect. In addition to climate, changes in other factors such as parent material, relief, and time further increase the number of different soils in the Pipeline project area. Soil formation or development in the Pipeline project area relates mainly to the length of time the other four soil-forming factors have interacted. As soils increase in age, significant changes occur in their chemical and physical characteristics through soil weathering. Because of these varying climatic and soil differences the erosion control and revegetation measures identified and specified in this ECRP have been developed and prescribed to ensure their effectiveness across a wide variety of conditions. Further, the erosion control and revegetation measures that have been identified and specified in this ECRP have been developed to minimize the extent and duration of Pipeline-related disturbances, as have FERC's Upland Plan and Wetland and Waterbody Procedures (see Attachments A and B) which have been specifically developed for linear pipeline projects.

The Pipeline will affect 346 waterbodies. Of the 346 waterbodies affected, 66 are perennial, 168 are intermittent, 98 are ditches, 10 are lakes or stock ponds, and 4 are estuarine (Coos Bay/2 crossings and one HDD pullback and the Coos River). Many of the intermittent streams and ditches are expected to be dry during the proposed summer construction schedule. Including waterbodies, the Pipeline will cross 6.4 miles of wetlands in 428 wetland/waterbody systems. Because of the potential for the Pipeline to directly and indirectly impact water quality, wetlands, and riparian areas, erosion control and revegetation measures outlined in this ECRP have been developed to minimize potential impacts to these resources from mass wasting, soil erosion, sedimentation, soil displacement, and compaction. The revegetation measures specified in this plan have been developed to mitigate impacts to these sensitive areas while ensuring pipeline safety standards and operational requirements.

3.0 PROPOSED CONSTRUCTION ACTIVITIES

The Pipeline will be designed, constructed, tested, operated, and maintained to conform with U.S. Department of Transportation ("DOT") requirements, 49 CFR Part 192; FERC's regulations,18 CFR § 380.15; PHMSA's regulations; and other applicable federal and state regulations. In addition to the DOT requirements, PCGP will construct and restore areas disturbed by the Pipeline and aboveground facilities in accordance with FERC's Wetland and Waterbody Procedures and Upland Plan (see Attachments A and B).

3.1 Pipeline Routing and Design

To minimize overall impacts, PCGP employed extensive routing and design efforts to ensure that the proposed route was feasible for the construction, safety, and reliability of maintaining and operating a large-diameter high pressure natural gas pipeline. The route was selected to ensure stability by avoiding landslides and areas of potential mass wasting (see Resource Report 6/Geologic Hazards and Mineral Resources Report) and to minimize impacts to sensitive

resources. The alignment follows ridgelines and slope contours where possible to ensure stability. This ridgeline alignment minimizes waterbody crossings by following watershed boundaries and reduces grading and necessary cut and fill requirements during construction. Side slopes were avoided where feasible to minimize grading, overall clearing and disturbance, and to ensure pipeline stability. Minimizing the overall length of the alignment was also an objective during the routing process. Additional length inherently increases the overall acreage of disturbance (i.e., vegetation clearing, grading, trenching); affects more landowners during construction; requires more permanent easements; typically increases potential impacts to sensitive resources; and generally increases overall costs. Once the route was selected, PCGP designed the proposed construction footprint to minimize the area of disturbance while providing adequate space to construct safely and efficiently.

3.2 Construction Schedule

PCGP anticipates starting construction in fourth quarter 2019 when civil surveys and access road improvements will be initiated. PCGP plans to conduct clearing in some forested areas starting in 2020 prior to mainline construction in 2021. Horizontal directional drills of five waterbodies (Coos Bay Estuary/2 crossings; Coos River; Rogue River; and Klamath River) and Direct Pipe® installation technology for a sixth waterbody (South Umpqua River) are scheduled for 2021. Figure 1.3-2 in Resource Report 1 provides a general schedule for the Pipeline.

Mainline and facility construction is planned to begin spring 2021 with the in-service date scheduled for fourth quarter 2022. Restoration of construction disturbance in each given area is expected to begin once construction is completed in that area; restoration will be completed by the end of the winter season when forest, wetland, and riparian plantings will be installed. Depending on site-specific conditions, it may be necessary to continue restoration through the spring. Timber clearing in areas of northern spotted owl ("NSO") and marbled murrelet ("MAMU") will be conducted outside the critical breeding seasons[1]. Construction activities are scheduled to take advantage of the drier periods of the year to minimize winter construction and to reduce potential environmental impacts and construction safety risks. Attachment E to the ECRP provides the winterization measures that PCGP will implement in areas where final restoration has not been completed and which will occur in the spring to ensure disturbed areas are stabilized and erosion and potential sedimentation are minimized.

PCGP plans to conduct forest clearing starting fourth quarter 2020 prior to mainline construction, to minimize overall work space and TEWA requirements. TEWA requirements have been minimized by proposing a two-year construction window because the same work areas used to stage right-of-way logging timber clearing activities and provide log storage and decking space would then be utilized for pipeline construction activities. Logging concurrently with pipeline construction would require additional space to work safely and efficiently, and potential clearing delays could force construction activities into the winter rainy season, increasing the potential for erosion and safety hazards. Therefore, scheduling clearing and mainline pipeline construction activities over a two-year period will minimize winter construction requirements resulting from seasonal and biological construction windows. The detailed schedule for clearing activities will include areas of known seasonal restrictions along the route. Temporary erosion control and stabilization measures will be installed where necessary in areas of disturbance. These measures will be maintained throughout construction until the Pipeline is in-service and disturbed areas are stable. Dividing construction into two years is a BMP that will

[1] Timber clearing in areas of active NSO sites would occur between 10/1 and 2/28 and in areas of known MAMU between 9/16 and 3/31.

minimize the area required for construction and winter/rainy season (i.e., November 1 to April 30) construction, which will significantly reduce impacts.

3.3 Pipeline Construction Sequence

To efficiently construct the 229-mile long Pipeline, PCGP proposes to use five construction spreads. Within each spread, the construction sequence will typically proceed systematically as follows:

- preconstruction survey, marking and staking;
- access road improvement;
- forest/timber clearing;
- grading;
- installation of erosion control BMPs;
- topsoiling (where required);
- trenching;
- pipe stringing;
- welding and coating pipe;
- lowering pipe and backfilling;
- strength (hydrostatic) testing; and
- restoration.

The construction activities for each spread will generally occur in sequence or in assembly-line fashion along the right-of-way with one crew following the next from clearing until final cleanup. Each spread is planned to encompass all construction activities within a specific milepost range (see Table 3.3-1). Dividing the Pipeline into five construction spreads is a BMP that will minimize winter/rainy season (i.e., November 1 to April 30) construction activities and will significantly reduce potential impacts.

Table 3.3-1
Spread Locations

Spread	Milepost Range
1	0.00-51.60
2	51.60-94.67
3	94.67-132.47
4	132.47-169.50
5	169.50-228.81

3.3.1 Preconstruction Survey

Prior to construction, the construction right-of-way limits including the boundaries of TEWAs shown on the Environmental Alignment Sheets will be clearly marked/staked. Details of the preconstruction survey and right-of-way marking are described in the Right-of-Way Marking Plan provided in Appendix T of the POD. Prior to the start of construction, Environmental Inspectors ("EIs") will verify the limits of the staked construction areas. On federal lands the authorized federal agency representative may also verify the limits of the staked construction areas. The Right-of-Way Marking Plan describes the procedures that would be implemented on federal lands to identify and stake the construction limits. Consistent with Section IV.A.1 of FERC's Upland Plan, PCGP will confine disturbance to those areas shown on the Environmental Alignment Sheets or approved through a Notice to Proceed from FERC. No disturbance will be allowed to occur outside of these areas without appropriate surveys (cultural,

threatened and endangered species, residential, etc.), other federal, state, or local permits and prior written approval from FERC.

Access roads, overhead utilities, and buried utilities will be located, marked and signed to prevent accidental damage during pipeline construction. Sensitive areas to be protected from disturbance will be marked with t-posts and brightly colored rope, flagging, or construction fence so as to be visible to equipment operators. These areas will also be located on the Environmental Alignment Sheets issued for construction and presented during preconstruction environmental training. Equipment will only be allowed to enter and operate within the delineated limits of disturbance, access roads, etc. Flagging, signs and other markings identifying the limits of disturbance will be maintained through all phases of construction and routinely checked by the EIs. Construction will primarily use a 95-foot wide construction right-of-way corridor and associated TEWAs. However, in specified areas such as wetlands, sensitive visual areas and in residential areas the construction right-of-way will be reduced to 75 feet wide to minimize disturbance. In most cases, except where topographical constraints occur, TEWAs have also been located at least 50 feet away from wetland boundaries to minimize impacts to wetland buffers and riparian areas. PCGP has proposed a 95-foot wide construction right-of-way to minimize overall disturbance where other similar diameter pipeline projects (i.e., 30-inch or greater) typically utilize a 100-foot or wider temporary construction right-of-way configuration. As an example, the 712-mile Rockies Express Pipeline (West) Project (FERC Docket CP05-31-000) used a 125-foot wide construction right-of-way to construct the 42-inch diameter pipeline across the Rocky Mountain and Plains states, and the recently completed 675-mile, 42-inch Ruby Pipeline, which extended from southwest Wyoming to Malin, Oregon and utilized a 115-foot wide construction right-of-way (FERC Docket No. CP09-54-000).

3.3.2 Forest/Timber Clearing

During forest clearing, all operations and tree falling will occur within the certificated construction work area limits. Trees within the certificated construction work area limits will be felled or sheared so as to prevent damage to adjacent trees, facilities, or structures and will also be felled away from wetlands, waterbodies, and riparian reserves. As required by OSHA regulations, PCGP will cut hazard/danger trees[2] on the edges of the certificated construction work limits that have been designated by PCGP's qualified representative (arborist). Any debris entering a waterbody as a result of felling and yarding of timber will be removed as soon as practical after entry into the waterbody and will be placed outside the 100-year floodplain where practical. Logs and slash will not be yarded across perennial streams unless fully suspended. During logging/clearing operations, the direction of log or slash movement will be conducted to minimize sediment delivery to waterbodies, including intermittent streams. Logs firmly embedded in the bed or bank of waterbodies that are in place prior to felling and yarding of timber will not be disturbed, unless they prevent trenching and fluming operations. Any existing logs that are removed from waterbodies to construct the pipeline crossing will be returned to the waterbody after the pipeline has been installed, backfilling is complete, and during the time the streambanks are being restored. Landings for clearing operations will not be located in wetlands or riparian reserves on federal lands, and, 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. 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-approved timber

[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.

harvesting method is not feasible, an alternate timber harvesting method will be utilized with approval from the landowner or land managing agency.

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. TEWAs have been identified for log storage and decking along the alignment that are located in existing cleared areas adjacent to existing roads where feasible where log storage could occur for extended periods, if necessary. The construction right-of-way has been designed to minimize additional TEWAs which will reduce overall disturbance. The construction footprint is not large enough in many areas to accommodate both the logs cleared from the right-of-way and accomplish efficient construction activities simultaneously. Therefore, cut timber must be removed from the right-of-way to avoid delays due to right-of-way congestion. Avoiding construction and restoration delays and construction activities in the late fall and winter rainy season are important BMPs that PCGP plans to implement to avoid potential and unnecessary impacts.

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. At the request of the federal land-managing agencies, PCGP has developed a "desk top" analysis that details how right-of-way clearing is to be completed (see the Right-of-Way Clearing Plan - Appendix U of the POD). The purpose of the Right-of-Way Clearing Plan is to outline methods that PCGP will implement to remove the timber along the construction right-of-way and TEWAs. PCGP has identified and documented the existing timber 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 has also developed timber clearing scenarios and methods to remove the timber from the construction right-of-way and TEWAs. The specific logging methods will not be determined until a contractor has been selected through the bidding process for each spread. Cable and helicopter logging methods will minimize the potential for soil compaction. Where log skidding is accomplished by machine methods, the following practices will be employed where feasible to minimize detrimental soil disturbance (compaction and displacement):

- Low-ground weight (pressure) vehicles will be used as much as possible.
- 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.
- The removal of soil duff and surface slash layers will be minimized so that a cushion exists between equipment or logs and the mineral soil.
- Designated skid trails will be used to restrict detrimental soil disturbance (compaction and displacement) to a smaller area of the construction right-of-way (preferably over the pipeline trenching area).
- Compacted landing, yarding, and load-out areas used for timber harvesting during Year One 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, minimize run-off and the potential for sedimentation.

Any timber cleared from the right-of-way that will be used for instream or upland wildlife habitat diversity structures will be stored on the edge of the right-of-way or in TEWAs for later use during restoration efforts. Information regarding placement, size, and species of trees that will be proposed for instream large woody debris ("LWD") will be included in the Applicant-Prepared

Draft Biological Assessment ("APDBA"). Where LWD (with root wads) is acquired for instream habitat use, this material will only be obtained from the certificated construction limits and will be collected outside riparian zones to maintain root structure within the riparian zone. The exception is where the LWD can be obtained from the trenchline or right-of-way cut areas where root systems would be removed during trench excavation or grading operations. As outlined in the Leave Tree Protection Plan (see Appendix P of the POD), prior to clearing operations, the EI or PCGP's authorized representative will flag existing snags on the edges of the construction right-of-way or TEWAs where feasible and they are not designated as a hazard to save from clearing. These snags will be saved as mitigation to benefit primary and secondary cavity nesting birds, mammals, reptiles and amphibians. During this process other large diameter trees on the edges of the construction right-of-way and TEWAs would also be flagged to save/protect as green recruitment or habitat/shade trees, where feasible and if they do not create a hazard. Some of these trees would be girdled to create snags to augment the number of snags along the right-of-way to benefit cavity nesting birds, mammals, reptiles and amphibians. Also, as noted in the Aesthetics Management Plan (see Appendix A of the POD), some trees on the edge of the construction right-of-way and TEWAs at Key Observation Points on federal lands will be salvaged, where feasible, to aid in shaping the linear edges to blend in with the existing landscape and reduce contrast. 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.

Treatment of Forest Slash. Residual slash from timber clearing will be placed at the edge of the right-of-way and scattered/redistributed across the right-of-way during final cleanup and reclamation according to BLM and Forest Service fuel loading specifications to minimize fire hazard risks (see Section 10.2). However, much of the slash generated during timber clearing operations in 2020 construction will remain on the ground and in place to provide cover to minimize erosion over the winter of between 2020 and mainline construction in 2021. PCGP has designated UCSAs that will not be cleared of trees along the route. The UCSAs will be used to store forest slash, stumps, and dead and downed log materials generated during clearing and construction operations that will be scattered across the right-of-way after construction. These UCSAs were designed to reduce the overall Pipeline clearing and disturbance footprint which will minimize impacts to forested areas, including late successional reserves ("LSRs"). Slash will not be permanently stored in UCSAs in riparian reserves on federal lands. However, large or coarse woody debris materials that would be redistributed across the right-of-way within riparian reserves during restoration would be temporarily stored in the UCSAs to minimize the movement of this material out of and then back into the riparian reserves, which would minimize the loss of this material. Temporary storage of this material within the UCSA will also minimize overall equipment disturbance to riparian reserves by minimizing heavy equipment use and tracking. PCGP EIs would coordinate with the federal agency representative regarding temporary slash storage within riparian reserves. Section 4.0 of the Leave Tree Protection Plan (see Appendix P of the POD) provides a detailed description of the UCSAs. Minimizing overall disturbance will also reduce the potential for erosion especially on steep slopes. These UCSAs are shown on the Environmental Alignment Sheets.

Off-site disposal of slash materials is also expected, and, if feasible, burning would be the preferred disposal procedure. Where material disposal is necessary, disposal would occur in accordance with federal, state, and local regulations. 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 landowner, BLM, and Forest Service

stipulations. PCGP has developed a Prescribed Burning Plan (see Appendix R of the POD) that describes the proposed burning of forest slash as a disposal method. Wood chips may also be generated during clearing operations which will be scattered across the right-of-way with the cull logs and slash. Scattering the material will enhance soil stability and revegetation success as described in Section 10.2. Further, the Forest Service has noted that wood chips can be the most effective means to protect soils from surface and fluvial erosional processes.

After timber clearing operations, the EI will determine appropriate temporary BMPs that will be installed to minimize potential erosion and sedimentation impacts. These measures may 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/brush piles (i.e., slash filter windrows) at appropriate locations to prevent off-site runoff and sedimentation;
- 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 bale sediment barriers;
- Temporary seeding (using appropriate quick-germinating cover crops such as annual ryegrass or other appropriate quick-growing temporary cover species; this measure would not occur on federal lands where introduced species are restricted); and/or
- Selective mulching of areas without effective surface cover.

On federal lands, the EI would coordinate with the authorized federal agency representative to determine the appropriate temporary BMPs that would be installed.

3.3.3 Clearing and Grading

Clearing of non-forested lands and grading activities will generally occur in 2021 construction. The flagged limits of disturbance will be maintained throughout all construction phases and will be monitored by PCGP's EIs so activities are restricted to certificated limits. Grading of the construction right-of-way in upland areas will be limited to the minimum required to provide a safe working area necessary to construct the pipeline. Vegetation in wetlands will be cut off at ground level, leaving existing root systems in place. Pulling of tree stumps and grading activities will be limited to directly over the trenchline in wetlands. PCGP will not grade or remove stumps or root systems from the rest of the right-of-way in wetlands unless it is determined that safety-related construction constraints require removal of tree stumps from under the working side of the right-of-way. Minimizing stump and root system removal in wetlands will accelerate restoration efforts by allowing sprouting species to reestablish from existing root systems. In upland forests, PCGP will also limit stump removal to the trenchline and working areas where grading is necessary to construct a safe level working plane. Minimizing stump removal in upland areas, where feasible, will minimize soil disturbance and erosion potential and increase soil strength by maintaining soil root structure. Where standing stumps occur on the right-of-way, PCGP will use grinders where practical to construct a safe level working plane to minimize grading and soil disturbance.

3.3.4 Installation of Erosion Control BMPs

Temporary erosion control measures will be installed after vegetation clearing and immediately prior to/after initial soil disturbance. Installation of temporary erosion control measures prior to clearing/logging is ineffective because trees and brush must be cleared to allow proper

installation of the BMPs, and the BMPs are typically damaged or destroyed during the clearing activities and must then be re-installed. Near waterbodies and wetlands, it will be determined in the field by the EIs if it is necessary to install temporary erosion control measures (i.e., sediment barriers) prior to clearing activities to minimize the potential for runoff to enter a wetland or waterbody. On federal lands, the EI would coordinate with the authorized federal agency representative on the appropriate placement and installation timing of these BMPs. All erosion control devices will be routinely inspected and any damaged or temporarily removed structures will be replaced at the end of each working day. Temporary erosion control measures will be maintained until successful revegetation has been achieved. Section 4.0 of this ECRP describes in detail the temporary erosion control procedures or BMPs that will be implemented during construction to minimize potential impacts from erosion and sedimentation.

3.3.5 Topsoiling

Topsoil segregation will be performed over the trenchline and subsoil storage area in croplands, hayfields, pastures, and residential areas. PCGP will stockpile topsoil from the trenchline and subsoil storage area separately from all subsoil and will replace the two horizons in the proper order during backfilling and final grading. Topsoil segregation will be performed in these areas to prevent mixing of the soil horizons in order to prevent the potential loss of soil fertility or incorporation of excess rock into the topsoil. Topsoil segregation will also be performed over the trenchline in non-saturated wetlands. Implementation of proper topsoil segregation will help to ensure post-construction crop productivity and revegetation success.

PCGP requested to not salvage topsoil on all forested lands, which is a modification from Section IV.B.1.d. of FERC's Upland Plan that specifies topsoil stripping at the landowner's or land managing agency's request. However, PCGP will salvage topsoil in wetlands on all forested lands according to FERC's Wetland and Waterbody Procedures.

Areas where topsoil will be segregated are identified in Resource Report 7 and are shown on the Environmental Alignment Sheets. PCGP will also salvage topsoil in wetland areas according to FERC's Wetland and Waterbody Procedures (see Attachment B Section VI.B.2.h.).

3.3.6 Trenching

The depth of the trench will be sufficient to allow for at least three feet of cover on top of the pipe in normal soils. However, the trench depth will be greater in agricultural areas, at stream crossings, and at road crossings. Crossing depths for roads, railroads, and waterbody crossings will typically be five feet unless specified otherwise by the managing agency/owner or potential stream scour requirements.

3.3.7 Pipe Stringing

After trenching is complete, individual joints of pipe will be strung along the right-of-way adjacent to the excavated trench and arranged so they are accessible to construction personnel. A mechanical pipe-bending machine will bend individual joints of pipe to the desired angle at locations where there are significant changes in the natural ground contours or where the pipeline route changes direction.

3.3.8 Welding and Coating Pipe

After stringing and bending are complete, the sections will be aligned, welded together, and placed on temporary supports along the edge of the trench. All welds will be visually and radiographically inspected and repaired, if necessary. Line pipe, normally mill-coated prior to

stringing, will require field-applied coating at the welded joints prior to final inspection. Prior to the final installation, the entire pipeline coating will be inspected and tested to locate and repair any faults or voids.

3.3.9 Lowering Pipe and Backfilling

The pipe assembly will be lowered into the trench by side-boom tractors and backhoes. The trench will be backfilled using a backfilling machine or bladed equipment. No foreign substance, including skids, welding rods, containers, brush, trees or refuse of any kind, will be permitted in the backfill. Following backfilling, a small crown of material may be left to account for any future soil settling that might occur. A gap in crowning would occur where pre-existing cross-drainages are restored to preconstruction conditions to facilitate natural surface drainage patterns.

Trench breakers will be installed in the trench on slopes prior to backfilling to prevent water from flowing along the pipeline and eroding trench backfill materials (see Section 4.2.1). Trench breakers will be generally spaced according to the spacing in Table 4.2-1, unless directed otherwise by the EI or authorized company representative. Trench breakers will also be installed at the base of slopes adjacent to wetlands and waterbodies and where needed to avoid draining of wetlands or affecting the original wetland or waterbody hydrology and in areas where necessary to prevent potential effects to groundwater flows. PCGP will utilize sandbags (foam trench breakers may be used if approved by the authorized company representative) for trench breaker construction (see Section 4.2.1 for additional trench breaker details). Topsoil will not be used to fill the bags. Where necessary, PCGP will use trench plugs constructed of bentonite at appropriate locations to prevent flow from wetlands or streams into the trench and to preserve the original wetland, waterbody and/or groundwater hydrology. The contractor will backfill and stabilize areas as soon as possible according to FERC's Upland Plan (Section V. A. 1.) which specifies that final grading topsoil replacement and installation of permanent erosion control structures will be completed within 20 days after backfilling the trench (10 days in residential areas). However, if seasonal or other weather causes delays, temporary erosion control measures (temporary slope breakers and sediment barriers) will be maintained until conditions allow completion of cleanup.

3.3.10 Hydrostatic Testing

After backfilling, the pipeline will be strength and leak tested according to DOT 49 CFR Part 192 to ensure that the system is capable of operating at the design pressure. Should a leak or break occur, the line would be repaired and retested until the required specifications are achieved. Hydrostatic test water will be released at a rate to prevent scour, erosion, and sediment migration to sensitive resources such as wetlands and waterbodies. The test water will be released into a dewatering device such as a straw bale structure to dissipate energy of the test water flow, filter the test water, and to allow release of the test water as sheet flow back onto the ground. PCGP will follow the procedures outlined in the Hydrostatic Testing Plan (see Appendix M of the POD) and FERC's Wetland and Waterbody Procedures (Section VII. C. 4.) to minimize potential effects from these activities.

3.3.11 Restoration

After the pipeline is backfilled and tested, disturbed areas will be restored, as nearly as possible, to their original contours. Permanent erosion control measures will be installed and revegetation will occur as discussed in Sections 4.0 and 10.0 of this ECRP.

4.0 BEST MANAGEMENT PRACTICES

This ECRP will be used by contractors as a primary reference during construction on all lands crossed by the Pipeline. This ECRP provides guidelines for installing temporary and permanent BMPs to prevent or minimize erosion and to protect water quality. Attachment C provides typical BMPs that may be used during construction. BMP materials will be stored at the designated yards or staging areas along the construction right-of-way.

In exceedance of Section II.A of FERC's Upland Plan (see Attachment A.), PCGP will employ a lead EI and multiple EIs per spread for each of the five pipeline spreads. The lead EIs will be responsible for agency notifications and reporting requirements within each construction spread and will have oversight and ultimate authority over assistant EIs. The lead EIs will also conduct routine meetings and maintain communications to uphold consistencies and compliance with the appropriate federal, state, and local regulations and permit requirements. All EIs will be on-site during active construction and will have peer status with all other activity inspectors. The EIs will have authority to stop activities that violate the measures set forth in this ECRP as well as other permits and authorizations and will have the authority to order corrective action. The lead EI would coordinate with the authorized federal agency representative to ensure that they are involved in all appropriate decisions for which the EI is responsible on federal lands. PCGP will adequately staff additional EIs on each spread depending on the length and complexity of each spread. At a minimum, each EI will be responsible for:

- Ensuring compliance with the measures set forth in this ECRP, the requirements of FERC's Upland Plan and Wetland and Waterbody Procedures, and all other environmental permits and approvals, as well as environmental requirements in landowner agreements, including the federal right-of-way grant and the multiple Plans comprising the POD;

- Identifying, documenting, and overseeing corrective actions, as necessary, to bring an activity back into compliance;

- Verifying that the limits of authorized construction work areas and locations of access roads are properly marked before clearing;

- Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;

- Verifying the location of drainage and irrigation systems;

- Identifying erosion/sediment control and stabilization needs in all areas;

- Locating dewatering structures and slope breakers to ensure they will not direct water into known cultural resource sites or locations of sensitive species;

- Verifying that trench dewatering activities are located such that water is allowed to infiltrate whenever possible, turbid water does not reach waters of the state, and dewatering does not result in the deposition of sand, silt, and/or sediment. If such deposition is occurring, the dewatering activity will be stopped and immediate corrective action taken to prevent reoccurrence;

- Testing subsoil and topsoil in agricultural, residential, and other areas where it has been requested by the land management agency or landowner to measure compaction and determine the need for corrective action;

- Advising the Chief Inspector when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive rutting;

- Ensuring restoration of contours and topsoil;

- Approving any imported soils for use in agricultural and residential areas and verifying that the soil is certified free of noxious weeds and soil pests;

- Approving straw bales for use in dewatering structures, mulch, and/or erosion control and verifying that the straw is certified free of noxious weeds and soil pests;

- Determining the need for and ensuring that erosion controls are properly installed, as necessary, to prevent sediment flow into wetlands, waterbodies, and sensitive areas and onto roads. This would include evaluating controls prior to a predicted storm event whenever possible and installing additional measures as needed to control storm water and sediment;

- Inspecting and ensuring the maintenance of temporary erosion control measures at least daily in areas of active construction or equipment operation, on a weekly basis in areas with no construction or equipment operation and within 24 hours of each 0.5 inch or greater rainfall. Inspections will be recorded and records maintained for review upon request;

- Ensuring the repair of all ineffective temporary erosion control measures as soon as possible but not longer than 24 hours after identification;

- Keeping records of compliance with conditions of all environmental permits and approvals (including the measures set forth in this ECRP) during active construction and restoration;

- Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase; and

- Verifying that the locations for any disposal of excess construction materials for beneficial reuse comply with section III.E. of FERC's Upland Plan.

During construction and restoration, PCGP would also utilize additional personnel as needed to support the EIs to ensure that the EIs' responsibilities are appropriately addressed. Support personnel may include, among others: biologists, wetland scientists, soil scientists, agronomists, foresters, reclamation specialists, visual resource specialists, hydrologists or geologists, who have the appropriate, education, training, and expertise to effectively address the EIs responsibilities outlined in the ECRP.

4.1 Temporary Erosion Control Measures

Temporary erosion controls will be installed after vegetation clearing and immediately prior to/after soil disturbance and will be properly maintained throughout construction and reinstalled as necessary until replaced by permanent erosion controls or restoration is complete. Near

waterbodies and wetlands, it will be determined in the field by the EI if it is necessary to install temporary erosion control measures (i.e., sediment barriers) prior to initial disturbance to minimize the potential for sediment to enter a wetland or waterbody. On federal lands, the EI would coordinate with the authorized federal agency representative regarding the appropriate placement of temporary erosion control BMPs outlined in this section of the 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. To the extent that PCGP can control landowner or public use of the right-of-way on BLM and National Forest System ("NFS") Lands, access will be limited to those vehicles necessary for construction to ensure public safety (see Safety and Security Plan, Appendix V of the POD). Traffic will move along the construction right-of-way within the construction right-of-way limits.

In designated areas, as determined by the EI, PCGP will install construction entrances at right-of-way access points that intersect paved roads to reduce sediment transport onto the roadway. A typical drawing of a construction entrance access pad is provided as Drawing 3430.34-X-0001 in Attachment C.

During the detailed engineering design phase for the Pipeline, existing culverts will be investigated along all identified access roads. This investigation will determine the condition and integrity of existing culverts and identify any location that may require mitigative measures to ensure construction activities do not damage or impair the existing function of the culverts. Mitigative measures may be required prior to access road use to allow safe construction equipment travel and prevent damage to the culverts. In select locations, replacement and/or modification of a culvert may be necessary. The measures outlined in PCGP's Culvert Crossing Best Management Practices (see Attachment F) and appropriate erosion control and revegetation measures outlined in the ECRP would be implemented during any road improvement activities. The Culvert Crossing BMP has been developed based on consultation with Oregon Department of Fish and Wildlife ("ODFW") and includes a typical culvert replacement design that would meet ODFW fish passage criteria (OAR 635-412-0035). Implementation of PCGP's Culvert Crossing BMP would ensure that each road crossing of a stream, that could potentially support fish, would meet ODFW fish passage standards.

4.1.2 Sediment Barriers

Sediment barriers will be used to confine sediment to the construction right-of-way and will be constructed primarily of silt fence (see Drawing 3430.34-X-0002 in Attachment C) although biobags and straw wattles (see Drawing 3430.34-X-0002 in Attachment C) may also be used. Generally, silt fence will be used where sediment barriers are required parallel to the right-of-way. Drivable berms will generally be used in locations where sediment barriers are required to cross the construction right-of-way along the travel lane such as at road, waterbody, and wetland crossings. Occasionally, straw bales may be used across the construction right-of-way travel lane based on an evaluation of site specific conditions. The straw bales utilized for sediment barriers will be clean straw that does not contain noxious weeds or other undesirable species that could interfere with the existing land use. In forested areas, during timber clearing/right-of-way grading operations slash-filter windrows may be constructed on the downhill edge of the construction right-of-way and TEWAs, as directed by the EI (see Drawing 3430.3-X-0002 in Attachment C). Slash-filter windrows will be constructed of logging slash, including cull logs, tree tops, limbs, and branches laid parallel to the right-of-way to effectively

filter sediment, reduce runoff velocities, and prevent stream sedimentation. Sediment barriers would generally be placed as follows:

- at the base of slopes adjacent to road, wetland and waterbody crossings where sediment could flow from the construction right-of-way onto the road surface or into the wetland or waterbody;

- adjacent to wetland and waterbody crossings, as necessary, to prevent sediment flow in the wetland consistent with the requirements of FERC's Wetland and Waterbody Procedures; and

- on the down slope side of the right-of-way where it traverses steep side slopes.

Drawing 3430.34-X-0003 in Attachment C shows the placement of temporary sediment barriers adjacent to road crossings. An example of sediment control in ditches and swales is shown on Drawing 3430.34-X-0004 in Attachment C. Examples of sediment barrier installations during construction at wetlands and streams are shown on Drawings 3430.34-X-0005, 3430.34-X-0006**,** and 0007 in Attachment C. PCGP's EI will determine where it may be necessary to provide added protection at these locations as well as at other areas along the construction right-of-way to ensure that runoff is properly treated and that sediment is properly contained on the right-of-way. The EI will also determine those areas along the construction right-of-way where silt fence installation may require additional support/reinforcement through the use of wire mesh backing or by adding straw bales behind the silt fence for added support/reinforcement. On federal lands, PCGP would treat all intermittent streams that are not flowing at the time of construction as perennial streams and would stabilize them with temporary sediment barriers.

The EI will inspect temporary erosion control structures at least on a daily basis in areas of active construction and equipment operation. In areas where active construction and equipment operation are not occurring, inspections will be made at least weekly. All structures will be inspected by the EI within 24 hours of 0.5 inch or greater of rainfall. The EI will be responsible for ensuring that ineffective temporary erosion control measures are repaired as soon as possible but no more than 24 hours after discovery. Whenever possible, the EI will inspect erosion control measures in advance of predicted storm events and take preventative measures to minimize the potential for off right-of-way sedimentation.

Temporary sediment barriers will be maintained in place until permanent revegetation measures are determined successful or until the upland areas adjacent to wetlands, waterbodies or roads are stabilized. The structures will be removed once the area has been successfully restored.

4.1.3 Temporary Slope Breakers

PCGP will install temporary slope breakers to reduce runoff velocity, concentrated flow and to divert water off the construction right-of-way to avoid excessive erosion (see Drawing 3430.34-X-0008 in Attachment C). Temporary slope breakers may be constructed of materials such as soil, silt fence, staked straw bales, straw wattles, or sand bags. The outfall of each temporary slope breaker will be to a stable, well-vegetated area or to an energy-dissipating device at the end of the slope breaker and off the construction right-of-way. The outfall of the slope breakers will be positioned to avoid sedimentation of wetlands, waterbodies and other sensitive areas. PCGP has consulted with the NRCS as well as the Forest Service and BLM regarding spacing of temporary and permanent slope breakers. While these agencies provided recommendations for the spacing of permanent slope breakers, they deferred to the spacing provided in FERC's

Upland Plan for temporary slope breakers. Therefore, PCGP will install temporary slope breakers on all slopes greater than 5 percent according to the spacing in Table 4.1-1, unless the EI determines that a closer spacing is required.

Table 4.1-1
Temporary Slope Breaker Spacing

Slope Percent	Spacing (feet)
0-5	None Required
>5-15	300
>15-30	200
>30	100

Temporary slope breakers will also be installed as determined necessary by PCGP's EI in skid trails or cable logging haul routes (roads) to minimize erosion potential from these areas during clearing operations in 2020 construction. Additionally, the EI will coordinate with the authorized agency representative in determining the spacing intervals of temporary slope breakers within areas of highly erosive granitic terrain, as well as on the Umpqua National Forest between about MPs 109 and 110, where the alignment crosses the historic Thomason cinnabar claim group.

4.1.4 Mulch

Consistent with FERC's Upland Plan (Section IV.F.3.) if it becomes necessary to delay final cleanup, including final grading and installation of permanent erosion control measures, beyond 20 days (10 days in residential areas) after the trench is backfilled in a specific area, PCGP will apply mulch on all disturbed slopes before seeding. Mulch (certified weed free) will also be applied if construction and restoration activities are interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions. In these areas mulch will be applied uniformly over the area to cover the ground surface at a rate of two tons/acre of straw or hay or its equivalent. In addition, the mulch application rate will also be increased to 3 tons/acre on all slopes within 100 feet of waterbodies and wetlands. The mulch will consist of certified weed-free straw or wood fiber hydromulch. On federal lands, in the event that construction activities are extended beyond the dry season (i.e., May 1 to October 31), soil disturbance in excess of 0.5 acre will have effective ground cover provided (see Table 10.15-1) or other effective BMPs will be utilized as discussed in this ECRP to prevent sedimentation beyond the approved construction right-of-way and associated TEWAs or into wetlands and waterbodies. Effective ground cover is considered to be the amount of cover necessary for maintaining a disturbed site in a low hazard category for erosion as specified in Table 10.15-1. Depending on the location and site conditions, PCGP's EI may also determine that temporary covering of spoil stockpiles at site-specific locations may be necessary to minimize the potential of sedimentation to sensitive resources. Drawing 3430.34-X0023 in Attachment C provides examples for temporary soil stockpile coverings.

4.1.5 Dust Control

During summer construction, fugitive dust may be a potential impact along the construction right-of-way and where construction occurs near residential areas, although these areas have been significantly avoided by the Pipeline. To control dust in residential areas and other areas where the dust may be considered a safety or public nuisance, the EI will direct watering along the right-of-way, as necessary. Watering trucks will spray only enough water to control the dust or to reach the optimum soil moisture content to create a surface crust. Run-off should not be

generated during this operation. Dust will be controlled on paved roadways by sweeping, scraping, or water washing (either by machine or hand). During sweeping the EI will determine if water needs to be sprayed to control dust. Any sediment generated from sweeping or scraping will be disposed of properly. Water for dust control purposes will be obtained from an authorized, permitted, commercial or municipal source. Appendix B of the POD provides PCGP's Air, Noise and Fugitive Dust Control Plan that describes the BMPs that would be utilized to control fugitive dust in more detail.

During development of the Right-of-Way Grant, the Forest Service noted a potential safety risk where fugitive dust is generated during pipeline construction in areas where asbestos may be present on the Tiller Ranger District if serpentine rock and soil are disturbed. Naturally-occurring asbestos ("NOA") includes fibrous minerals found in certain types of rock formations (serpentine and Ultramafic rock). PCGP addressed the Forest Service's concern regarding NOA in the Air-Noise and Fugitive Dust Control Plan (see Appendix B of the POD). The Plan describes NOA, areas where potential serpentine rock and soils are crossed by the Pipeline, and regulatory requirements as well as BMPs for minimizing exposure to NOA.

4.2 Permanent Erosion Control Measures

Permanent erosion control measures that will be used to reduce stormwater discharges will be implemented after all construction phases have been completed. Post-construction BMPs consist of permanent features and operational practices designed to minimize sediment discharges from the site after construction is complete.

4.2.1 Trench Breakers

Trench breakers will be installed in the trench and keyed into trench walls on slopes prior to backfilling to slow the flow of subsurface water along the trench to prevent erosion of trench backfill materials (see Drawing 3430.34-X-0011 in Attachment C). In addition, where the pipeline trench may drain a wetland, trench breakers will be installed and/or the trench bottom sealed as necessary to maintain the original wetland or waterbody hydrology and in areas where necessary to prevent potential effects to groundwater flows. PCGP will install a trench breaker at the base of slopes near the wetland boundary between the wetland and adjacent upland area. A permanent slope breaker and a trench breaker will be installed at the base of slopes near the boundary between the wetland and adjacent upland areas. The trench breaker will be installed immediately upslope of the slope breaker and in areas where necessary to prevent potential effects to groundwater flows.

Trench breakers will be keyed into the trench sidewall and generally spaced according to the spacing in Table 4.2-1, unless directed otherwise by the EI or authorized company representative.

Table 4.2-1
Trench Breaker Spacing

Slope Percent	Spacing (feet)
10-15	500
15-20	300
20-30	150
>30	100

Trench breakers will consist of approved sacks filled with sand. Foam trench breakers may be used if approved by the authorized company representative.

4.2.2 Permanent Slope Breakers

Permanent slope breakers (waterbars) will be installed across the right-of-way on slopes. The purpose of these structures is to minimize erosion by reducing runoff velocities by shortening slope lengths, preventing concentrated flow, and by diverting water off the right-of-way. Slope breakers are also intended to prevent sediment deposition into sensitive resources.

Slope breakers will be constructed with a two to eight percent outslope so that water does not pool or erode behind the breaker. Outflow will be diverted to a stable area off the right-of-way consistent with FERC's Upland Plan. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. If a stable area is not present, a temporary energy-dissipating device will be installed at the end of the slope breaker.

Slope breakers will be installed along the right-of-way based on slope gradient and soil characteristics (see Table 4.2-2). The frequency of slope breakers will be installed based on a combination of FERC's Upland Plan (see Attachment A) and input from the Forest Service and BLM. Because of the range in variation between agency recommendations and because of the complex landownership pattern, a single slope breaker spacing was developed based on slope gradient and soil type to ensure installation practicality across the various private and federal lands. The permanent slope breakers will be installed in all areas except agricultural fields, hayfields, pastures, and lawns. A typical drawing of a slope breaker is provided in Attachment C as Drawing 3430.34-X-0008.

Table 4.2-2
Permanent Slope Breaker Spacing

Slope Percent	Spacing Based on Soil Characteristics[1]	
	Highly Erosive Granitic Soils[2] (feet)	Moderate/Low Erosion Soil Types (feet)
0-5	None Required	None Required
>5-15	100	200 to 300
>15-30	50 to 75	75 to 100
>30	50	50

[1] Actual spacing will be determined at the time of installation based on site-specific topographic conditions on the right-of-way to ensure proper slope breaker construction and proper drainage to stable off-site areas. On the Umpqua National Forest between about MPs 109 and 110, where the alignment crosses the historic Thomason cinnabar claim group, waterbars are to be installed at 50-foot intervals as recommended by the Forest Service (see the Contaminated Substances Discovery Plan/Appendix E of the POD).

[2] Granitic formations are crossed by the alignment between about: MPs 79.1 to 80.5; 81.6 to 82.2; 87 to 88.8; 97.0 to 101.2; 103.0 to 105.4; and 114.8 to 115.

4.2.3 Soil Compaction

Resource Report 7 of PCGP's Certificate application describes the potential for the Pipeline to cause soil compaction during clearing and construction activities and identifies the specific areas of the construction right-of-way that are susceptible to potential soil compaction from these activities. PCGP will minimize rutting and compaction by scheduling the majority of the clearing and construction activities during the dry season. During forest clearing activities in 2020 construction, the potential for soil compaction will be minimized where cable and helicopter logging methods are used. Where log skidding occurs, the following practices will be employed, where feasible, to minimize the potential for soil compaction:

- Low-ground weight (pressure) vehicles will be used as much as possible.
- The removal of soil duff and surface slash layers will be minimized so that a cushion exists between equipment or logs and the mineral soil.
- Designated skid trails will be used to restrict soil compaction to a smaller area of the right-of-way (preferably the pipeline trenching zone/ permanent right-of-way).
- Compacted landing, yarding, and load-out areas used for timber harvesting during 2020 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, minimize run-off and the potential for sedimentation.

Construction activities (i.e., grading, excavation, scarification, and restoration) that will occur during mainline construction in 2021 are expected to fully mitigate areas of potential compaction caused from forest clearing activities that are completed in 2020 to prevent long-term impacts. During right-of-way restoration activities to be completed in 2021, most compacted surfaces from mainline construction activities will be relieved or mitigated by typical regrading, recontouring, scarifying, and final cleanup activities. Mitigating compaction will promote infiltration, reduce surface water runoff, minimize erosion, and enhance revegetation efforts. PCGP will test for soil compaction in agricultural areas (e.g., active croplands, hayfields, and pastures), residential areas, and on NFS and BLM lands. Soil compaction testing will be conducted on the same soil type under similar moisture and surface conditions as specified in Section V.C.1 of FERC's Upland Plan. On NFS and BLM lands, detrimental compaction will not exceed 15 percent or more over adjacent undisturbed soils. On NFS lands, within 100 feet of perennial or intermittent streams, detrimental compaction will not exceed 10 percent of the activity area within 100 feet of each stream, to assure maintenance/re-establishment of 90% of pre-disturbance infiltration rates within 100 feet of streams as confirmed through compaction testing. The EI will also test for soil compaction on UCSAs on federal lands to determine appropriate measures necessary to mitigate compacted areas.

Pursuant to Section II.B.8 of FERC's Upland Plan, the EI will be responsible for conducting soil compaction testing and determining corrective measures, including localized deep scarification or ripping to an average depth of up to 18 inches where feasible utilizing appropriate winged-tipped rippers. In forested areas, deep scarification over the trenchline will be precluded for pipeline safety reasons; however, the potential for compaction in this portion of the construction right-of-way is low since the trench will be excavated and then backfilled, and there is generally limited heavy equipment traffic in this area of the right-of-way. The trench line does not receive repeated heavy equipment traffic like the working side of the right-of-way, consequently the potential for compaction to occur over the trench line is limited. Furthermore, the trench is backfilled with excavated trench material toward the end of construction activities, just before restoration activities. Backfiling is the next to last step in the construction sequence which would limit traffic and the potential for compaction to occur over the backfilled trench. These measures will ensure that compaction is mitigated; that long-term impacts to soil productivity do not occur; and that the potential for increases in surface water runoff, soil erosion, and sediment delivery from pipeline construction is minimized. On federal lands, the EI will coordinate with the authorized agency representative to determine the appropriate measures to mitigate compacted areas, where necessary, based on test results.

4.2.4 Revegetation

Revegetation will be performed as outlined in Section 10.0 of this ECRP.

5.0 WATERBODY CROSSINGS

Overall impacts to waterbodies from construction have been significantly avoided by routing efforts. Although the proposed alignment crosses large waterbodies and drainages, the cross-country route primarily follows ridgelines as it traverses the Coast, Klamath, and Cascade mountains and foothills. This ridgeline alignment provides the most stable landscape position for the pipeline and minimizes the number of waterbody and wetlands crossed as the route proceeds in a southeasterly direction from Coos Bay over these mountain ranges toward the Klamath Compressor Station near Malin, Oregon. Many of the unnamed waterbodies that are crossed by the Pipeline are intermittent headwater streams that are expected to be dry during the summer construction activities.

Waterbody crossings will generally be completed using a dry crossing method (typically flume or dam and pump) (see Drawing 3430.34-X-0006 and 3430.34-X-0007 in Attachment C) consistent with the requirements of federal, state, and local agencies with specific authority to regulate the waterbody crossings. Appendix BB of the POD provides detailed descriptions of the BMPs that will be utilized during flumed and dam and pump waterbody crossings to minimize potential water quality impacts.

Waterbody crossings will be made nearly perpendicular to the axis of the waterbody channel, where practicable, based on engineering and routing constraints to minimize parallel stream alignments and multiple stream crossings. In most cases, PCGP has been successful in designing each crossing such that TEWAs are not closer than 50 feet from waterbody boundaries, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. Where TEWAs are located closer than 50 feet from a waterbody and the adjacent upland does not support cultivated or rotated cropland or other disturbed land, a modification from FERC's Wetland and Waterbody Procedures (Section V.B.2.a. & b.) has been requested.

PCGP will utilize temporary construction bridges during all phases of construction to cross waterbodies. These structures will be constructed according to FERC's Wetland and Waterbody Procedures as well as according to the U.S. Army Corps of Engineers, Oregon Department of State Lands, ODFW, BLM, and Forest Service approvals. The temporary equipment bridges will be constructed to maintain unrestricted flow and to prevent soil from entering the waterbody. Soil will not be used to stabilize equipment bridges. Bridges will be constructed to withstand and pass the highest flow expected to occur while the bridge is in place, and, where feasible, bridges will be constructed to span the entire Ordinary High Water Mark ("OHWM") of the waterbody. If it is not possible to span the OHWM with the bridge, a temporary culvert or pier may be required. The culvert or pier would have sufficient strength to support all anticipated loads. These culverts/piers would be installed to minimize flow restrictions that may deflect stream flow to banks to prevent streambank erosion or scour and would be design to not restrict fish passage. The temporary bridges may include:

- equipment mats and culvert(s);
- equipment mats or railroad car bridges without culverts;
- clean rock fill and culvert(s); and
- flexi-float or portable bridges.

PCGP Contractor's may utilize other alternatives for equipment bridges that achieve the same performance and objective where approved by PCGP. Drawing 3430.34-X-0010 in Attachment C provides a typical drawing of a temporary crossing bridge and includes the minimum

performance/design standards PCGP's contactor will follow to ensure resource damage is minimized. PCGP's contractors will be responsible to ensure that the performance standards are met and resource damage is minimized. PCGPs EI, or authorized representative, will review all bridge placements to verify bridge safety, ensure the performance standards are observed and resource damage is minimized to the extent practical based on site specific crossing conditions and engineering constraints. On federal lands, the BLM's or Forest Service's authorized officer may verify that the temporary bridge installation performance standards, as defined on Drawing 3430.34-X-0010, are observed to ensure resource damage is minimized. All stream crossings on NFS lands (whether intermittent or perennial, wet or dry) will have either: 1) a bridge; 2) a temporary culvert with temporary road fill to be removed after work is completed; or 3) a low water ford with a rock mat. Temporary bridges will be set during clearing operations in 2020 construction as well as during mainline construction in 2021. The temporary bridges set during clearing operations would be temporarily removed after clearing is complete and will not be left in place across a waterbody over the 2020/2021 winter, during the period of high seasonal flows. During mainline construction in 2021, the temporary bridges will be reset and will be removed as soon as possible after permanent seeding. If there will be more than one month between final cleanup and the beginning of permanent seeding and reasonable alternate access to the right-of-way is available, equipment bridges will be removed as soon as possible after final cleanup as required by FERC Wetland and Waterbody Procedures (Section V. B. 5. f.).

Although FERC's Wetland and Waterbody Procedures (see Section V. B. 5. a.) allow clearing equipment and equipment necessary for installation of the temporary bridges to cross waterbodies prior to bridge installation, PCGP will not allow clearing equipment to cross waterbodies prior to bridge placement. Furthermore, where feasible, PCGP's contractors will attempt to lift, span, and set the bridges from the streambanks. However, where it is not feasible to install or safely set the temporary bridges from the streambanks, only the equipment necessary to install the bridge or temporary support pier will cross the waterbody. Any equipment required to enter a waterbody to set a bridge will be inspected to ensure it is clean and free of dirt or hydrocarbons. Resource Report 3 (and the Draft BA) provides a table that lists each waterbody and whether it is potentially necessary for equipment to cross the waterbody to install a temporary bridge.

Sediment barriers will be installed immediately after clearing and prior to initial ground disturbance (i.e., grading). Sediment barriers will be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete and revegetation has stabilized the disturbed areas. The contours of the streambed, shoreline and streambanks will be restored to preconstruction configurations (i.e., contour/elevations) to restore the physical integrity/conditions of these features. At some stream crossings, steep, eroding streambanks may need to be regraded to a stable slope (3:1) to ensure physical integrity as shown on drawing 3430.34-X-0014. PCGP's Stream Crossing Risk Analysis (GeoEngineers, 2017/Appendix O.2 to Resource Report 2) provides site-specific BMPs to restore stream bed and banks for long-term stability and to restore aquatic habitat. This Risk Assessment also provides a stream crossing monitoring plan to ensure long term success of stream restoration, maintenance of fish passage, and to identify channel erosion, scour or migration that could destabilize the site or expose the pipeline. Streambank revegetation measures are outlined in Section 10.0. Appropriate restoration BMPs, outlined in the Site-Specific Stream Crossing Prescriptions for the Perennial Streams on BLM and National Forest lands (North State Resources 2014), will also be incorporated during construction and

restoration in consultation with the agency's authorized representative and PCGP's EI or authorized representative.

6.0 WETLAND CROSSINGS

All wetlands will be crossed in accordance with FERC's Wetland and Waterbody Procedures (see Attachment B). Drawing 3430.34-X-0005 in Attachment C shows the typical wetland crossing methods that will be utilized during construction. Wetlands crossed by or in close proximity to the Pipeline are shown on the Environmental Alignment Sheets. In most cases except where topographical or other constraints occur, TEWAs have been located at least 50 feet away from wetland boundaries as required by FERC's Wetland and Waterbody Procedures (V.B.2.a). Where setbacks from waterbodies or wetlands could not be achieved based on site-specific constraints, modifications have been requested.

Sediment barriers will be installed immediately after clearing and prior to initial ground disturbance (i.e., grading). Sediment barriers will be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Where necessary, sediment barriers will be installed across the entire construction right-of-way immediately upslope of the wetland boundary to prevent sediment flow into the wetland. Where wetlands are adjacent to the construction right-of-way, sediment barriers will be installed along the edge of the construction right-of-way, as necessary, to prevent sediment flow into the wetland. These sediment barriers will be removed after restoration is complete and revegetation has stabilized the disturbed areas.

In wetlands where standing water or saturated soils are present or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, PCGP will use low-ground-weight construction equipment or will operate normal equipment on timber riprap or standard prefabricated equipment mats. Equipment mats are comprised of wood and serve to distribute the weight of the equipment. Rocks, soil imported from outside the wetland, tree stumps, or brush riprap will not be used to support equipment on the construction right-of-way. If trees are utilized as timber riprap or equipment mats to support equipment in saturated areas on the right-of-way, they will be obtained from clearing operations and will not be cut outside of the approved construction work areas. All materials utilized to support equipment on the construction right-of-way will be removed after construction.

The duration of construction-related disturbance within wetlands will be minimized and construction equipment operating in wetland areas limited to that needed to clear the right-of-way, dig the trench, fabricate and install the pipe, backfill the trench, and restore the right-of-way. All other construction equipment will use access roads located in upland areas to the maximum extent practicable. Where access roads in upland areas do not provide reasonable access, PCGP will limit all other construction equipment to one pass through wetlands that cannot be appropriately stabilized using the right-of-way. To allow multiple passes through wetlands, PCGP will stabilize the right-of-way through wetlands as prescribed in Section VI.B.d. of FERC's Wetland and Waterbody Procedures by using timber riprap, prefabricated equipment mats, or terra mats. Stabilization will not occur where wetland soils are firm enough to avoid rutting. Wetland restoration is discussed in Section 10.

6.1 Spill Prevention and Equipment Fueling and Maintenance

PCGP has developed a Spill Prevention, Containment, and Countermeasures ("SPCC") Plan that describes measures to prevent and control any inadvertent spill of hazardous materials

such as fuels, lubricants, and solvents that could contaminate soils and affect water quality. The SPCC Plan will be updated with site-specific information prior to construction. All employees will receive SPCC training. The SPCC Plan is provided in Appendix X of the POD.

Equipment fueling and storage of oil, fuel or other materials near waterbodies or wetlands could create a soil contamination and water quality impact if a spill were to occur. Leaks from equipment and vehicles could also cause impacts to surface waters. Vehicle fueling and maintenance and equipment storage will take place along the entire construction right-of-way. However, certain areas are restricted from these activities. Hazardous materials, chemicals, fuels, and lubricating oils will be stored in upland areas at least 150 feet from waterbodies and wetlands. Restricted fuel storage and no fueling areas will be clearly marked in the field. On federal lands, the storage of hazardous substances, chemicals, fuels, or lubricating oils, including the parking of all equipment overnight or during times of non-use and refueling would be at least 150 feet from waterbodies and wetland boundaries. On federal lands, any variance would require prior approval from the federal authorized representative. Concrete coating, refueling, and equipment maintenance activities will also be conducted according to FERC's Wetland and Waterbody Procedures. Concrete trucks will not be washed on the right-of-way. All hazardous materials will be handled in accordance with the SPCC Plan. If a spill occurred during construction, PCGP would implement the procedures outlined in the SPCC Plan (see Appendix X of the POD).

6.2 Material Delivery and Storage

PCGP will use various contractor yards for material delivery and storage. Materials will be brought onto the right-of-way as they are needed and will be stored away from waterbodies and wetlands. Secondary containment will be provided for fuel, lubricating oils, and other potential contaminating liquids.

7.0 MAINTENANCE AND PERIODIC EVALUATION

Erosion control structures will be maintained in accordance with FERC's Upland Plan (see Attachment A). The EI will inspect temporary erosion control structures at least daily in areas of active construction. In areas where active construction is not occurring, inspections will be made at least weekly. All structures will be inspected by the EI within 24 hours of 0.5 inch or greater of rainfall or as required by state and local jurisdictions. Whenever possible, the EI will evaluate erosion control measures prior to a predicted storm event and implement measures needed to prevent off right-of-way sedimentation. Inspections will be documented and available for agency review upon request.

The EI will be responsible for ensuring that ineffective temporary erosion control measures are repaired within 24 hours of discovery. If poor weather conditions prevail, the EI will notify construction crews when to initiate precautionary measures. The EI will ensure that the contractor has adequate equipment, materials, and crews available to respond rapidly to storm events. It is the responsibility of the EI to advise the Chief Inspector when wet weather or other conditions make it advisable to restrict construction activities to avoid excessive rutting in sensitive areas. Section 4.0 of this ECRP contains a list of the EIs' responsibilities.

8.0 HYDROSTATIC TEST WATER AND DEWATERING

After backfilling, the pipeline will be strength and leak tested as required by DOT under 49 CFR Part 192 to ensure that the pipeline is capable of operating at design pressure. Each HDD and

Direct Pipe ("DP") will require pre-installation and post-installation strength (hydrostatic) testing. Should a leak or break occur, the pipeline will be repaired and retested until the required specifications are achieved. All hydrostatic test water will be obtained from commercial or municipal sources, private supply wells, or surface water sources permitted through the Oregon Department of Water Resources. PCGP's Hydrostatic Testing Plan, provided in Appendix M of the POD, provides details on hydrostatic testing methods and protective measures.

During construction there is the potential, in areas of high groundwater, that trench dewatering may be required. Generally, these areas are associated with floodplains and wetlands. However, the construction schedule will generally coincide with the period when the soils in these areas are dry, thereby minimizing the amount of trench dewatering.

Hydrostatic test water or water from trench dewatering will not be discharged directly to waterbodies. The water from these activities will be directed to a dewatering structure to dissipate energy, to prevent erosion, and to filter the release in order to avoid sedimentation (see Drawing 3430.34-X-0012 and Drawing 3430.34-X-0013 in Attachment C). Water will be released to an appropriately sized dewatering structure based on the expected quantity of water. Proposed hydrostatic test water dewatering locations are provided on the Environmental Alignment Sheets. Hydrostatic test manifolds have been located outside of wetlands and riparian areas to the maximum extent practical based on engineering and testing parameters according to FERC's Wetland and Waterbody Procedures (Section VII.C.4.). Similarly, hydrostatic dewatering locations have been located in uplands and at an appropriate distance from wetlands and waterbodies to promote infiltration and to ensure that sedimentation of wetlands, waterbodies, or other sensitive areas does not occur. PCGP's EIs will visually monitor the release of hydrostatic test water and trench dewatering activities to ensure that no erosion or sedimentation occurs. In addition, the EIs will ensure that turbid water is not discharged to waters of the state. If an EI or authorized agency representative determines that a discharge is occurring from trench dewatering or hydrostatic testing, the receiving water will be visually monitored for turbidity. If turbidity is observed, the trench dewatering operations would be immediately adjusted/reinstalled/maintained to ensure that the discharge to surface water is stopped and water quality standards are not exceeded.

9.0 NON-STORMWATER DEWATERING

As previously described, the only non-stormwater releases associated with construction of the pipeline are trench and hydrostatic test dewatering. All water associated with trench dewatering will be pumped to a structure similar to Drawing 3430.34-X-0013 in Attachment C that is appropriately sized for the volume. Water associated with trench dewatering and hydrostatic testing will not be directly discharged to waterbodies. Potential areas requiring trench dewatering would likely occur near wetlands and areas of shallow ground water. Wetlands crossed by the Pipeline are shown on the Environmental Alignment Sheets. Resource Report 7 of PCGP's Certificate application also identifies soils mapping units that are crossed that have a seasonal high water table where trench dewatering may be necessary. PCGP will minimize the potential for trench dewatering by scheduling the majority of construction activities during the dry season.

10.0 RESTORATION AND REVEGETATION

Initial reclamation of disturbed areas will begin as soon as possible after construction. Waterbody crossings will be stabilized and temporary sediment barriers will be installed within 24 hours of completion of backfilling in accordance with Section V.C.2 of FERC's Wetland and

Waterbody Procedures (see Attachment B). On dry open cut crossings (flume or dam and pump) streambed and streambank stabilization will be completed before returning flow to the waterbody channel. On federal lands, PCGP would treat all intermittent waterbodies not flowing at the time of construction as perennial streams and would stabilize them with temporary erosion control measures and reseeding. Final grading and permanent erosion control measures of upland areas will be completed within 20 days (10 days in residential areas) after the trench is backfilled, weather and soil conditions permitting. During final cleanup and initial reclamation, permanent repairs of fences, gates, drainage ditches, and other structures removed or damaged during construction will be completed. Drain tiles will be repaired before backfilling. All drain tiles crossed by the Pipeline will be probed to check for damage. Cut or damaged drain tiles will be repaired to their original or better condition. PCGP will use a qualified specialist to test tiles for damage and to conduct any necessary repairs. Filter-covered drain tiles will not be used during repairs unless the local NRCS authorities and the landowner approve its use. All repairs will restore the drain tiles to the same or better condition that existed prior to construction.

PCGP will work with individual landowners to address restoration of active agricultural areas such as croplands, orchards, nurseries, and vineyards as well as residential lawns, ornamental shrubs, gardens, and other landscaping, if affected by the Pipeline. In active agricultural areas, PCGP will encourage the landowner to complete final restoration efforts in these areas and will compensate the landowner for these efforts. In residential areas, PCGP will utilize contractors familiar with local horticultural and lawn establishment procedures for reclamation work or will compensate the landowner to restore these areas. Specific reclamation procedures will be determined during negotiations with individual landowners. As described in the Aesthetics Management Plan (see Appendix A of the POD), various visual mitigation measures will also be incorporated into the restoration efforts to minimize visual impacts at Key Observation Points on federal lands.

10.1 Recontouring

All graded areas associated with construction will be regraded and recontoured as feasible to blend into the surrounding landscape and to reestablish natural drainage patterns. The emphasis during recontouring will be to return the entire right-of-way to its approximate original contours, to stabilize slopes, control surface drainage, and to aesthetically blend into the adjacent contours. Ruts and other scars will be regraded and all drainage ditches will be returned to their preconstruction condition. Recontouring to the original grade in disturbed wetlands is especially critical so that the wetland hydrology is not altered. Existing culverts that are damaged or removed during construction will be replaced to their original or better condition. No other culverts will be installed except those permitted or required by the appropriate federal, state, and local agencies. Consistent with FERC's Wetland and Waterbody Procedures (Section V.C.3.), during streambank restoration/recontouring the streambanks will be returned to their preconstruction contours or to a stable configuration with slopes that do not exceed 3H:1V (Horizontal:Vertical) as shown on Drawing 3430.34-X-0014 in Attachment C, or as specified by site-specific streambank stabilization design measures outlined in the Stream Crossing Risk Analysis (GeoEngineers, 2017/Appendix O.2 to Resource Report 2). PCGP will install erosion control fabric (such as jute or excelsior) on streambanks at the time of recontouring (see Drawing 3430.34-X-0009 in Attachment C). The fabric will be anchored using staples or other appropriate devices. The erosion control fabric to be used on streambanks will be designed for the proposed use and will be approved by the EI(s). On federal lands the EI would coordinate with the authorized agency representative regarding the erosion control fabric to use on streambanks. Additionally, as described in Section 11.0 of this ECRP, where the

alignment traverses steep, sharp and narrow ridgelines, the contours will be regraded to ensure stability as well as to reestablish preconstruction drainage patterns.

10.2 Construction Debris Disposal

During final cleanup, all construction debris (e.g., mats, garbage, drilling fluids) will be cleared from the right-of-way and disposed of in accordance with state and local regulations. Excess rock and spoil materials will be distributed along the construction right-of-way or disposed of in existing quarries and in permanent disposal sites that have been identified along the construction right-of-way. Appendix Q of the POD provides PCGP's Overburden and Excess Material Disposal Plan which describes how these materials would be stored and disposed of on federal lands. Resource Report 8 of PCGP's Certificate application also identifies the permanent disposal areas that would be located on private lands. Non-merchantable logs/stumps may be utilized along the construction right-of-way, within the certificated construction limits, as off-highway vehicle ("OHV") barriers or scattered/piled on the right-of-way as wildlife habitat diversity features, where approved by the EI or PCGP's authorized representative and the landowner or land management agency. PCGP's Recreation Management Plan (see Appendix S of the POD) provides the measures and examples of OHV barriers that would be used to prevent unauthorized OHV access to the right-of-way.

Treatment of Forest Slash. PCGP has determined that the quantity of slash material that will be generated during forest clearing operations will be significant. The typical size of the trees that will be cut and cleared from the construction right-of-way and TEWAs are too large to conduct whole tree yarding and, therefore, require the trees to be cut, topped, limbed, and bucked on site where the trees are fallen. Generally, only the logs will be yarded to a landing for decking, loadout, and transport and the slash (tree tops and limbs) will remain on the construction right-of-way where the tree was initially cut. During grading and trenching, stumps would also be generated which are also considered slash. The timber clearing and grading processes are expected to generate a significant quantity of slash that will be impractical to completely remove. During logging, limbs and tops will also be broken/crushed during tree falling and yarding operations, creating a large volume of smaller slash material that is impractical to remove because of the expected large quantity, size and distribution of this material. Further, the slash generated during timber clearing operations will remain on the ground and in place to provide important cover to minimize erosion over the winter prior to main line construction. The retained slash that will be stored on the edges of the construction right-of-way, TEWAs, and UCSAs will then be pulled back and redistributed/scattered across the right-of-way after construction during final cleanup after seeding during reclamation (according to BLM and Forest Service fuel loading limits) to minimize fire hazard risks. If during redistribution significant disturbance occurs to the seeded areas, the EI will ensure that supplemental hand broadcast seeding occurs to ensure adequate seed coverage for erosion control.

Where it is not feasible to pull the slash back onto the right-of-way after seeding, seeding in these areas (broadcast or hydroseeding) will occur with specifications to ensure adequate seed coverage. Scattering the slash across the right-of-way will return organic materials back to the right-of-way soil and provide effective ground cover for erosion control to minimize erosion. The scattered slash will also discourage OHV traffic on the right-of-way.

On NFS Lands the maximum amount of slash that will be scattered across the right-of-way will be 12 tons per acre, which will be distributed over the following fuel loading size classes:

Fuel Loading by Size Class	
Size Class (Diameter)	**Tons/Acre**
0-1/4”	< 1
1/4– 3”	4-8
3-8”	7-12
Maximum Total Loading	12

On BLM and private lands the fuel load specifications will be:

Fuel Loading by Size Class	
Size Class (Diameter)	**Tons/Acre**
0-1/4”	< 1 [1]
1/4 -8”	5-8 [1]
>8”	10-15
[1] Adapted from Forest Service Fuel Loading Standards	

As provided by the Forest Service, dead and downed woody debris greater than 16 inches in diameter does not contribute to fire hazard and will be maintained on site. Slash may also be chipped and scattered across the right-of-way provided that the average depth of wood chips covering the area does not exceed one inch following application. This chip depth will be sufficient to stabilize the soil surface from erosion while allowing grass seed to germinate and seedlings to develop and is not expected to significantly increase fuel hazards as long as the maximum tonnage for fuel loading does not exceed 12 tons per acre. The Forest Service has also noted that wood chips can be the most effective means to protect soils from surface and fluvial erosional processes. PCGP has requested a modification from Section IV.F.4.e. of FERC’s Upland Plan because the BLM and Forest Service fuel loading standards differ from FERC’s Upland Plan.

In areas where the fuel loading exceeds these standards, PCGP will machine or hand pile and burn the excess material depending on the site location. Burning will occur during the appropriate burning season and according to the permits issued by the BLM, Forest Service, and Oregon Department of Forestry (OAR 629-615-300). A Prescribed Burning Plan is included as Appendix R of the POD that describes these activities during the construction phase. Off-site disposal of slash materials may also occur in accordance with federal, state, and local regulations.

10.3 Soil Compaction

PCGP will mitigate and test for potential soil compaction as described in Section 4.2.3.

10.4 Scarification

Prior to respreading the topsoil, the right-of-way will be scarified (where necessary as determined by the EI) by disking, ripping, or chiseling to loosen compacted areas from equipment traffic. Scarifying the subsoil will also promote water infiltration and improve soil aeration and root penetration. Brush blades, rippers, chisel plows, agricultural disks, or other appropriate equipment will be used to reduce shallow soil compaction.

Scarification will occur in areas where the EI determines that the soil compaction is unacceptable. Disturbed areas that may require scarification primarily include the work lane and may also include portions of the passing lane or some TEWAs. Scarification will occur on average to a depth of up to 18 inches deep where feasible with rippers spaced not more than 16

inches apart. Ripping and chisel plowing will also occur when materials are dry enough to promote shattering of compacted layers. Ripper shanks with wing attachments will be used in areas where ripping with normal equipment does not adequately reduce the amount of soil compaction. Other subsoiling equipment, such as multipurpose subsoiling excavator attachments (i.e., subsoiling grappling rake or subsoiling excavator bucket) (Monk, B. 2009), may also be used to mitigate compaction in appropriate areas along the construction right-of-way.

In wetlands, scarification is not anticipated because traffic will be limited in these areas to that needed to clear the right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the right-of-way. All other equipment will be limited to one pass through the wetland using the right-of-way. Equipment mats will be utilized in wetlands where soils are saturated or where standing water is present to further minimize compaction. The need for scarification in wetland areas will be determined by the EI. Scarification will not be conducted in wetlands where it may adversely affect the wetland hydrology. On federal lands, the EI would consult with the authorized agency representative to determine areas requiring scarification as noted in Section 4.2.3.

10.5 Soil Replacement

All salvaged topsoil will be uniformly spread over the portions of the right-of-way from where the soil was salvaged. If compaction occurs during this operation that might not be relieved during seedbed preparation, all compacted areas will be scarified. Topsoil spreading will not occur during wet periods when soils are easily compacted and all travel over re-topsoiled areas will be restricted. The EI will be responsible for ensuring that topsoil imported into residential and cropland areas for replacement is free of noxious weeds or other deleterious materials (such as rock). If for an unforeseen reason topsoil replacement is required on federal lands, the EI would consult with the authorized agency representative to ensure the topsoil is suitable for use.

10.6 Rock Removal

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 upon landowner request. 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 distributed along the construction right-of-way or disposed of in existing quarries and in permanent disposal sites that have been identified along the construction right-of-way. Appendix Q of the POD provides PCGP's Overburden and Excess Material Disposal Plan which describes how these materials would be stored and disposed of on federal lands. Resource Report 8 of PCGP's Certificate application also identifies the permanent disposal areas that would be located on private lands. Any other new disposal location will require approval of the landowner or land managing agency. Large rocks and boulders may 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 (see Appendix S of the POD/Recreation Management Plan). Additionally, large rocks and boulders may be piled in upland areas along the right-of-way to create habitat diversity features where approved by the EI or PCGP's authorized representative and the landowner or land management agency. The use of alternate disposal locations will be approved by FERC, and, if on federal lands, the respective land-managing agency.

10.7 Seedbed Preparation

Seedbed preparation will be conducted, where necessary, immediately prior to seeding to prepare a firm seedbed conducive to proper seed placement and moisture retention. Seedbed preparation will also be performed to break up surface crusts and to eliminate weeds which may have developed between initial reclamation and seeding.

A seedbed will be prepared in disturbed areas, where necessary, to a depth of three to four inches using appropriate equipment to provide a seedbed that is firm, yet rough. A rough seedbed is conducive to capturing or lodging seed when broadcasted or hydroseeded, and it reduces runoff and erosion potential. The rough seedbed will retain soil moisture for seedling germination and establishment.

In most areas, final right-of-way cleanup procedures are sufficient because they leave a surface smooth enough to accommodate a drill seeder pulled by a farm tractor and rough enough to catch broadcasted seed and trap moisture and runoff. However, additional preparation such as chisel plowing or disking may be necessary to prepare an adequate seedbed. Where residential and cropland areas are disturbed, more intensive ground and seedbed preparations may be required including rock collection, grading, and soil preparation/amending. The EI will be responsible to determine where seedbed preparation measures are required prior to seeding. On federal lands, the EI would coordinate with the authorized federal agency representative to determine where seedbed preparation measures are required.

10.8 Fertilization

Based on the Oregon State University Extension Service recommended fertilization rate for nitrogen fertilizer on new pasture seedlings (OSUES 2000), PCGP will use a standard fertilization rate of 200 pounds per acre bulk triple-16 fertilizer (16:16:16 - nitrogen, potassium and phosphorus) on all disturbed areas to be reseeded. This fertilization rate will apply 32 pounds per acre of elemental nitrogen, potassium, and phosphorus. The elemental nitrogen rate will also satisfy FERC's requirement to add nitrogen where wood chips are used as mulch (see Section IV.F.4.e.). Where fertilizer is applied by mechanical broadcast methods, the fertilizer will be incorporated into the top two inches of soil, where feasible. PCGP does not anticipate using aerial broadcast methods to apply fertilizers. However, if this application method is used, application would only occur with the approval of the appropriate federal land-managing agency. Where fertilizer is applied by hydroseeding, the fertilizer will be applied with the hydroseeding slurry. The NRCS did not recommend the addition of lime or other soil pH modifiers. Fertilizers would not be applied in wetlands, unless required in writing by the appropriate land management or state agency pursuant to FERC's Wetland and Waterbody Procedures (Section VI.C.4.) and would not be applied within 100 feet of flowing streams that have domestic use or support fisheries. Application would be avoided during heavy rain or when wind speed could cause drift. All fertilizers would be stored and equipment loaded away from streams and outside Riparian Reserves.

10.9 Seed Mixtures

As required by FERC's Upland Plan, PCGP has consulted with the NRCS and land management agencies regarding recommended seed mixtures for the Pipeline project area. The seed mixtures developed for the Pipeline are based on these agency recommendations and are provided in Tables 10.9-1, 10.9-2, and 10.9-3 and include Seed Mixtures 1 through 17. The seed mixtures were developed with the primary intent to stabilize disturbed areas and control erosion and were based on precipitation ranges and landownership (i.e., federal – BLM and NFS lands and private lands). Seed mixtures have also been developed for hayfield, pasture, and rangeland areas crossed by the Pipeline so that these areas are returned to their preconstruction land uses as quickly as possible. During right-of-way negotiations, private landowners may also request other seed mixtures than those proposed in Table 10.9-1. These specific landowner requested/specified seed mixtures will be documented in landowner right-of-way agreements. Seed mixtures have also been developed as mitigation measures for site-specific areas where federally listed plants or other special status plants (Kincaid's Lupine, Applegate's, Milk-vetch, Gentner's Fritllary as well as Cox's Mariposa Lily) have been identified along the right-of-way. These seed mixtures are included in the PCGP's Federally-Listed Plant Conservation Plan (see Appendix J of the POD). The BLM seed mixtures have been developed based on the BLM's Instruction Memo-2001-014 (Native Seed Policy) which states:

> Native species shall be used unless, through the NEPA process, it is determined that: (1) Suitable native species are not available; (2) The natural biological diversity of the proposed management area will not be diminished; (3) Exotic and naturalized species can be confined within the proposed management area; (4) Analysis of ecological site inventory information indicates that a site will not support reestablishment of a species that historically was part of the natural environment; (5) Resource management objectives cannot be met with native species (See BLM Manual 1745.06).

While BLM Districts have prescribed native seed mixes for erosion control, there may be instances in highly erosive soils on steep slopes where mixing sterile perennials like sterile wheatgrass species or non-persistent annual grasses like annual ryegrass could be appropriate.

The seed mixture seeding rates are based on Pure Live Seed (PLS). All seed will be used within one year from testing date. The seed will be free of noxious weeds, and the quantity of total weed seed will be low or within the limits allowed by Oregon seed laws and labeling. The EI will review all seed tags prior to use to ensure that these procedures are implemented. The seeding rates specified in Tables 10.9-1, 10.9-2, and 10.9-3 are based on drilling rates (unless specified otherwise). If broadcast seeding methods are used, the seeding rate will be doubled. If hydroseeding is used, the broadcast seeding rate will be used plus any adjustment the hydroseeding company recommends based on their equipment specifications. The total quantities of Seed Mixtures 1 through 17 have been estimated and provided in Tables 10.9-1, 10.9-2 and 10.9-3. These estimates were based on GIS analysis considering the disturbed area (acres) where each seed mixture would be applied, landowner jurisdiction, vegetation type, county, milepost range, and other conditions specified for each seed mixture. Areas of roads and industrial areas, that are located within the construction right-of-way and TEWAs which would not be seeded were not included in the seed mixture estimates; nor were aboveground facilities that would be graveled and not seeded or UCSAs that would not be disturbed. Pipe yards, which are existing industrial areas that would not be reseeded, were also not included in the seeding acreage estimates.

PCGP would acquire the seed through commercial source where available and would contract with vendors to collect native species where these species are not commercially available. The

BLM and Forest Service will specify genetically appropriate seed sources/seed zones for all species to be planted/seeded on their managed lands. Native seed would be collected during the two years prior to construction as well as during the two years of construction to ensure that an adequate quantity of seed is available for reseeding efforts. Seed collected in the years prior to construction would be dried, stored in labeled, sealed bags and appropriately stored to preserve viability. It is anticipated that adequate seed will be collected to allow for direct re-seeding without the need for farm-increasing, however, some vendors may choose to grow out a quantity of the seed they have collected for PCGP's use to minimize collection efforts and to ensure appropriate quantities of seed are available.

Table 10.9-1
Recommended Seed Mixtures for Private Lands

Seed Mixture 1 – Erosion Control – Upland Right-of-Way Areas for Coos, Douglas, and Jackson Counties[1]		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Bentgrass	*Agrostis spp.*	0.5
Red Fescue	*Festuca rubra*	6.0
Fescue, Tall (endophyte free)	*Festuca arundinacea*	6.0
Orchardgrass	*Dactylis glomerata*	6.0
Ryegrass, Annual or Italian	*Lolium multiflorum*	6.0 [2]
Ryegrass, Perennial	*Lolium perenne*	4.0
Timothy	*Phleum pretense*	2.0
Legumes		
Clover, Red	*Trifolium pretense*	3.0
Clover, White	*Trifolium repens*	2.0
Trefoil, Birdsfoot	*Lotus corniculatus*	3.0
	Total PLS lb/acre	**38.5**
Total Acres Estimated for Seed Mixture: 1435 acres		**Total lbs (PLS) 55,248.0**

[1] Mountain or California brome (*Bromus marginatus or B. carinatus)* and Blue Wildrye *(Elymus glaucus)* to be added to the mixture at 5 lbs/acre PLS each in substitute for Timothy between MPs 65.6 – 88.3.
[2] On slopes greater than 20 percent or where seeding occurs after September 30th annual ryegrass will be increased to 10 lbs/acre.

Seed Mixture 2 – Pasture and Hayland Mixes (Coos, Douglas, and Jackson Counties)					
Common Name	**Scientific Name**	**lbs/ac (PLS)**			
Perennial Grasses		**Mix A[1]**	**Mix B [1]**	**Mix C[1]**	**Mix D[1]**
Fescue, Tall (endophyte free)	**Festuca arundinacea**		**20.0**		
Orchardgrass	*Dactylis glomerate*	10.0			16.0
Ryegrass, Perennial or English	*Lolium perenne*	10.0		25.0	
Ryegrass, Annual or Italian	*Lolium multiflorum*	3.0	3.0	3.0	3.0
Legumes					
Clover, Red	*Trifolium pratense*	2.0	2.0	2.0	2.0
Clover, ladino[2]	*Trifolium repens*	2.0	2.0	2.0	2.0
	Total PLS lb/acre	**27.0**	**27.0**	**32.0**	**23.0**
Total Acres Estimated for Seed Mixtures: 176 acres		**Total lbs (PLS) @ 27 lbs/ac = 4,743.0**			

[1] Seed Mix 2-A will be utilized as the primary pasture mixture unless landowners request other specific mixtures or a single species pasture mixture is requested such as Mix 2-B, 2-C, or 2-D.
[2] In Coos County, substitute New Zealand white clover for ladino white clover at 3 lbs/acre. New Zealand white clover is more slug resistance than Ladino white clover. Big trefoil can also be substituted or supplemented in the mixture (6-10 lbs/acre) on poorly drained, strongly acidic soils. Lundin. F. 1996. Pasture Management Guide. Coastal Pastures in Oregon and Washington. Oregon State University Extension Service. EM8645.

Seed Mixture 3 – Irrigated Pasture and Hayland Mixes (Klamath County) [1]					
Common Name	**Scientific Name**	**lbs/ac (PLS)**			
Perennial Grasses		**Mix A**	**Mix B**	**Mix C**	**Mix D**
Orchardgrass	*Dactylis glomerate*		8.0		
Tall fescue (endophyte free)	**Festuca arundinacea**	15.0			15.0
Ryegrass, Perennial	*Lolium multiflorum*		8.0		
Intermediate Wheatgrass	*Elytrigia intermedia ssp. Intermedia*			12.0	
Ryegrass, Annual or Italian	*Lolium multiflorum*	2.0	2.0	2.0	2.0
Legumes					
Alfalfa	*Medicago L.*			2.0	
Clover, ladino	*Trifolium repens*	2.0	2.0	2.0	2.0
Clover, Red	*Trifolium pratense*	2.0	2.0		
Strawberry clover	*Trifolium fragiferum*				1.0
Trefoil, Birdsfoot	*Lotus corniculatus*				1.0
	Total Bulk lb/acre	**21.0**	**22.0**	**18.0**	**21.0**
Total Acres Estimated for Seed Mixtures: 445 acres		**Total lbs (PLS) @ 21 lbs/ac = 9,350.0**			

[1] University of California Division of Agriculture and Natural Resources. 1993. Intermountain Irrigated Pastures and Mountain Meadows. Intermountain Workgroup, University of California Cooperative Extension.
Mix A – Recommended for pastures that receive winter feeding operations (high yield forage with reasonable quality and a strong sod). Recommended for horse pastures.
Mix B – High yield, high quality pasture mixture.
Mix C – Recommended on irrigated pastures with marginal water supply.
Mix D – Recommended on alkaline irrigated pastures (use Fawn tall fescue)

Seed Mixture 4 – Erosion Control – Upland Right-of-Way Areas for Jackson County (non-federal land) MPs 113.2 to 150.45, precipitation ranges between 24 and 36 inches		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Mountain or California brome	*Bromus marginatus or B. carinatus*	4.0
Blue Wildrye	*Elymus glaucus*	4.0
Red fescue	*Festuca rubra*	3.0
Orchardgrass	*Dactylis glomerata*	6.0
Ryegrass, Annual or Italian	*Lolium multiflorum*	6.0
Legumes		
Pine or Sickle-Keel Lupine [1]	*Lupinus albicalus*	4.0
Clover, White	*Trifolium repens*	2.0
Subclover	*Trifolium subterranean*	1.0
	Total PLS lb/acre	**30.0**
Total Acres Estimated for Seed Mixture: 323 acres		**Total lbs (PLS) 9,688.0**

[1] To be applied if readily available from commercial sources.

Seed Mixture 5 – Erosion Control – Upland Right-of-Way Areas Control for Jackson and Klamath Counties (non-federal land) MPs 169.4 to 181.0 precipitation ranges between 20 and 36 inches		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Mountain or California brome	*Bromus marginatus or B. carinatus*	5.0
Orchardgrass	*Dactylis glomerata*	6.0
Timothy	*Lolium multiflorum*	4.0
Red fescue	*Festuca rubra*	3.0
Ryegrass, Annual or Italian	*Lolium multiflorum*	4.0
Legumes		
Clover, White	*Trifolium repens*	2.0
Subclover	*Trifolium subterranean*	2.0
	Total PLS lb/acre	**26.0**
Total Acres Estimated for Seed Mixture: 92 acres		**Total lbs (PLS) 2,397.0**

Seed Mixture 6 – Erosion Control – Upland Right-of-Way Areas Control for Klamath County (non-federal land) MPs 181.0 to 198.0 precipitation ranges between 16 and 20 and inches		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Bluebunch wheatgrass	*Pseudoroegneria spicata*	4.0
Slender wheatgrass	*Elymus trachycaulus*	4.0
Blue wildrye	*Elymus glaucus*	4.0
Idaho fescue	*Festuca idahoensis*	3.0
Orchardgrass	*Dactylis glomerata*	3.0
Legumes		
Clover, White	*Trifolium repens*	2.0
Shrubs		
Antelope bitterbrush	*Purshia tridentata*	1.0
Birchleaf mountain mahogany	*Cercocarpus montanus*	1.0
	Total PLS lb/acre	**22.0**
Total Acres Estimated for Seed Mixture: 58 acres		**Total lbs (PLS) 1,269.0**

Seed Mixture 7 – Rangeland Mixture for Klamath County MPs 198 to 228 precipitation ranges between 10 and 16 inches		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Bluebunch wheatgrass	*Pseudoroegneria spicata*	6.0
Canby bluegrass	*Poa canbyi*	1.0
Sheep fescue	*Festuca ovina*	1.0
Legumes		
Alfalfa	*Medicago L.*	1.0
Shrubs		
Antelope bitterbrush	*Purshia tridentata*	2.0
	Total PLS lb/acre	**11.0**
Total Acres Estimated for Seed Mixture: 143 acres		**Total lbs (PLS) 1,571.0**

Seed Mixture 8 – Ditch and Canal Banks < 16 inches precipitation – Klamath County			
Common Name	**Scientific Name**	**lbs/ac (PLS)**	
Perennial Grasses		**Mix A**	**Mix B**[1]
Streambank wheatgrass	*Elymus lancelotus ssp. Psammophilus*	20.0	5.0
Tall wheatgrass	*Elytrigia elongata*		15.0
Sheep fescue	*Festuca ovina*	4.0	4.0
	Total PLS lb/acre	**24.0**	**24.0**
Total Acres Estimated for Seed Mixture: 7.7 acres		**Total lbs (PLS) 185.0**	

[1] moist or subirrigated, saline areas

Seed Mixture 9 – Seed Mixture for Disturbed Emergent Wetlands (Pastures) – Coos County		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Ryegrass, Annual	*Lolium multiflorum*	10.0
Bentgrass, Colonial	*Agrostis tenuis (Agrostis capillaries)*	6.0
Legumes		
Trefoil, Birdsfoot	*Lotus corniculatus*	8.0
New Zealand White Clover	*Trifolium repens*	2.0
	Total PLS lb/acre	**26.0**
Total Acres Estimated for Seed Mixture: 38.6 acres		**Total lbs (PLS) 1,004.0**

Seed Mixture 10 – Seed Mixture for Disturbed Emergent Wetlands Klamath County		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Ryegrass, Annual	*Lolium multiflorum*	10.0
Hairgrass, Tufted	*Deschampsia caespitosa*	3.0
Barley, Meadow [1]	*Hordeum brachyantherum*	5.0
Creeping bentgrass	*Agrostis stolonifera*	0.4
Garrison creeping foxtail	*Alopercurus arundianceus*	2.0
	Total PLS lb/acre	**20.4**
Total Acres Estimated for Seed Mixture: 1.5 acres		**Total lbs (PLS) 31.0**

Seed Mixture 11 – Seed Mixture for Disturbed Emergent Wetlands (Pastures) – Douglas, Jackson, and Klamath Counties		
Common Name	**Scientific Name**	**lbs/ac (PLS)**
Perennial Grasses		
Ryegrass, Annual	*Lolium multiflorum*	10.0
Meadow foxtail	*Alopercurus pratensis*	8.0
Creeping bentgrass	*Agrostis stolonifera*	1.0
Legumes		
Trefoil, Birdsfoot	*Lotus corniculatus*	2.0
	Total PLS lb/acre	**21.0**
Total Acres Estimated for Seed Mixture: 87 acres		**Total lbs (PLS) 1,827.0**
Seed Mixture 12 – Wetland Seed Mixture		
Common Name	**Scientific Name**	**lbs/ac (PLS) (broadcast seeding rate)**
Perennial Grasses		
Ryegrass, Annual	*Lolium multiflorum*	10
Quick Guard		40
Fescue, Fine or Creeping Red	*Festuca rubra*	2.0
Hairgrass, Tufted	*Deschampsia caespitosa*	2.0
Mannagrass, Reed [1]	*Glyceria grandis*	2.0
American sloughgrass [1]	*Beckmannia syzigachne*	2.0
Barley, Meadow [1]	*Hordeum brachyantherum*	5.0
Western Mannagrass [1]	*Glyceria occidentalis*	2.0
Fowl bluegrass [1]	*Poa palustris*	1.0
	Total PLS lb/acre	**66.0**
Total Acres Estimated for Seed Mixture: 39.6 acres		**@ 58 lbs/ac 2,297.0**

[1] These species may be included in the seed mixture if they are readily available from a commercial seed supplier.

Table 10.9-2
Bureau of Land Management Coos Bay, Roseburg, Medford, and Lakeview Districts Seed Mixtures

Seed Mixture 13 – Coos Bay BLM Lands - Erosion Control - Upland Right-of-Way Areas		
Californian brome	*Bromus carinatus*	8
Blue Wildrye	*Elymus glaucus*	12
Regreen or Quickguard [1]		
	Total PLS lb/acre	**40**
Total Acres Estimated for Seed Mixture: 143 acres		**Total lbs (PLS) 5,723**

[1] The use of native seed mix is preferred; however, there may be instances in highly erosive soils on steep slopes, where mixing sterile perennials such as sterile wheatgrass species or non-persistent annual grasses like Annual Rye could be appropriate. In these areas the PCGP will include Regreen, Quickguard or annual ryegrass in the seeding mixture at 20 lbs/acre for erosion control, if approved, or at a rate specified by the BLM.

Seed Mixture 14 – Roseburg BLM Lands

The seeding rate will be 30 seeds Pure Live Seed per square foot (30 seeds PLS/ft^2). The seed mix must include at least two species of grasses and at least two species of forbs. Species may include any of those listed below or a different species upon approval by the Roseburg BLM. The seed mix ratio will consist of 60% grasses and 40% forbs. Dominant species proposed by PCGP are footnoted ([1]). The other species listed will be utilized where the proposed species are not available. Other species may also be used upon approval by the BLM.

Common Name	**Scientific Name**	**Variety**	**Mixture Percentage**
Grasses			
California brome	*Bromus carinatus*	Native [1]	25%
Blue wildrye	*Elymus glaucus*	Native [1]	35%
California fescue	*Festuca californica*	Native	
Roemer's fescue	*Festuca roemeri*	Native	
Harford's onion-grass	*Melica harfordii*	Native	
Forbs			
big deervetch	*Lotus crassifolius*	Native	
sickle-keeled lupine	*Lupinus albicaulis*	Native [1]	20%
silver lupine	*Lupinus albifrons* var. *eminens*	Native	
miniature lupine	*Lupinus bicolor*	Native	
slender goldenbanner	*Thermopsis gracilis* var. *gracilis*	Native	
tomcat clover	*Trifolium willdenowii*	Native	
grassy tarweed	*Madia gracilis*	Native [1]	20%
woodland tarweed	*Madia madioides*	Native	
Regreen or Quickguard [2]			20 lbs/acre
Total Acres Estimated for Seed Mixture: 219 acres			**Total lbs (PLS) 4,643**

Note: where slopes exceed 25 percent, PCGP proposes to include Regreen or Quickguard in the seeding mixture at 20 lbs/acre for erosion control. Prior to application of Regreen or Quickguard, PCGP would receive approval from the Roseburg BLM.

Seed Mixture 15a–Medford BLM Lands – Oak woodland, Grasslands, Chaparral Types		
Common Name	**Scientific Name**	**Variety**
Grasses [2]		
Roemer's fescue	*Festuca roemeri*	Native [1]
California Oatgrass	*Danthonia californica*	Native
Prairie Junegrass	*Koeleria macrantha*	Native
Pine bluegrass	*Poa secuda*	Native
California brome	*Bromus carinatus*	Native [1]
Blue wildrye	*Elymus glaucus*	Native [1]
Total Acres Estimated for Seed Mixture: 77 acres		**Total lbs (PLS) 517.0 total lbs**

Seed Mixture 15b – Medford BLM Lands - Conifer stands		
Common Name	**Scientific Name**	**Variety**
California fescue	*Festuca californica*	Native
Western fescue	*Festuca occidentalis*	Native
Harford's onion-grass	*Melica hardfordii*	Native
Blue wildrye	*Elymus glaucus*	Native[1]
Total Acres Estimated for Seed Mixture: 157.5 acres		**Total lbs (PLS) 666.0 total lbs**
Regreen/Quickguard or annual ryegrass [2]		20 lbs/acre
Seed Mixture 15c –Medford BLM Lands – Wet Sites		
Slender hairgrass	*Deschampsia elongate*	Native

Note: Seeding rates – The seeding rate will be 10-20 seeds Pure Live Seed per square foot (10-20 seeds PLS/ft^2). Other species may also be used upon approval by the BLM. The BLM will specify genetically appropriate seed sources/seed zones for all species to be planted/seeded.

[1] Dominant species proposed by PCGP are footnoted ([1]).

[2] The use of native seed mix is preferred; however, there may be instances in highly erosive soils on steep slopes, where mixing sterile perennials like sterile wheatgrass species or non-persistent annual grasses like Annual Rye could be appropriate. In these areas the PCGP will include Regreen, Quickguard or annual ryegrass in the seeding mixture at 20 lbs/acre for erosion control, if approved, or at a rate specified by the BLM.

Seed Mixture 16a – Lakeview BLM Lands [1] (MPs 176 – 181)			
Common Name	**Scientific Name**	**Variety**	**lbs/ac (PLS)**
Perennial Grasses			
Blue wildrye	*Elymus glaucus*	Native	4.5
California fescue	*Festuca californica*	Native	4.5
California Brome	*Bromus carinatus*	Native	4
	Total PLS lb/acre		13.0
Total Acres Estimated for Seed Mixture: 14.83 acres			**193 Total lbs**
Seed Mixture 16b – Lakeview BLM Lands [1] (MPs 215 – 220)			
Perennial Grasses			
Idaho Fescue	*Festuca idahoenis*	Native	2.0
Bluebunch wheat grass	*Pseudoroegneria spicata*	Native	3.0
Sandberg bluegrass	*Poa secunda*	Native	2.0
Basin Wildrye	*Leymus cinereus*	Native	1.0
Thurber's needlegrass	*Achnatherum thurberianum*	Native	1.0
Ross sedge	*Carex rossii*	Native	1.0
Squirreltail	*Elymus elymoides*	Native	1.0
Prairie junegrass	*Koeleria macrantha*	Native	1.0
	Total PLS lb/acre		12.0
Total Acres Estimated for Seed Mixture: 3.57 acres			**43 Total lbs**

[1] The BLM will specify genetically appropriate seed sources/seed zones for all species to be planted/seeded. Native substitutions would be acceptable in consultation with the BLM.

Table 10.9-3
National Forest Seed Mixture

Seed Mixture 17 [1]			**Umpqua NF, Rogue River-Siskiyou NF Rate (lbs/ac)**	**Fremont-Winema NF Rate (lbs/ac)**
Common Name	**Scientific Name**	**Variety**	**lbs/ac (PLS)**	
Perennial Grasses				
Blue wildrye	*Elymus glaucus*	Native	4	4.5
California fescue	*Festuca californica*	Native	4	4.5
California Brome	*Bromus carinatus*	Native	4	4
Legumes [2]				
Big deervetch [2]	*Lotus crassifolius*	Native	1 (one or more of these listed species)	0
California tea [2]	*Psoralea physodes*	Native		0
Woodland milkvetch [2]	*Astragalus umbraticus*	Native		0
	Total PLS lb/acre		13.0	13.0
Regreen or Quickguard [3]			20	20
Total Acres Estimated for Seed Mixture: 433 acres			**357 acres/ 5,629 Total lbs**	**76.2 acres/991.0 Total lbs**

[1] The Forest Service will specify genetically appropriate seed sources/seed zones for all species to be planted/seeded. Native substitutions would be acceptable in consultation with the Forest Service.
[2] Do not use these species on the Rogue River-Siskiyou NF
[3] Where slopes are > 25 percent, include Regreen or Quickguard in the seeding mixture at 20 lbs/acre for erosion control.

10.10 Seeding Timing

Disturbed areas will be seeded within six working days of final grading, weather and soil conditions permitting, consistent with FERC's Upland Plan (Section V. D. 3. d.). It is expected that seeding of restored right-of-way areas may begin as early as mid-August and will proceed until all areas have been reseeded which may extend into the winter months. Seeding and other restoration work in high elevation areas will receive top priority for completion prior to the onset of winter conditions.

10.11 Seeding Methods

Seeding will be conducted using a mechanical broadcast seeder, hydroseeder, or seed drill according to the guidelines in FERC's Upland Plan. The seed application rates will be as specified for drilling rates and doubled if using broadcast seeding. Fertilizer, lime, or mulch will not be used in wetlands.

Broadcast Seeding

Broadcast seeding will be the preferred seeding method on steep slopes or other areas that cannot be accessed with other seeding equipment; areas that will be covered with erosion control fabric; and other areas determined appropriate for broadcast seeding by the EI and the authorized federal agency representative on federal lands. Seed will be broadcast with a mechanical seeder immediately after the seedbed has been prepared and the soil is loose. This will allow the seeds to be lightly covered as the soil settles. The seeding will be lightly dragged with chains or other appropriate harrows to lightly cover the seed in areas where it is possible, as determined by the EI. Broadcast seeding will occur immediately prior to installation of erosion control fabric or application of mulch (straw or wood).

Hydroseeding

Hydroseeding will be used in upland areas that can be safely accessed with hydroseeding equipment and other areas that are determined appropriate by the EI. Hydroseeding equipment will be equipped with sufficient tanks, pumps, nozzles, and other devices required for mixing and hydraulically applying the seed, wood fiber mulch, and tackifier mix in slurry form onto the prepared ground. The hydroseeding equipment will have built-in agitators which will keep the seed, mulch, tackifier, and water mixed homogeneously until pumped from the tank. Fertilizer may be included in the hydroseeder slurry for hydroseeded areas that are difficult to access for fertilizer application and incorporation, as determined by the EI and the authorized federal agency representative on federal lands. Hydroseeding and hydromulching will occur in one application unless PCGP's authorized representative specifies that they occur as two separate applications.

Where hydroseeding and hydromulching occur as two applications, the hydroseeding slurry will contain tackifier at 25 percent of the manufacturer's recommended rate and 300 pounds of wood fiber mulch to mark the seeded locations and the evenness of the application. The hydromulching will occur immediately following hydroseeding on the same day, where feasible. Hydroseeding and hydromulching will be done from two directions (e.g., left and right or up and down), where possible, to ensure maximum coverage of the soil.

Hydroseeding rates will be at the rates specified for broadcast seeding plus any adjustment the hydroseeding company recommends based on their equipment specifications.

Drill Seeding

Drill seeding will be used as an alternative to broadcast seeding in gently sloping areas such as pastures where PCGP is completing the revegetation work at the landowner's request. The drill seeding equipment will be a type that is appropriate for the location being seeded. The quantity of seed applied by drill seeding will be as specified for each seed mixture.

10.12 Supplemental Wetland and Riparian Plantings

To mitigate impacts in wetland and riparian areas, PCGP will plant native shrubs and trees in areas where these species existed prior to construction. Table 10.12-1 provides a list of suggested native trees and shrubs that are common in the Pipeline project area in these habitats and which would be planted after final restoration and cleanup during appropriate planting periods (during the winter and late spring after 2021 construction). To complete these restoration plantings, PCGP will select a local restoration contractor that is knowledgeable of wetland and riparian ecosystems as well as with the species' characteristics and site growth requirements for those species listed in Table 10.12-1. The shrubs and trees planted at each site will be determined at the time of planting based on the moisture regimes and site-specific conditions at each planting location and based on the plant spacing provided in Table 10.12-1. On federal lands, PCGP's restoration contractor will coordinate with the authorized agency representative and/or the agency botanists to determine appropriate planting species. Disturbed wetland and riparian areas will be replanted with tree and shrubs according to FERC's Wetland and Waterbody Procedures (Section V.C.7. and VI.C.5) provided in Attachment B. Shrubs will be planted and allowed to grow within 5 feet of the centerline and trees will not be planted within 15 feet of either side of the centerline to facilitate corrosion and leak surveys and to prevent roots from damaging pipe coatings.

Table 10.12-1
Native Shrub and Tree Plantings for Restoring Wetland and Riparian Areas [1]

Common Name	Scientific Name	Planting size [2]	Plant Spacing [3]
Shrubs			
Wet Sites			
Red-osier dogwood	*Cornus stolonifera*	36" cuttings	3'
Willow spp	*Salix spp.*	36" cuttings	3'
Moist Sites			
Pacific ninebark	*Physocarpus capitatus*	1 gal	8'
Red elderberry	*Sambucus racemosa*	1 gal	8'
Blue elderberry	*Sambucus cerulean*	1 gal	8'
Vine maple [4]	*Acer circinatum*	1 gal	6'
Salmonberry	*Rubus spectabilis*	1 gal	4'
Nootka rose/woods rose	*Rosa nutkana/ Rosa woodsii*	1 gal	4'
Golden Currant	*Ribes aureum*	1 gal	6'
Dry Sites			
Snowberry	*Symphoricarpos albus*	1 gal	4'
Serviceberry [4]	*Amelanchier alnifolia*	1 gal	8'
Oceanspray [4]	*Holodiscus discolor*	1 gal	8'
Beaked hazelnut	*Corylus cornuta*	1 gal	8'
Lewis' mock orange	*Philadelphus lewisii*	1 gal	8'
Redstem Ceanothus [4]	*Ceanothus sanguineus*	1 gal	8'
Deerbrush [4]	*Ceanothus integerrimus*	1 gal	8'
Wedge-leaf ceanothus [4]	*Ceanothus cuneatus*	1 gal	8'
Oregon Grape	*Mahonia aquifolium*	1 gal	4'
Salal	*Gaultheria shallon*	1 gal	4'
Kinnikinnik	*Arcostaphylos uva-ursi*	1 gal	6'
Hairy manzanita [4]	*Arcostaphylos columbiana*	1 gal	8'
Trees			
Wet Sites			
Oregon ash	*Fraxinus latifolia*	1 gal	10'
Red alder	*Alnus rubra*	1 gal	10'
Sitka spruce	*Picea sitchensis*	2 gal or bare root	15'
Western red cedar [5]	*Thuja plicata*	2 gal or bare root	12'
Oregon crabapple	*Malus fusca*	1 gal	10'
Black cottonwood	*Populus balsamifera ssp. trichocarpo*	36" cuttings or poles	10'
Moist Sites			
Cascara buckthorn	*Frangula purshiana*	1 gal	8'
Western hemlock [5]	*Tsuga heterophylla*	1 gal	12'
Dry Sites			
Douglas' fir [5]	*Pseudotsuga menziesii*	1 gal or bare root	12'
Big-leaf maple	*Acer macrophyllum*	2 gal	15'

[1] The Forest Service and BLM will specify genetically appropriate seed sources/seed zones for all species to be planted.
[2] Planting stock sizes may include bare root equivalents.
[3] Shrubs will be installed in clusters of 5 to 10, while trees will be individual specimens.
[4] Shrubs to be planted on NFS Lands 15 feet each side of the centerline and the outer edge of the construction limits (see Table 10.13-1).
[5] Riparian areas on the BLM's Coos Bay District lands will be replanted with a coniferous mixture of 50% Douglas-fir, 25% western hemlock, and 25% western red cedar on a 15 ft x 15 ft spacing.

Note: The Umpqua NF requested the following species be planted to provide additional habitat elements: Asclepias cordifolia (heartleaf milkweed) for monarch butterflies, and Lonicera ciliosa (orange honeysuckle) for humming birds. These species will be included in the shrub clusters, or planted separately in appropriate habitats scattered along the construction right-of-way. Heartleaf milkweed will primarily be planted by seed or rhizome cuttings. Orange honeysuckle will be planted as containerized stock or bare root specimens.

In riparian areas on private lands, shrubs and trees will be planted across the right-of-way for a width based on Oregon Department of Forestry's Riparian Management Area (RMA)[1] widths, which are based on stream size and type, subject to the 15-foot (trees) restrictions on either side of the centerline. The riparian planting area on private lands will occur to specific RMA buffer widths[1], or to the limit of the existing riparian vegetation where the riparian vegetation does not extend to 100 feet.

Riparian Management Area Widths for Streams of Various Sizes and Type[1]

	Type F	Type D	Type N
Large	100 feet	70 feet	70 feet
Medium	70 feet	50 feet	50 feet
Small	50 feet	20 feet	Apply specified water quality protection measures, and see OAR 629-640-0200

[1] OAR 629-635-0000: http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_629/629_635.html

Drawing 3430.34-X-0015 and Drawing 3430.34-X-0016 in Attachment C provide schematics of the planting and maintenance areas within wetlands and riparian areas. On federal lands, PCGP has committed to extending the riparian strip plantings along all streams (perennial or intermittent) within federally-designated Riparian Reserves to 100 feet from the OHWM (subject to the 15-foot (trees) restrictions on either side of the centerline). The extended riparian planting area within Riparian Reserves will occur to 100 feet or to the limit of the existing riparian vegetation where the riparian vegetation does not extend to 100 feet. Appropriate restoration BMPs as outlined in the Site-Specific Stream Crossing Prescriptions for the Perennial Streams on BLM and National Forest lands (North State Resources 2014) will be incorporated during construction and restoration in consultation with the federal agency's authorized representative and PCGP's EI or authorized representative.

Additionally, as specified in PCGP's Gas Pipeline Project Technical Memo for Water Temperature Impacts Assessment (April 3, 2009), PCGP would install supplemental transplanted trees that are root pruned a year in advance of restoration/replanting on the Umpqua National Forest within the riparian areas of East Fork Cow Creek and tributaries including: Hydrofeatures C (WW-111-001 - GW014 - MP 109.17), G (GSP019 - MP 109.47), J (MP 109.69), K (MP 109.78), and N (ESI069 – MP 110.96) as well as on the South Fork Little Butte Creek on the Rogue River-Siskiyou National Forest (ASP 165 - MP 162.45). Root pruning a year in advance of replanting is expected to increase the survival success rate of the transplanted stock. Trees that would be root pruned would be selected from areas along the edge of the construction right-of-way or TEWAs that can remain in place without disturbance until the restoration phase. Tree species type and diversity will be the same as what is presently growing at each site. The EI or PCGP's representative and the authorized agency representative will identify and flag the appropriate trees to be used for transplanting purposes. PCGP contracted with North State Resources to conduct the modeling efforts for the April 3, 2009 water temperature impact assessment. Based on these modeling efforts North State Resources developed Table 10.12-2 which provides the planting distance for the 15-20-foot tall root-pruned trees that would be planted on each streambank.

Table 10.12-2
Optimal Planting Distance of 15-20-foot Transplanted Root-Pruned Trees

Site Identifier	Waterbody	Milepost	Jurisdiction	Proposed Planting Distance (feet) from Stream Channel High Water Mark	
				Left Bank[1]	Right Bank[1]
WW-111-001 (GW014/ FS-HF-C)	Trib. to East Fork Cow Creek	109.17	Umpqua National Forest	12	12
GSP019/ FSHF-G	East Fork Cow Creek	109.47	Umpqua National Forest	15	12
FS-HF-J	Trib. to East Fork Cow Creek	109.69	Umpqua National Forest	18	25
FS-HF-K	Trib. to East Fork Cow Creek	109.78	Umpqua National Forest	19	26
ESI068/ FS-HF-N	Trib. to East Fork Cow Creek	110.96	Umpqua National Forest	12	12
ASP 165	South Fork Little Butte Creek	162.45	Rogue River-Siskiyou National Forest	18	12

[1] Looking downstream

These optimal distances were calculated based on site-specific topography and aspect conditions. In order to achieve maximum effective shade to the stream course and to avoid further impacts to impacted riparian areas, specific criteria were used to calculate planting distances as follows:

- 15-foot tall deciduous tree used for vegetation type;
- At a minimum during the first year, the transplanted trees would provide effective shade between the tree base and the wetted channel at all daylight hours on August 5 except between the hours of 10 am and 2 pm. This method assumes that on August 5 the maximum stream temperature is achieved and effective shade would be cast on the riparian area during all but four hours of daylight;
- Planting distances from the waters edge are maximized to avoid further impacts to the affected riparian zone using the physical features of each water course; and
- Tree planting density was estimated from the existing site data and spacing will likely be 15 to 20 feet.

Effective shade was determined along both stream banks at each hydrofeature using the methods described in *Determining Individual Tree Shade Length: A Guide for Siliviculturalists.* (Geier-Hayes, Hayes, and Basford, 1995). The guide provides a method for determining shadow length from the tree base to shadow tip during the hottest portion of the year (May 10 - October 11) for differing slopes, aspects, and northern latitudes. Using the aforementioned referenced techniques, individual tree shade length was calculated at each hydrofeature using the following data:

- **Stand Variables**
  - *Latitude*: 42 degrees north used for all sites;

  - *Aspect of Topography (Azimuth)*: determined for each hydrofeature using aspect derived in GIS from 10 meter DEM data;
  - *Percent Slope*: determined for each hydrofeature using slope derived in GIS from 10 meter DEM data; and
  - *Target Date:* August 5 (assumed date of maximum water temperature) for all hydrofeatures.

- **Tree Variables**
  - Tree Height: total height of tree. Assumed 15 foot tree height for all hydrofeatures;
  - Cone Length: vertical length of tree that contains branches and leaves. Assumed a 10 foot crown length at all hydrofeatures; and
  - Crown Radius: the distance from trunk to edge of crown. Assumed that crown had a diameter equal to one-third of tree height, 5 feet, and radius was 2.5 feet for all hydrofeatures.

- **Determine Tree Length Factor**: using the stand and tree variables, an adjustment coefficient is determined for each stand (Geier-Hayes, Hayes, and Basford, 1995).

The techniques described above were used to calculate the shade length created on each bank of a given hydrofeature. The calculated shade length was used to determine the minimum planting distances required to meet the aforementioned planting criteria. These planting distances were calculated for each hydrofeature and are generally too close to a stream course to allow mechanized equipment work without entering the stream channel. Minimum planting distances were modified to account for flow regime and to provide working space for mechanized equipment along the pipeline corridor.

The transplanted root-pruned trees will be monitored annually according to FERC's Wetland and Waterbody Procedures. If the success rate drops below 80 percent, a Forest Service authorized representative will be informed and a plan will be developed between the Forest Service and PCGP to restock these sites.

10.13 Supplemental Forest Plantings

In forest lands disturbed by the Pipeline, PCGP will replant according to state and federal (BLM and Forest Service) reforestation requirements. Reforestation planting prescriptions provided by the BLM and Forest Service were used to develop the reforestation prescriptions provided in Table 10.13-1. Reforestation efforts will occur in the first winter/spring after 2021 construction between about December and April. On all forest lands crossed by the Pipeline, trees will be replanted across the construction right-of-way and permanent easement up to 15 feet from either side of the centerline, allowing a 30-foot strip centered over the centerline to be void of trees to facilitate corrosion and leak surveys and protect the pipeline from root damage. The permanent (operational) easement will be maintained in a condition where trees or shrubs will be controlled (cut or trimmed) within 15 feet either side of the centerline (for a total of 30 feet cleared of trees). Trees will be allowed to mature within the remainder of the permanent pipeline easement. Drawing 3430.34-X-0017 in Attachment C provides a schematic of the areas of the construction right-of-way that will be reforested.

Table 10.13-1
Reforestation Planting Prescriptions

Landowner/ Jurisdiction	BLM District Recommended Planting Prescriptions				Forest Service Prescriptions [1]	Private [2]
	Coos Bay District [4]	Roseburg District	Medford District [3]	Lakeview District	Umpqua, Rogue River-Siskiyou, and Fremont-Winema National Forests	
Upland Tree Species and age (bare root) All planting stock to be from genetically appropriate source material [5]	Plant 1+1 or P-1 Douglas fir	Plant mixture of 1+1 Douglas-fir, plug +1 ponderosa pine, and plug + 1 incense-cedar seedlings appropriate to site-specific areas (80%-10%-10%, respectively)	1+1 Douglas-fir, Ponderosa pine, and plug+1 incense cedar planting ratios based on elevation and aspect. [3]	Plant mixture of 60% 2+1 Ponderosa pine, 20% 2+1 Incense cedar and 20% 2+1 Douglas fir.	1+1 Douglas fir, white fir, ponderosa pine incense cedar, rust-resistant sugar pine, Shasta red fir and oak, depending on site conditions. [1] Shrubs noted in Table 10.12-1 to be planted from 15 feet each side of the pipeline centerline to the outer edge of the construction limits. In addition, the Umpqua NF requests the following species be planted to provide additional habitat elements: Asclepias cordifolia (heartleaf milkweed) and Lonicera ciliosa (orange honeysuckle) [6]	Plant mixture of 1+1 Douglas-fir, plug + 1 ponderosa pine, and plug + 1 incense-cedar seedlings appropriate to site-specific areas.
Plant Spacing	10 ft X 10 ft spacing (about 400 - 435 seedlings per acre).				15 ft X 15 ft spacing (about 200 seedlings per acre).	10 ft X 10 ft spacing (about 400 - 435 seedlings per acre).
Plant Protection	Install vexar plastic mesh tubing (26"X3.5") on each seedling with 36" bamboo stake.		None			
Fertilizers		Slow release in-hole fertilizer packets should be used on serpentine, decomposed granite, or other poor soils.	Slow release in-hole fertilizer packets should be used on serpentine, decomposed granite, or other poor soils.	Slow release in-hole fertilizer packets should be used on serpentine, decomposed granite, or other poor soils		
Monitoring	Monitor seedling growth/survival the first fall following planting. Replant/interplant areas where tree stocking falls below minimum acceptable levels (300 trees per acre)			Monitor seedling growth/survival the first and third fall following planting. Replant/interplant areas where tree stocking falls below minimum acceptable levels (300 trees per acre).	Monitor seedling growth/survival the first fall and third growing seasons following construction to ensure target stocking of 100-150 trees per acre.	Monitor seedling growth/survival the first fall following planting. Replant/interplant areas where tree stocking falls below minimum acceptable levels according to (ODA 629-610-00200)

[1] Silvicultural prescriptions will be developed in accordance with the Forest Service Silvicultural Practices Handbook (FSH 2409.17) and the Reforestation Handbook (2409.26b-92-5), and approved by a Forest Service Certified Silviculturist.
[2] Silvicultural prescriptions will be developed in accordance with Oregon Department of Forestry Forest Practice Administrative Rules and Forest Practice Act, Chapter 629.
[3] Lower elevation sites (<2500 ft) with S, SW, W aspects should contain proportionally more PP (i.e., – 50% PP, 25% DF, 25% IC); Mid-elevation sites (2500 – 4000') with S, SW, and W aspects should still contain a strong proportion of PP (i.e., – 25%PP, 50DF, 25 IC); Lower elevation sites (<2500') with more favorable aspects (E, NE, N, and NW) should be targeted toward a higher percentage of DF (i.e., – 60% DF, 25% PP, 15% IC); Mid-elevation sites with favorable aspects should contain progressively more DF and eliminate the pine component (i.e., – 85% DF, 15% IC). DF=Douglas Fir, PP=Ponderosa Pine, and IC=Incense Cedar. Between approximately MPs 152.32 and 152.39 plant primarily IC within PP Plantation and seasonally saturated soils.
[4] Upland reforested Planting Prescriptions within Late-Successional Reserve land use designations on Coos Bay District: replant with a coniferous mixture of 50% Douglas-fir, 25% western hemlock, and 25% western red cedar on a 15 ft x 15 ft spacing.
[5] The Forest Service and BLM will specify genetically appropriate seed sources/seed zones for all species to the planted/seeded.
[6] On the Umpqua National Forest the following species will be planted with the supplemental shrub plantings: Asclepias cordifolia (heartleaf milkweed) for monarch butterflies and Lonicera ciliosa (orange honeysuckle) for humming birds. These species will be included in the planted shrub clusters, or planted separately in appropriate habitats scattered along the right-of-way. Heartleaf milkweed maybe planted as seed.

10.14 Other Habitat Diversity Features

As indicated in Sections 10.2 and 10.6, downed logs, unmerchantable woody debris, and slash (greater than 16-inches in diameter) including large rocks and boulders may also be stacked/piled along the right-of-way to provide habitat diversity features. These habitat diversity features would be created within the certificated construction limits where approved by the EI or PCGP's authorized representative and the landowner or land management agency. The Forest Service and BLM will specify habitat diversity features to be created within the right-of-way using downed logs, unmerchantable woody debris, slash > 16" in diameter, and large rocks/boulders.

10.15 Mulch

Mulch will be applied on all slopes where necessary to stabilize the soil. The source of mulch will be native wood mulch, straw, or hydromulch. It is anticipated that native wood mulch and manufactured wood fiber mulch will be the major sources of mulch used on the construction right-of-way. These wood mulch materials are also preferred by the Forest Service and will be used on NFS lands, unless other mulch materials are approved by the authorized agency representative.

Native Wood Mulch

The majority of the native wood mulch used for restoration work will be slash, brush, chips, and non-merchantable timber cleared from the construction right-of-way during the timber clearing phase. This material will be stored on the edge of the construction right-of-way, within TEWAs and UCSAs. This material will be lopped and scattered across the right-of-way after seeding to act as mulch to reduce erosion and enhance revegetation success. This slash material will be redistributed according to BLM and Forest Service fuel loading requirements as provided in Section 10.2 (Treatment of Forest Slash). In addition, the Forest Service has Effective Ground Cover standards (see Table 10.15-1) to minimize surface soil loss resulting from gravity, water, or wind action. According to these standards, a minimum amount of effective ground cover is to be established within the first year following the end of ground-disturbing activity. PCGP proposes to use these standards in all forested areas along the alignment where slash is to be returned to the construction right-of-way.

Table 10.15-1
Effective Ground Cover Requirements

Erosion Hazard Class	Minimum Percent of Effective Ground Cover [1, 2]
Low	25%
Moderate	45%
High	65%
Very High	85%

[1] Effective ground cover is considered to be all living or dead herbaceous or woody materials, synthetic materials, and rock fragments greater than 3/4" in diameter that is in contact with ground surface and considered to be stable and resistant to downslope movement.

[2] As recommended by the Forest Service on the Umpqua National Forest, between about MPs 109 and 110 provide 100% post-construction ground cover on all disturbed areas in the area where the alignment crosses the Thomason cinnabar claim group (see Contaminated Substances Discovery Plan/Appendix E of the POD).

PCGP will assume that all areas along the construction right-of-way where slash is redistributed will have a high to very high erosion hazard class, and therefore PCGP will apply slash (including wood chips, where available) at a minimum percent effective cover of 65 to 85 percent of the right-of-way (see Table 10.15-1). PCGP assumes that the soils within the construction right-of-way will be categorized within the high to very high erosion hazard classes because all vegetation within the right-of-way will be removed and soils will be disturbed during grading, trenching, backfilling, and restoration activities.

Native wood mulch will be applied to a depth not exceeding one inch. The wood mulch will not be mixed into the soil. The Forest Service has noted that wood chips can be the most effective means to protect soils from surface and fluvial erosional processes.

Wood Fiber Mulch

Manufactured wood fiber mulch will be applied as hydromulch at 2,000 pounds per acre during hydroseeding. A tackifier or bonding agent recommended by the manufacturer will be used to bond the wood fiber mulch to the soil surface.

The wood fiber mulch will consist of pure wood fibers manufactured expressly from virgin wood chips. The chips will be processed in such a manner as to contain no trace of lead paint, varnish, printing ink, petroleum-based compounds, or seed germination inhibitors. Fiber will not be produced from unknown origin recycled material such as sawdust, paper, cardboard, or residue from chlorine bleached paper mills.

Wood fibers of mulch must maintain uniform suspension in water under agitation. The wood fiber mulch will blend with seed and tackifier to form homogenous slurry. Upon application, the mulch will form a blotter-like mat covering the ground. This mat will have the characteristics of water absorption and percolation and will cover and bond grass seed in contact with the soil. The wood fiber mulch will be dyed green to aid in visual metering during application. The dye will be non-toxic, biodegradable and not inhibit plant growth.

Bonded Fiber Matrix

PCGP will use a bonded fiber matrix (“BFM”), or similar product, on slopes greater than 2.5 to 1 (i.e., 40 percent), where prescribed by the EI or PCGP’s authorized representative. BFM is similar to wood fiber mulch, but it has properties that allow it to remain strong and insoluble after its initial drying. BFM reduces erosion by a) absorbing the impact of rainfall while still allowing water to filter through, and b) absorbing water like a sponge to prevent overland water flow and rilling (Mat, Inc, 2017). It creates a strong and durable mat of interlocking fiber strands held together by a bonding agent which is water resistant and which will withstand re-exposure to moisture without re-dissolving or losing its adhesive quality. Once dry, it forms a water-absorbent protective mat which is porous and breathable and secures soil and seed until vegetation is established (Mat, Inc, 2017).

BFM is designed to mix and flow easily when wet and yet remain strong and insoluble once dry, protecting the soil surface from repeated rains and sheet flows. BFM can be applied prior to a rainy season or late in the year as it is formulated to endure the harsh conditions of heavy rains and snow (Mat, Inc, 2017). In time, BFM biodegrades completely into natural organic compounds which are beneficial to plant life. It is safe to use in riparian zones and watersheds. Because BFM is sprayed on, the site remains relatively undisturbed, further reducing the risk of erosion (Mat, Inc, 2017).

Straw Mulch

Straw mulch will be certified weed-free by the appropriate state certification program. In 2009, Oregon established a voluntary pilot Weed Free Forage Program[3] which certifies both grass and alfalfa hay and straw. The contractor will deliver weed-free certification documents from this program to the EI prior to applying any straw mulch. However, if the certification program is not in place at the time of construction, or if there are not sufficient quantities of certified weed free straw available, the contractor will request review/inspection of the straw by the local soil and water conservation district, county agent, or other appropriate official or authorized agency representative on federal lands. Any straw that is found to contain noxious weeds during application will be immediately removed from the construction right-of-way and staging areas and properly disposed of in a public landfill.

The mulch will be uniformly applied at a rate of 2 tons/acre to cover the ground surface. Mulching will occur immediately after seeding where broadcast or drill seeding occurs. Anchoring the mulch is not expected to be necessary because strong winds, which could dislodge the mulch, typically occur during the winter rainy season when the moist conditions will bind the straw to the soils. Liquid mulch binders are not expected to be utilized unless hydromulch is applied. Liquid binders will not be used in wetlands or waterbodies.

10.16 Erosion Control Fabric

PCGP will install erosion control fabric (such as jute or excelsior) on streambanks at the time of recontouring (see Drawing 3430.34-X-0009 in Attachment C). The fabric will be anchored using staples or other appropriate devices. The erosion control fabric to be used on streambanks and steep slopes will be designed for the proposed use and will be approved by the EI, and authorized agency representative on federal lands. The EI or authorized company representative and authorized agency representative on federal lands will also determine other appropriate areas along the construction right-of-way where erosion control fabric will be applied based on site-specific conditions, such as steep slopes or reestablished ditches or drainages.

11.0 STEEP AND RUGGED TERRAIN

A significant portion of the Pipeline crosses rugged topography as it traverses the Coast and Cascade Mountain Ranges and foothills. Where the Pipeline passes through the dissected Coast Range and foothills between the Coos River and Myrtle Creek (MPs 9.00 to 81.00) most of the ridgelines run in the opposite direction of the proposed alignment. The orientation of the ridges requires the Pipeline, in numerous areas, to descend and ascend steep ridge slopes to cross stream drainages so that the alignment can proceed in a southeasterly direction toward Myrtle Creek and ultimately the terminus of the pipeline near Malin, Oregon. This similar condition also occurs between MPs 81.00 and 121.00 where the Pipeline traverses the Cascade Range and foothills. During routing, PCGP optimized the alignment along ridgelines, where feasible, to minimize crossing steep slopes and potential geologic hazards, to minimize waterbody crossings, and to minimize the amount of cuts and fill slopes that would be required which reduces the erosion hazard. Areas of steep side slopes (greater than 50% grade) were also avoided as much as practical during routing to minimize the complications associated with construction in these areas as well as potential long-term slope instability hazards.

[3] http://www.oregon.gov/ODA/programs/MarketAccess/MACertification/Pages/WeedFreeForage.aspx

The Geohazards and Mineral Resources Report (see Resource Report 6) provides a geotechnical hazards review that was conducted during routing and describes the avoidance mitigation measures that were implemented (i.e., minor reroutes) to avoid potential high risk geological hazards areas. Resource Report 7 of PCGP's FERC Certificate application also identifies the miles of soils crossed by the Pipeline which are associated with steep slopes and high erosion hazards. PCGP has noted areas where the proposed route traverses steep, narrow ridges and where it will be infeasible to return these ridges to their original preconstruction contours during final grading. Drawing 3430.34-X-0018 in Attachment C provides a typical construction right-of-way configuration in these sharp ridgeline areas. This drawing shows the construction techniques that will be utilized to ensure safe and feasible construction; minimize overall construction disturbance; and ensure the long-term safety, stability, and integrity of the pipeline. Avoidance of these areas is not feasible because stable alternate pipeline routes were not present along the alignment, except for other similar ridgeline features that would have the same conditions.

During construction across rugged topography, PCGP will utilize the same construction procedures outlined in this ECRP to minimize construction, geologic, and erosion hazards as well as to ensure the integrity of the pipeline. In summary these procedures include:

- routing the pipeline to ensure safety and integrity of the pipeline;
- identifying adequate work areas to safely construct the pipeline;
- utilizing appropriate construction techniques to minimize disturbance and to provide a safe working plane during construction (i.e., two-tone construction; see Drawing 3430.34-X-0019 in Attachment C);
- Spoil storage during trench operations on steep slopes (greater than the angle of repose) will be completed using appropriate BMPs to minimize loss of material outside the construction right-of-way and TEWAs. Examples of BMPs that may be used include the use of temporary cribbing to store material on the slope or temporarily end-hauling the material to a stable upslope area and then hauling and replacing the material during backfilling;
- optimizing construction during the dry season, as much as practicable;
- utilizing temporary erosion control measures during construction (i.e., slope breakers/waterbars);
- installing trench breakers in the pipeline trench to minimize groundwater flow down the trench which can cause in-trench erosion;
- backfilling the trench according to PCGP's construction specifications;
- restoring the right-of-way promptly to approximate original contours or to stable contours after pipe installation and backfilling;
- installing properly designed and spaced permanent waterbars;
- revegetating the slope with appropriate and quickly germinating seed mixtures;
- providing effective ground cover from redistributing slash materials, mulching, or installing erosion control fabric on slopes, as necessary; and
- monitoring and maintaining right-of-way as necessary to ensure stability.

In addition to these typical construction methods, where PCGP identifies steep sideslopes requiring restoration, the fill-slope specifications outlined below will be followed to ensure slope stability:

Fill slopes will be constructed in order to return the site to the approximate pre-construction topography. Fill slopes which exceed a gradient of 3H:1V (Horizontal:Vertical), will be

constructed in accordance with the following specifications under the supervision of PCGP's qualified representative:

Materials

1. Fill materials used for constructing slopes exceeding 3H:1V will be considered structural fill.
2. Materials used as structural fill should be free of roots, organic matter, and other deleterious materials.
3. Fill materials will be at a moisture content suitable for compaction.
4. If on-site soils are unsuitable for use as structural fill, imported structural fill will consist of pit or quarry run rock, crushed rock, crushed gravel and sand, or sand that is fairly well graded between coarse and fine, contains no clay balls, roots, organic matter or other deleterious materials, and has less than 5 percent passing the U.S. No. 200 Sieve.

Slope Preparation

1. Slopes to receive fills will be prepared by stripping the existing organic material and topsoil.
2. Construct steps or benches on existing slopes to receive fills that exceed 3H:1V. The bench height to width ratio will be adjusted to match the existing slope gradient.

Fill Placement and Compaction

1. Fill soils will be compacted at a moisture content that is suitable for compaction. The maximum allowable moisture content varies with the soil gradation, and will be evaluated during construction. Silt and clay and other fine granular soils may be difficult or impossible to compact during persistent wet conditions.
2. Fill material will be placed in uniform, horizontal lifts. Minimum lift thickness will vary based on material compacted and the type of compaction equipment used.
3. Compact each lift by operating, hauling, and spreading equipment uniformly over the full width of each layer until there is no visible deflection under the load of the hauling and spreading equipment. If each lift of fill cannot be accessed by the hauling and spreading equipment to achieve compaction, then other suitable compaction equipment will be used to obtain the required compaction. Alternative compaction equipment and methods may include tamping with a trackhoe bucket, vibratory plate compactors (hoe-pack) or rollers.

12.0 NOXIOUS WEEDS, SOIL PESTS, AND FOREST PATHOGENS CONTROL PLAN

The Oregon Department of Agriculture ("ODA") (Butler 2006), BLM, and Forest Service have been consulted for recommendations to prevent the introduction, establishment, or spread of noxious weeds, soil pests, and forest pathogens. In general, these agencies have recommended that reconnaissance surveys be conducted along the alignment to determine the presence of noxious weeds and forest pathogens so that appropriate BMPs can be developed and applied prior to and during construction to prevent the introduction, establishment, or spread of noxious weeds and forest pathogens. Additionally, these agencies have recommended that construction equipment and vehicles be cleaned prior to moving them onto the construction right-of-way to prevent the import and spread of weeds and that vegetation clearing and grading equipment be cleaned if they pass through known noxious weed infestations. Disturbed areas will be promptly replanted as described in Section 10.9 with

appropriate seed mixtures to help prevent noxious weed germination. The right-of-way will be monitored after construction, and any noxious weed infestations will be controlled in accordance with permit and landowner stipulations. The following section describes in more detail the measures that will be implemented by PCGP during construction to minimize the potential spread of noxious weeds, soil pests, and forest pathogens. These sections of the ECRP were also utilized as the basis for PCGP's Integrated Pest Management Plan (see Appendix N of the POD).

12.1 Reconnaissance Surveys

PCGP conducted initial reconnaissance weed surveys concurrently with wetland and waterbody inventories during the summer and fall of 2006 and 2007. Additional reconnaissance weed surveys were conducted during biological surveys in 2007 and 2008 and various supplemental surveys through 2017. These surveys were conducted by local biologists who were familiar with priority listed noxious weeds. The results of these inventories are provided in the Integrated Pest Management Plan (see Appendix N of the POD), which also provides the state classifications. The reconnaissance surveys will assist in determining where management or pretreatment may be necessary prior to construction to prevent the spread of noxious weeds. As indicated in the Integrated Pest Management Plan, PCGP will also complete preconstruction weed surveys to determine potential pretreatment requirements and construction practices that would be implemented during clearing and grading to minimize and avoid the potential spread of weeds and forest pathogens.

12.2 Pretreatment

Pretreatment will primarily be accomplished by mechanical operations by mowing to the ground level, if appropriate for the targeted weed species. Other appropriate mechanical methods may include disking, ripping, or chopping. Hand pulling methods may also be utilized if the area of infestation is small or where mechanical methods are not feasible. Infested areas will be cleared in a manner to minimize transport of weed seed, roots, and rhizomes or other vegetative materials and soil from the site down the construction right-of-way. Spot treatments with appropriate herbicides will also be conducted where applicable depending on the specific weed and site-specific conditions using integrated weed management principles. Spot herbicide treatment would only be utilized when it could be effective (i.e., plant phenology and effective herbicide treatment windows coincide) prior to construction. Any herbicide treatment would be conducted by a licensed applicator using herbicides labeled for the targeted species and registered for the use. Herbicides would be used where approved by the land-managing agency or landowner. Permits for use of herbicides on federal lands would be obtained prior to use/treatment (see Integrated Pest Management Plan/Appendix N of the POD).

12.3 Equipment Inspection

Prior to transporting construction equipment to the construction right-of-way, all equipment will be inspected to ensure that it is clean and free of potential weed seed or sources (i.e., soil roots or rhizomes) and power washed, if necessary, as determined by the EI or authorized agency representative on federal lands. In addition, initial inspections of all inspector vehicles and construction contractor vehicles will also be performed prior to being allowed on the construction right-of-way. This does not apply to local service vehicles that will stay on the existing roadway, traveling frequently in and out of the Pipeline project area. The EI or PCGP's authorized representative will be responsible for performing inspections and registering or tagging the equipment prior to being transported or moved to the right-of-way. To ensure the equipment is

thoroughly inspected, the EI or authorized representative will use the inspection checklist provided in Attachment D.

12.4 Clearing and Grading

In areas where infestations have been identified or noted in the field, the contractor will stockpile cleared vegetation and salvage topsoil or graded material adjacent to the area from which they are stripped to eliminate the transport of soil-born noxious weed seeds, roots, or rhizomes. Where practical and feasible, right-of-way grading activities will occur toward any known areas of infestation to minimize the potential spread of noxious weeds or forest pathogens. During reclamation, the contractor will return any graded materials and vegetative material from the infestation sites to the areas from which they were stripped or moved. Any clearing equipment used in areas of priority A and T as well as selected B listed weeds will be cleaned by hand, blown down with air, or pressure washed prior to leaving the site. Equipment cleaning on the right-of-way will occur in an approved cleaning station such as that shown on Drawing 3430.34-X-0020 in Attachment C. The EI will approve the appropriate cleaning station location(s) and will be responsible for determining the effective cleaning method for the grading/clearing equipment (including power washing, if necessary). Infested areas and cleaning station locations will be mapped to ensure that these areas are monitored during construction and to ensure that these weeds are controlled and not spread.

NFS and BLM Lands. Because of the contiguous pattern of NFS Lands crossed by the Pipeline, equipment will be inspected and cleaned at cleaning stations located at the borders of each National Forest prior to clearing and grading activities in addition to being cleaned at cleaning locations adjacent to mapped noxious weed infestation areas that were identified during preconstruction surveys on federal lands and where a treatment plan has been developed in consultation with the authorized agency representative. The cleaning station(s) will be located and approved by the EIs and the authorized agency representative on federal lands. The cleaning station location(s) will also be mapped for future monitoring efforts to determine if potential infestations occur at these sites and, if they do, to ensure that appropriate control treatments are applied.

Because the BLM managed lands are not contiguous and are spread out in a checkerboard pattern, it is not practical to set up inspection and cleaning stations at each entry point. However, where BLM lands are contiguous to NFS Lands, the cleaning station will be located to include the adjacent BLM lands.

12.5 Weed-Free Materials

PCGP will use certified weed-free seed during seeding operations as indicated in Section 10.9 of this ECRP. In addition, PCGP will use certified weed-free straw for mulch and sediment barriers, dewatering structures, or other uses along the right-of-way. The EI or PCGP's authorized representative will be responsible for ensuring that all straw hauled to the construction yards will be certified weed-free[4]. Where straw is to be used on federal lands, the BLM's or Forest Service's authorized officer may also inspect and approve straw materials to verify that the straw is weed-free. Depending on the source of the straw, it is generally advisable to have the straw certified in the county where it was produced prior to shipping. If gravel or other materials are used on NFS Lands, they will be from a weed-free source and approved by the Forest Service's authorized representative.

[4] http://www.oregon.gov/ODA/programs/MarketAccess/MACertification/Pages/WeedFreeForage.aspx

12.6 Weed Control

Where weed control is necessary, PCGP will employ hand and mechanical methods (pulling, mowing, disking, etc.) to prevent the spread of potential weed infestations. To determine if an herbicide is to be used over other control methods, PCGP will base the decision on integrated weed management principles (USDA, 2005). Decisions will be made based on whether other methods or combinations of methods are known to be effective on the species in similar habitats. The choice of herbicides will be based on the invasive species, how it reproduces, its seed viability, the size of its population, site conditions, known effectiveness under similar site conditions, and the ability to mitigate effects on non-target species.

In most cases, if an herbicide is used for control, it would be used in combination with other methods. For example, initial treatment of an invasive species may be done with an herbicide, but then manual or mechanical methods may be implemented as maintenance treatments over the long-term. If herbicides are used to control noxious weed infestations, PCGP will employ a state or federally-licensed herbicide applicator to ensure that the appropriate herbicides are utilized for the targeted weed species during its proper phenological period and at the specified rate. The applicator will ensure that the herbicides are used according to the labeling restrictions and according to all applicable laws and restrictions and according to the appropriate land managing agency decision documents. Permits for the use of herbicides on federal lands would be obtained prior to use/treatment (see Integrated Pest Management Plan/Appendix N of the POD).

The applicator will confirm that the herbicides are used under the proper seasonal and weather conditions to ensure effectiveness and to minimize drift to non-targeted areas. Herbicides will not be applied during precipitation events or when precipitation is expected within 24 hours or as specified on the label. Prior to herbicide application, PCGP and/or their contractor will obtain all required permits from the local jurisdictions/authorities and land-managing agency. The licensed applicator will complete a Herbicide Application Record (see Integrated Pest Management Plan/Appendix N of the POD) when herbicides are applied on federal lands. PCGP will not utilize herbicides on the right-of-way without landowner consent/approval and will use wicking, wiping, injection, or spot spraying as permitted by product labels. PCGP will not use aerial herbicide applications and will not use herbicides for general brush/tree control within the 30-foot maintained operational easement.

Weed Control near Sensitive Areas and Habitats. Herbicides will not be used within 100 feet of a wetland or waterbody, unless allowed by the appropriate agency. PCGP and their applicators will ensure that herbicide use does not impact sensitive species identified during PCGP's biological surveys. To ensure sensitive species/habitats are not adversely impacted by the weed control activities, the Integrated Pest Management Plan (see Appendix 7 to Appendix N of the POD) provides the various sensitive species and/or associated buffers that are crossed or that are in the vicinity of the Pipeline. If noxious weed infestations occur in the vicinity of sensitive sites, the proper treatment buffers will be applied to avoid potential adverse impacts to non-targeted species. In these areas site-specific control will be designed (e.g., application rate and method, timing, wind speed and direction, nozzle type and size, buffers, etc.) to mitigate the potential for adverse disturbance and/or contaminant exposure.

12.7 Soil Pests

In the Klamath Basin there are two organisms of regulatory concern. These include Verticillium (fungus), which is a concern in mint and potato fields, and Meloidogyne chitwoodii (nematode), which is a concern in potatoes. Both of these organisms inhabit the soil and can be easily

spread on tires, boots, or other soil-moving mechanisms. To minimize the potential spread of these organisms, PCGP will wash all equipment and vehicles before leaving any mint or potato field crossed by the Pipeline.

12.8 Forest Pathogens

Refer to Section 5.0 of PCGP's Integrated Pest Management Plan (see Appendix N).

12.9 Monitoring

After construction PCGP will monitor the right-of-way for infestation of noxious weeds. Monitoring will occur in the areas where noxious weeds were identified prior to construction and were previously mapped to ensure that potential infestations do not reestablish and spread. Monitoring will also occur in areas along the right-of-way where equipment cleaning stations and hydrostatic dewatering sites were located to ensure that infestations at these locations do not occur. Monitoring in these areas will occur for a period of 3 to 5 years on federal lands, and monitoring will also occur in areas where rock, soil and straw was used on federal Lands. PCGP's operational staff or their contractors will be responsible for these monitoring efforts. On NFS lands, PCGP may also develop a fund to support the agency in monitoring weeds on the right-of-way. If infestations occur along the right-of-way, PCGP would make an assessment of the source of the infestation, the potential of the infestation to spread to other adjacent areas, and develop a treatment plan to control the infestation. Where infestations occur on federal lands, this assessment and treatment plan would be developed cooperatively with these agencies. The treatment plan would be developed using integrated weed management principles, and if herbicides are used, all applicable approvals would be obtained prior to their use including landowner approvals. PCGP would consult with the Oregon Department of Agriculture Noxious Weed Control Program/ or local County Weed Program for additional support regarding noxious weed control issues that may occur during operation of the pipeline. PCGP may also contract with local conservation districts to conduct any necessary weed treatment programs that may arise after construction.

Monitoring other areas of the right-of-way where noxious weeds were not known to occur prior to construction will occur as an ongoing function of PCGP's operational personnel during the life of the Pipeline. PCGP's operational staff would also investigate noxious weed issues raised by landowners during operation of the pipeline.

13.0 MAINTENANCE

PCGP will conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of revegetation. PCGP will monitor crops for at least two years to determine the need for additional restoration, unless the easement agreement specifies otherwise. Revegetation will be considered successful in upland areas, if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. If vegetative cover and density are not similar or there are excessive weeds after two full growing seasons, PCGP will continue revegetation efforts until revegetation is successful. Repair of erosion control structures will occur until the right-of-way has successfully revegetated and has stabilized. Once the site is stabilized, temporary erosion control measures will be removed.

In wetland areas, revegetation will be considered successful if the affected wetland satisfies the current federal definition for a wetland (i.e., soils, hydrology, and vegetation); vegetation is at

least 80 percent of either the cover documented for the wetland prior to construction, or at least 80 percent of the cover in adjacent wetland areas that were not disturbed by construction; and invasive species and noxious weeds are absent, unless they are abundant in adjacent areas that were not disturbed by construction. If revegetation is not successful at the end of 3 years, PCGP will develop and implement (in consultation with a professional wetland ecologist) a remedial revegetation plan to actively revegetate the wetland and will continue revegetation efforts until wetland revegetation is successful.

PCGP will monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in agricultural areas until restoration is deemed successful.

Routine vegetation mowing or clearing will not be done more frequently than every 3 years. However, to facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the corridor in an herbaceous state. In no case will routine vegetation, mowing, or clearing occur between April 15 and August 1 of any year, during the migratory bird nesting season, unless approved by U.S. Fish and Wildlife Service or the land management agency.

PCGP will not conduct vegetation maintenance over the full width of the permanent right-of-way in wetland and waterbody riparian areas. Where necessary, to facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the corridor in a herbaceous state. Trees that are within 15 feet of the pipeline centerline will also be selectively removed to protect the pipeline and to facilitate corrosion and leak surveys. Vegetation maintenance adjacent to waterbodies will allow a riparian strip, as measured from the waterbody's OHWM, to permanently revegetate with native plant species across the entire construction right-of-way (subject to the 15-foot [trees] restrictions on either side of the centerline). Drawing 3430.34-X-0016 in Attachment C provides a schematic of the right-of-way maintenance areas within wetlands and riparian areas. On federal lands, PCGP has committed to extending the riparian strip plantings along all fish-bearing streams within federally-designated Riparian Reserves to 100 feet beyond the OHWM (subject to the 15-foot [trees] restrictions on either side of the centerline). On private lands the riparian strip will be planted and allowed to establish based to a width based on ODF RMA buffer widths (see Section 10.12). PCGP's Stream Crossing Risk Analysis (GeoEngineers 2017) provides the stream crossing monitoring plan that will be implemented to ensure long-term success of the stream crossing restoration.

PCGP will test, operate, and maintain the proposed facilities in accordance with 49 CFR Part 192 and other applicable federal and state regulations. The pipeline right-of-way will be clearly marked where it crosses public roads, railroads, rivers, fenced property lines, and other locations as necessary. All pipeline facilities will be marked and identified in accordance with applicable regulations to avoid accidental excavation.

During the operational life of the Pipeline, PCGP's personnel will be responsible for any unforeseen erosion or potential mass movement that may occur.

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ATTACHMENT A

FERC Upland Erosion Control, Revegetation and Maintenance Plan

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

MAY 2013 VERSION

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

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UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (PLAN)

I. APPLICABILITY

A. The intent of this Plan is to assist project sponsors by identifying baseline mitigation measures for minimizing erosion and enhancing revegetation. Project sponsors shall specify in their applications for a new FERC authorization and in prior notice and advance notice filings, any individual measures in this Plan they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in this Plan (or the applicant's approved plan). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;

2. is necessary because a portion of this Plan is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on wetland and waterbody systems are addressed in the staff's Wetland and Waterbody Construction and Mitigation Procedures (Procedures).

II. SUPERVISION AND INSPECTION

A. ENVIRONMENTAL INSPECTION

1. At least one Environmental Inspector is required for each construction spread during construction and restoration (as defined by section V). The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.

2. Environmental Inspectors shall have peer status with all other activity inspectors.

3. Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the FERC's Orders, stipulations of other environmental permits or approvals, or landowner easement agreements; and to order appropriate corrective action.

B. RESPONSIBILITIES OF ENVIRONMENTAL INSPECTORS

At a minimum, the Environmental Inspector(s) shall be responsible for:

1. Inspecting construction activities for compliance with the requirements of this Plan, the Procedures, the environmental conditions of the FERC's Orders, the mitigation measures proposed by the project sponsor (as approved and/or modified by the Order), other environmental permits and approvals, and environmental requirements in landowner easement agreements.

2. Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;

3. Verifying that the limits of authorized construction work areas and locations of access roads are visibly marked before clearing, and maintained throughout construction;

4. Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;

5. Identifying erosion/sediment control and soil stabilization needs in all areas;

6. Ensuring that the design of slope breakers will not cause erosion or direct water into sensitive environmental resource areas, including cultural resource sites, wetlands, waterbodies, and sensitive species habitats;

7. Verifying that dewatering activities are properly monitored and do not result in the deposition of sand, silt, and/or sediment into sensitive environmental resource areas, including wetlands, waterbodies, cultural resource sites, and sensitive species habitats; stopping dewatering activities if such deposition is occurring and ensuring the design of the discharge is changed to prevent reoccurrence; and verifying that dewatering structures are removed after completion of dewatering activities;

8. Ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;

9. Advising the Chief Construction Inspector when environmental conditions (such as wet weather or frozen soils) make it advisable to restrict or delay construction activities to avoid topsoil mixing or excessive compaction;

10. Ensuring restoration of contours and topsoil;

11. Verifying that the soils imported for agricultural or residential use are certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner;

12. Ensuring that erosion control devices are properly installed to prevent sediment flow into sensitive environmental resource areas (e.g., wetlands, waterbodies, cultural resource sites, and sensitive species habitats) and onto roads, and determining the need for additional erosion control devices;

13. Inspecting and ensuring the maintenance of temporary erosion control measures at least:

    a. on a daily basis in areas of active construction or equipment operation;

    b. on a weekly basis in areas with no construction or equipment operation; and

    c. within 24 hours of each 0.5 inch of rainfall;

14. Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts;

15. Keeping records of compliance with the environmental conditions of the FERC's Orders, and the mitigation measures proposed by the project sponsor in the application submitted to the FERC, and other federal or state environmental permits during active construction and restoration;

16. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase; and

17. Verifying that locations for any disposal of excess construction materials for beneficial reuse comply with section III.E.

III. PRECONSTRUCTION PLANNING

The project sponsor shall do the following before construction:

A. CONSTRUCTION WORK AREAS

1. Identify all construction work areas (e.g., construction right-of-way, extra work space areas, pipe storage and contractor yards, borrow and disposal areas, access roads) that would be needed for safe construction. The project sponsor must ensure that appropriate cultural resources and biological surveys are conducted, as determined necessary by the appropriate federal and state agencies.

2. Project sponsors are encouraged to consider expanding any required cultural resources and endangered species surveys in anticipation of the need for activities outside of authorized work areas.

3. Plan construction sequencing to limit the amount and duration of open trench sections, as necessary, to prevent excessive erosion or sediment flow into sensitive environmental resource areas.

B. DRAIN TILE AND IRRIGATION SYSTEMS

1. Attempt to locate existing drain tiles and irrigation systems.

2. Contact landowners and local soil conservation authorities to determine the locations of future drain tiles that are likely to be installed within 3 years of the authorized construction.

3. Develop procedures for constructing through drain-tiled areas, maintaining irrigation systems during construction, and repairing drain tiles and irrigation systems after construction.

4. Engage qualified drain tile specialists, as needed to conduct or monitor repairs to drain tile systems affected by construction. Use drain tile specialists from the project area, if available.

C. GRAZING DEFERMENT

Develop grazing deferment plans with willing landowners, grazing permittees, and land management agencies to minimize grazing disturbance of revegetation efforts.

D. ROAD CROSSINGS AND ACCESS POINTS

Plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration.

E. DISPOSAL PLANNING

Determine methods and locations for the regular collection, containment, and disposal of excess construction materials and debris (e.g., timber, slash, mats, garbage, drill cuttings and fluids, excess rock) throughout the construction process. Disposal of materials for beneficial reuse must not result in adverse environmental impact and is subject to compliance with all applicable survey, landowner or land management agency approval, and permit requirements.

F. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in this Plan and/or required by the FERC's Orders.

1. Obtain written recommendations from the local soil conservation authorities or land management agencies regarding permanent erosion control and revegetation specifications.

2. Develop specific procedures in coordination with the appropriate agencies to prevent the introduction or spread of invasive species, noxious weeds, and soil pests resulting from construction and restoration activities.

3. Develop specific procedures in coordination with the appropriate agencies and landowners, as necessary, to allow for livestock and wildlife movement and protection during construction.

4. Develop specific blasting procedures in coordination with the appropriate agencies that address pre- and post-blast inspections; advanced public notification; and mitigation measures for building foundations, groundwater wells, and springs. Use appropriate methods (e.g., blasting mats) to prevent damage to nearby structures and to prevent debris from entering sensitive environmental resource areas.

G. SPILL PREVENTION AND RESPONSE PROCEDURES

The project sponsor shall develop project-specific Spill Prevention and Response Procedures, as specified in section IV of the staff's Procedures. A copy must be filed with the Secretary of the FERC (Secretary) prior to construction and made available in the field on each construction spread. The filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

H. RESIDENTIAL CONSTRUCTION

For all properties with residences located within 50 feet of construction work areas, project sponsors shall: avoid removal of mature trees and landscaping within the construction work area unless necessary for safe operation of construction equipment, or as specified in landowner agreements; fence the edge of the construction work area for a distance of 100 feet on either side of the residence; and restore all lawn areas and landscaping immediately following clean up operations, or as specified in landowner agreements. If seasonal or other weather conditions prevent compliance with these time frames, maintain and monitor temporary erosion controls (sediment barriers and mulch) until conditions allow completion of restoration.

I. WINTER CONSTRUCTION PLANS

If construction is planned to occur during winter weather conditions, project sponsors shall develop and file a project-specific winter construction plan with the FERC application. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The plan shall address:

1. winter construction procedures (e.g., snow handling and removal, access road construction and maintenance, soil handling under saturated or frozen conditions, topsoil stripping);

2. stabilization and monitoring procedures if ground conditions will delay restoration until the following spring (e.g., mulching and erosion controls, inspection and reporting, stormwater control during spring thaw conditions); and

3. final restoration procedures (e.g., subsidence and compaction repair, topsoil replacement, seeding).

IV. INSTALLATION

A. APPROVED AREAS OF DISTURBANCE

1. Project-related ground disturbance shall be limited to the construction right-of-way, extra work space areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved in the FERC's Orders. Any project-related ground disturbing activities outside these areas will require prior Director approval. This requirement does not apply to activities needed to comply with the Plan and Procedures (i.e., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs) or minor field realignments and workspace shifts per landowner needs and requirements that do not affect other landowners or sensitive environmental resource areas. All construction or restoration activities outside of authorized areas are subject to all applicable survey and permit requirements, and landowner easement agreements.

2. The construction right-of-way width for a project shall not exceed 75 feet or that described in the FERC application unless otherwise modified by a FERC Order. However, in limited, non-wetland areas, this construction right-of-way width may be expanded by up to 25 feet without Director approval to accommodate full construction right-of-way topsoil segregation and to ensure safe construction where topographic conditions (e.g., side-slopes) or soil limitations require it. Twenty-five feet of extra construction right-of-way width may also be used in limited, non-wetland or non-forested areas for truck turn-arounds where no reasonable alternative access exists.

   Project use of these additional limited areas is subject to landowner or land management agency approval and compliance with all applicable survey and permit requirements. When additional areas are used, each one shall be identified and the need explained in the weekly or biweekly construction reports to the FERC, if required. The following material shall be included in the reports:

   a. the location of each additional area by station number and reference to previously filed alignment sheets, or updated alignment sheets showing the additional areas;

   b. identification of the filing at FERC containing evidence that the additional areas were previously surveyed; and

c. a statement that landowner approval has been obtained and is available in project files.

Prior written approval of the Director is required when the authorized construction right-of-way width would be expanded by more than 25 feet.

B. TOPSOIL SEGREGATION

1. Unless the landowner or land management agency specifically approves otherwise, prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area (ditch plus spoil side method) in:

   a. cultivated or rotated croplands, and managed pastures;

   b. residential areas;

   c. hayfields; and

   d. other areas at the landowner's or land managing agency's request.

2. In residential areas, importation of topsoil is an acceptable alternative to topsoil segregation.

3. Where topsoil segregation is required, the project sponsor must:

   a. segregate at least 12 inches of topsoil in deep soils (more than 12 inches of topsoil); and

   b. make every effort to segregate the entire topsoil layer in soils with less than 12 inches of topsoil.

4. Maintain separation of salvaged topsoil and subsoil throughout all construction activities.

5. Segregated topsoil may not be used for padding the pipe, constructing temporary slope breakers or trench plugs, improving or maintaining roads, or as a fill material.

6. Stabilize topsoil piles and minimize loss due to wind and water erosion with use of sediment barriers, mulch, temporary seeding, tackifiers, or functional equivalents, where necessary.

C. DRAIN TILES

1. Mark locations of drain tiles damaged during construction.

2. Probe all drainage tile systems within the area of disturbance to check for damage.

3. Repair damaged drain tiles to their original or better condition. Do not use filter-covered drain tiles unless the local soil conservation authorities and the landowner agree. Use qualified specialists for testing and repairs.

4. For new pipelines in areas where drain tiles exist or are planned, ensure that the depth of cover over the pipeline is sufficient to avoid interference with drain tile systems. For adjacent pipeline loops in agricultural areas, install the new pipeline with at least the same depth of cover as the existing pipeline(s).

D. IRRIGATION

Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.

E. ROAD CROSSINGS AND ACCESS POINTS

1. Maintain safe and accessible conditions at all road crossings and access points during construction.

2. If crushed stone access pads are used in residential or agricultural areas, place the stone on synthetic fabric to facilitate removal.

3. Minimize the use of tracked equipment on public roadways. Remove any soil or gravel spilled or tracked onto roadways daily or more frequent as necessary to maintain safe road conditions. Repair any damages to roadway surfaces, shoulders, and bar ditches.

F. TEMPORARY EROSION CONTROL

Install temporary erosion controls immediately after initial disturbance of the soil. Temporary erosion controls must be properly maintained throughout construction (on a daily basis) and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration is complete.

1. Temporary Slope Breakers

a. Temporary slope breakers are intended to reduce runoff velocity and divert water off the construction right-of-way. Temporary slope

breakers may be constructed of materials such as soil, silt fence, staked hay or straw bales, or sand bags.

b. Install temporary slope breakers on all disturbed areas, as necessary to avoid excessive erosion. Temporary slope breakers must be installed on slopes greater than 5 percent where the base of the slope is less than 50 feet from waterbody, wetland, and road crossings at the following spacing (closer spacing shall be used if necessary):

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Direct the outfall of each temporary slope breaker to a stable, well vegetated area or construct an energy-dissipating device at the end of the slope breaker and off the construction right-of-way.

d. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetlands, waterbodies, or other sensitive environmental resource areas.

2. Temporary Trench Plugs

Temporary trench plugs are intended to segment a continuous open trench prior to backfill.

a. Temporary trench plugs may consist of unexcavated portions of the trench, compacted subsoil, sandbags, or some functional equivalent.

b. Position temporary trench plugs, as necessary, to reduce trenchline erosion and minimize the volume and velocity of trench water flow at the base of slopes.

3. Sediment Barriers

Sediment barriers are intended to stop the flow of sediments and to prevent the deposition of sediments beyond approved workspaces or into sensitive resources.

a. Sediment barriers may be constructed of materials such as silt fence, staked hay or straw bales, compacted earth (e.g., driveable berms across travelways), sand bags, or other appropriate materials.

b. At a minimum, install and maintain temporary sediment barriers across the entire construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody, wetland, or road crossing until revegetation is successful as defined in this Plan. Leave adequate room between the base of the slope and the sediment barrier to accommodate ponding of water and sediment deposition.

c. Where wetlands or waterbodies are adjacent to and downslope of construction work areas, install sediment barriers along the edge of these areas, as necessary to prevent sediment flow into the wetland or waterbody.

4. Mulch

a. Apply mulch on all slopes (except in cultivated cropland) concurrent with or immediately after seeding, where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 75 percent of the ground surface at a rate of 2 tons/acre of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.

b. Mulch can consist of weed-free straw or hay, wood fiber hydromulch, erosion control fabric, or some functional equivalent.

c. Mulch all disturbed upland areas (except cultivated cropland) before seeding if:

(1) final grading and installation of permanent erosion control measures will not be completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas), as required in section V.A.1; or

(2) construction or restoration activity is interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions.

d. If mulching before seeding, increase mulch application on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.

e. If wood chips are used as mulch, do not use more than 1 ton/acre and add the equivalent of 11 lbs/acre available nitrogen (at least 50 percent of which is slow release).

f. Ensure that mulch is adequately anchored to minimize loss due to wind and water.

g. When anchoring with liquid mulch binders, use rates recommended by the manufacturer. Do not use liquid mulch binders within 100 feet of wetlands or waterbodies, except where the product is certified environmentally non-toxic by the appropriate state or federal agency or independent standards-setting organization.

h. Do not use synthetic monofilament mesh/netted erosion control materials in areas designated as sensitive wildlife habitat, unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

V. RESTORATION

A. CLEANUP

1. Commence cleanup operations immediately following backfill operations. Complete final grading, topsoil replacement, and installation of permanent erosion control structures within 20 days after backfilling the trench (10 days in residential areas). If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (i.e., temporary slope breakers, sediment barriers, and mulch) until conditions allow completion of cleanup.

   If construction or restoration unexpectedly continues into the winter season when conditions could delay successful decompaction, topsoil replacement, or seeding until the following spring, file with the Secretary for the review and written approval of the Director, a winter construction plan (as specified in section III.I). This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

2. A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion control structures are installed as specified in section IV.F. and inspected and maintained as specified in sections II.B.12 through 14. When access is no longer required the travel lane must be removed and the right-of-way restored.

3. Rock excavated from the trench may be used to backfill the trench only to the top of the existing bedrock profile. Rock that is not returned to the trench shall be considered construction debris, unless approved for use as mulch or for some other use on the construction work areas by the landowner or land managing agency.

4. Remove excess rock from at least the top 12 inches of soil in all cultivated or rotated cropland, managed pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. The landowner or land management agency may approve other provisions in writing.

5. Grade the construction right-of-way to restore pre-construction contours and leave the soil in the proper condition for planting.

6. Remove construction debris from all construction work areas unless the landowner or land managing agency approves leaving materials onsite for beneficial reuse, stabilization, or habitat restoration.

7. Remove temporary sediment barriers when replaced by permanent erosion control measures or when revegetation is successful.

B. PERMANENT EROSION CONTROL DEVICES

1. Trench Breakers

a. Trench breakers are intended to slow the flow of subsurface water along the trench. Trench breakers may be constructed of materials such as sand bags or polyurethane foam. Do not use topsoil in trench breakers.

b. An engineer or similarly qualified professional shall determine the need for and spacing of trench breakers. Otherwise, trench breakers shall be installed at the same spacing as and upslope of permanent slope breakers.

c. In agricultural fields and residential areas where slope breakers are not typically required, install trench breakers at the same spacing as if permanent slope breakers were required.

d. At a minimum, install a trench breaker at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland. Install trench breakers at wetland boundaries, as specified in the Procedures. Do not install trench breakers within a wetland.

2. Permanent Slope Breakers

a. Permanent slope breakers are intended to reduce runoff velocity, divert water off the construction right-of-way, and prevent sediment deposition into sensitive resources. Permanent slope breakers may be constructed of materials such as soil, stone, or some functional equivalent.

b. Construct and maintain permanent slope breakers in all areas, except cultivated areas and lawns, unless requested by the landowner, using spacing recommendations obtained from the local soil conservation authority or land managing agency.

In the absence of written recommendations, use the following spacing unless closer spacing is necessary to avoid excessive erosion on the construction right-of-way:

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Construct slope breakers to divert surface flow to a stable area without causing water to pool or erode behind the breaker. In the absence of a stable area, construct appropriate energy-dissipating devices at the end of the breaker.

d. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. Where slope breakers extend beyond the edge of the construction right-of-way, they are subject to compliance with all applicable survey requirements.

C. SOIL COMPACTION MITIGATION

1. Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests.

2. Plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil.

If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.

3. Perform appropriate soil compaction mitigation in severely compacted residential areas.

D. REVEGETATION

1. General

a. The project sponsor is responsible for ensuring successful revegetation of soils disturbed by project-related activities, except as noted in section V.D.1.b.

b. Restore all turf, ornamental shrubs, and specialized landscaping in accordance with the landowner's request, or compensate the landowner. Restoration work must be performed by personnel familiar with local horticultural and turf establishment practices.

2. Soil Additives

Fertilize and add soil pH modifiers in accordance with written recommendations obtained from the local soil conservation authority, land management agencies, or landowner. Incorporate recommended soil pH modifier and fertilizer into the top 2 inches of soil as soon as practicable after application.

3. Seeding Requirements

a. Prepare a seedbed in disturbed areas to a depth of 3 to 4 inches using appropriate equipment to provide a firm seedbed. When hydroseeding, scarify the seedbed to facilitate lodging and germination of seed.

b. Seed disturbed areas in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authority or the request of the landowner or land management agency. Seeding is not required in cultivated croplands unless requested by the landowner.

c. Perform seeding of permanent vegetation within the recommended seeding dates. If seeding cannot be done within those dates, use appropriate temporary erosion control measures discussed in section IV.F and perform seeding of permanent vegetation at the beginning of the next recommended seeding season. Dormant seeding or temporary

seeding of annual species may also be used, if necessary, to establish cover, as approved by the Environmental Inspector. Lawns may be seeded on a schedule established with the landowner.

d. In the absence of written recommendations from the local soil conservation authorities, seed all disturbed soils within 6 working days of final grading, weather and soil conditions permitting, subject to the specifications in section V.D.3.a through V.D.3.c.

e. Base seeding rates on Pure Live Seed. Use seed within 12 months of seed testing.

f. Treat legume seed with an inoculant specific to the species using the manufacturer's recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydro).

g. In the absence of written recommendations from the local soil conservation authorities, landowner, or land managing agency to the contrary, a seed drill equipped with a cultipacker is preferred for seed application.

Broadcast or hydroseeding can be used in lieu of drilling at double the recommended seeding rates. Where seed is broadcast, firm the seedbed with a cultipacker or roller after seeding. In rocky soils or where site conditions may limit the effectiveness of this equipment, other alternatives may be appropriate (e.g., use of a chain drag) to lightly cover seed after application, as approved by the Environmental Inspector.

VI. OFF-ROAD VEHICLE CONTROL

To each owner or manager of forested lands, offer to install and maintain measures to control unauthorized vehicle access to the right-of-way. These measures may include:

A. signs;

B. fences with locking gates;

C. slash and timber barriers, pipe barriers, or a line of boulders across the right-of-way; and

D. conifers or other appropriate trees or shrubs across the right-of-way.

VII. POST-CONSTRUCTION ACTIVITIES AND REPORTING

A. MONITORING AND MAINTENANCE

1. Conduct follow-up inspections of all disturbed areas, as necessary, to determine the success of revegetation and address landowner concerns. At a minimum, conduct inspections after the first and second growing seasons.

2. Revegetation in non-agricultural areas shall be considered successful if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. In agricultural areas, revegetation shall be considered successful when upon visual survey, crop growth and vigor are similar to adjacent undisturbed portions of the same field, unless the easement agreement specifies otherwise.

   Continue revegetation efforts until revegetation is successful.

3. Monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in agricultural areas until restoration is successful.

4. Restoration shall be considered successful if the right-of-way surface condition is similar to adjacent undisturbed lands, construction debris is removed (unless otherwise approved by the landowner or land managing agency per section V.A.6), revegetation is successful, and proper drainage has been restored.

5. Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion/leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless specifically approved in writing by the responsible land management agency or the U.S. Fish and Wildlife Service.

6. Efforts to control unauthorized off-road vehicle use, in cooperation with the landowner, shall continue throughout the life of the project. Maintain signs, gates, and permanent access roads as necessary.

B. REPORTING

1. The project sponsor shall maintain records that identify by milepost:

   a. method of application, application rate, and type of fertilizer, pH modifying agent, seed, and mulch used;

   b. acreage treated;

   c. dates of backfilling and seeding;

   d. names of landowners requesting special seeding treatment and a description of the follow-up actions;

   e. the location of any subsurface drainage repairs or improvements made during restoration; and

   f. any problem areas and how they were addressed.

2. The project sponsor shall file with the Secretary quarterly activity reports documenting the results of follow-up inspections required by section VII.A.1; any problem areas, including those identified by the landowner; and corrective actions taken for at least 2 years following construction.

   The requirement to file quarterly activity reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advanced notice provisions in the FERC's regulations.

ATTACHMENT B

FERC Waterbody and Wetland Construction and Mitigation Procedures

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

MAY 2013 VERSION

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

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WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES (PROCEDURES)

I. APPLICABILITY

A. The intent of these Procedures is to assist project sponsors by identifying baseline mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies. Project sponsors shall specify in their applications for a new FERC authorization, and in prior notice and advance notice filings, any individual measures in these Procedures they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in these Procedures (or the applicant's approved procedures). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;

2. is necessary because a portion of these Procedures is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on non-wetland areas are addressed in the staff's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

B. DEFINITIONS

1. "Waterbody" includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:

   a. "minor waterbody" includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of crossing;

   b. "intermediate waterbody" includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of crossing; and

   c. "major waterbody" includes all waterbodies greater than 100 feet wide at the water's edge at the time of crossing.

2. "Wetland" includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands.

II. PRECONSTRUCTION FILING

A. The following information must be filed with the Secretary of the FERC (Secretary) prior to the beginning of construction, for the review and written approval by the Director:

1. site-specific justifications for extra work areas that would be closer than 50 feet from a waterbody or wetland; and

2. site-specific justifications for the use of a construction right-of-way greater than 75-feet-wide in wetlands.

B. The following information must be filed with the Secretary prior to the beginning of construction. These filing requirements do not apply to projects constructed under the automatic authorization provisions in the FERC's regulations:

1. Spill Prevention and Response Procedures specified in section IV.A;

2. a schedule identifying when trenching or blasting will occur within each waterbody greater than 10 feet wide, within any designated coldwater fishery, and within any waterbody identified as habitat for federally-listed threatened or endangered species. The project sponsor will revise the schedule as necessary to provide FERC staff at least 14 days advance notice. Changes within this last 14-day period must provide for at least 48 hours advance notice;

3. plans for horizontal directional drills (HDD) under wetlands or waterbodies, specified in section V.B.6.d;

4. site-specific plans for major waterbody crossings, described in section V.B.9;

5. a wetland delineation report as described in section VI.A.1, if applicable; and

6. the hydrostatic testing information specified in section VII.B.3.

III. ENVIRONMENTAL INSPECTORS

A. At least one Environmental Inspector having knowledge of the wetland and waterbody conditions in the project area is required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.

B. The Environmental Inspector's responsibilities are outlined in the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

IV. PRECONSTRUCTION PLANNING

A. The project sponsor shall develop project-specific Spill Prevention and Response Procedures that meet applicable requirements of state and federal agencies. A copy must be filed with the Secretary prior to construction and made available in the field on each construction spread. This filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

1. It shall be the responsibility of the project sponsor and its contractors to structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands. The project sponsor and its contractors must, at a minimum, ensure that:

a. all employees handling fuels and other hazardous materials are properly trained;

b. all equipment is in good operating order and inspected on a regular basis;

c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;

d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the

project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 100 feet of a wetland, waterbody, or designated municipal watershed area, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas;

f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

g. pumps operating within 100 feet of a waterbody or wetland boundary utilize appropriate secondary containment systems to prevent spills; and

h. bulk storage of hazardous materials, including chemicals, fuels, and lubricating oils have appropriate secondary containment systems to prevent spills.

2. The project sponsor and its contractors must structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. At a minimum, the project sponsor and its contractors must:

a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills and unanticipated discoveries of contamination;

b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;

c. know the contact names and telephone numbers for all local, state, and federal agencies (including, if necessary, the U. S. Coast Guard and the National Response Center) that must be notified of a spill; and

d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.

B. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in these Procedures and in the FERC's Orders.

V. WATERBODY CROSSINGS

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply to the U.S. Army Corps of Engineers (COE), or its delegated agency, for the appropriate wetland and waterbody crossing permits.

2. Provide written notification to authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in the waterbody, or as otherwise specified by that authority.

3. Apply for state-issued waterbody crossing permits and obtain individual or generic section 401 water quality certification or waiver.

4. Notify appropriate federal and state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in applicable permits.

B. INSTALLATION

1. Time Window for Construction

Unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, instream work, except that required to install or remove equipment bridges, must occur during the following time windows:

a. coldwater fisheries - June 1 through September 30; and

b. coolwater and warmwater fisheries - June 1 through November 30.

2. Extra Work Areas

a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where

the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from the water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the conditions that will not permit a 50-foot setback and measures to ensure the waterbody is adequately protected.

c. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.

3. General Crossing Procedures

a. Comply with the COE, or its delegated agency, permit terms and conditions.

b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.

c. Where pipelines parallel a waterbody, maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way, except where maintaining this offset will result in greater environmental impact.

d. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.

e. Maintain adequate waterbody flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.

f. Waterbody buffers (e.g., extra work area setbacks, refueling restrictions) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

g. Crossing of waterbodies when they are dry or frozen and not flowing may proceed using standard upland construction techniques in accordance with the Plan, provided that the Environmental Inspector verifies that water is unlikely to flow between initial disturbance and final stabilization of the feature. In the event of perceptible flow, the project sponsor must comply with all applicable Procedure requirements for "waterbodies" as defined in section I.B.1.

4. Spoil Pile Placement and Control

   a. All spoil from minor and intermediate waterbody crossings, and upland spoil from major waterbody crossings, must be placed in the construction right-of-way at least 10 feet from the water's edge or in additional extra work areas as described in section V.B.2.

   b. Use sediment barriers to prevent the flow of spoil or silt-laden water into any waterbody.

5. Equipment Bridges

   a. Only clearing equipment and equipment necessary for installation of equipment bridges may cross waterbodies prior to bridge installation. Limit the number of such crossings of each waterbody to one per piece of clearing equipment.

   b. Construct and maintain equipment bridges to allow unrestricted flow and to prevent soil from entering the waterbody. Examples of such bridges include:

      (1) equipment pads and culvert(s);
      (2) equipment pads or railroad car bridges without culverts;
      (3) clean rock fill and culvert(s); and
      (4) flexi-float or portable bridges.

      Additional options for equipment bridges may be utilized that achieve the performance objectives noted above. Do not use soil to construct or stabilize equipment bridges.

   c. Design and maintain each equipment bridge to withstand and pass the highest flow expected to occur while the bridge is in place. Align culverts to prevent bank erosion or streambed scour. If necessary, install energy dissipating devices downstream of the culverts.

   d. Design and maintain equipment bridges to prevent soil from entering the waterbody.

   e. Remove temporary equipment bridges as soon as practicable after permanent seeding.

   f. If there will be more than 1 month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the right-of-way is available, remove temporary equipment bridges as soon as practicable after final cleanup.

g. Obtain any necessary approval from the COE, or the appropriate state agency for permanent bridges.

6. Dry-Ditch Crossing Methods

a. Unless approved otherwise by the appropriate federal or state agency, install the pipeline using one of the dry-ditch methods outlined below for crossings of waterbodies up to 30 feet wide (at the water's edge at the time of construction) that are state-designated as either coldwater or significant coolwater or warmwater fisheries, or federally-designated as critical habitat.

b. Dam and Pump

(1) The dam-and-pump method may be used without prior approval for crossings of waterbodies where pumps can adequately transfer streamflow volumes around the work area, and there are no concerns about sensitive species passage.

(2) Implementation of the dam-and-pump crossing method must meet the following performance criteria:

(i) use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
(ii) construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
(iii) screen pump intakes to minimize entrainment of fish;
(iv) prevent streambed scour at pump discharge; and
(v) continuously monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

c. Flume Crossing

The flume crossing method requires implementation of the following steps:

(1) install flume pipe after blasting (if necessary), but before any trenching;

(2) use sand bag or sand bag and plastic sheeting diversion structure or equivalent to develop an effective seal and to divert stream flow through the flume pipe (some modifications to the stream bottom may be required to achieve an effective seal);

(3) properly align flume pipe(s) to prevent bank erosion and streambed scour;

(4) do not remove flume pipe during trenching, pipelaying, or backfilling activities, or initial streambed restoration efforts; and

(5) remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete.

d. Horizontal Directional Drill

For each waterbody or wetland that would be crossed using the HDD method, file with the Secretary for the review and written approval by the Director, a plan that includes:

(1) site-specific construction diagrams that show the location of mud pits, pipe assembly areas, and all areas to be disturbed or cleared for construction;

(2) justification that disturbed areas are limited to the minimum needed to construct the crossing;

(3) identification of any aboveground disturbance or clearing between the HDD entry and exit workspaces during construction;

(4) a description of how an inadvertent release of drilling mud would be contained and cleaned up; and

(5) a contingency plan for crossing the waterbody or wetland in the event the HDD is unsuccessful and how the abandoned drill hole would be sealed, if necessary.

The requirement to file HDD plans does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

7. Crossings of Minor Waterbodies

Where a dry-ditch crossing is not required, minor waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. except for blasting and other rock breaking measures, complete instream construction activities (including trenching, pipe installation, backfill, and restoration of the streambed contours) within 24 hours.

Streambanks and unconsolidated streambeds may require additional restoration after this period;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. equipment bridges are not required at minor waterbodies that do not have a state-designated fishery classification or protected status (e.g., agricultural or intermittent drainage ditches). However, if an equipment bridge is used it must be constructed as described in section V.B.5.

8. Crossings of Intermediate Waterbodies

Where a dry-ditch crossing is not required, intermediate waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. complete instream construction activities (not including blasting and other rock breaking measures) within 48 hours, unless site-specific conditions make completion within 48 hours infeasible;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. all other construction equipment must cross on an equipment bridge as specified in section V.B.5.

9. Crossings of Major Waterbodies

Before construction, the project sponsor shall file with the Secretary for the review and written approval by the Director a detailed, site-specific construction plan and scaled drawings identifying all areas to be disturbed by construction for each major waterbody crossing (the scaled drawings are not required for any offshore portions of pipeline projects). This plan must be developed in consultation with the appropriate state and federal agencies and shall include extra work areas, spoil storage areas, sediment control structures, etc., as well as mitigation for navigational issues. The requirement to file major waterbody crossing plans does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The Environmental Inspector may adjust the final placement of the erosion and sediment control structures in the field to maximize effectiveness.

10. Temporary Erosion and Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the waterbody or adjacent upland.

Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan; however, the following specific measures must be implemented at stream crossings:

a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. Removable sediment barriers (or driveable berms) must be installed across the travel lane. These removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;

b. where waterbodies are adjacent to the construction right-of-way and the right-of-way slopes toward the waterbody, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the waterbody; and

c. use temporary trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

11. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Use clean gravel or native cobbles for the upper 1 foot of trench backfill in all waterbodies that contain coldwater fisheries.

2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the waterbody channel.

3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.

4. Install erosion control fabric or a functional equivalent on waterbody banks at the time of final bank recontouring. Do not use synthetic monofilament

mesh/netted erosion control materials in areas designated as sensitive wildlife habitat unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

5. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.

6. Unless otherwise specified by state permit, limit the use of riprap to areas where flow conditions preclude effective vegetative stabilization techniques such as seeding and erosion control fabric.

7. Revegetate disturbed riparian areas with native species of conservation grasses, legumes, and woody species, similar in density to adjacent undisturbed lands.

8. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent that are less than 50 feet from the waterbody, or as needed to prevent sediment transport into the waterbody. In addition, install sediment barriers as outlined in the Plan.

   In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the waterbody.

9. Sections V.C.3 through V.C.7 above also apply to those perennial or intermittent streams not flowing at the time of construction.

D. POST-CONSTRUCTION MAINTENANCE

1. Limit routine vegetation mowing or clearing adjacent to waterbodies to allow a riparian strip at least 25 feet wide, as measured from the waterbody's mean high water mark, to permanently revegetate with native plant species across the entire construction right-of-way. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees that are located within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in riparian areas that are between HDD entry and exit points.

2. Do not use herbicides or pesticides in or within 100 feet of a waterbody except as allowed by the appropriate land management or state agency.

3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of riparian areas.

VI. WETLAND CROSSINGS

A. GENERAL

1. The project sponsor shall conduct a wetland delineation using the current federal methodology and file a wetland delineation report with the Secretary before construction. The requirement to file a wetland delineation report does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

   This report shall identify:

   a. by milepost all wetlands that would be affected;

   b. the National Wetlands Inventory (NWI) classification for each wetland;

   c. the crossing length of each wetland in feet; and

   d. the area of permanent and temporary disturbance that would occur in each wetland by NWI classification type.

   The requirements outlined in this section do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoiling requirements, apply to these agricultural wetlands.

2. Route the pipeline to avoid wetland areas to the maximum extent possible. If a wetland cannot be avoided or crossed by following an existing right-of-way, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline right-of-way with the new construction right-of-way. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.

3. Limit the width of the construction right-of-way to 75 feet or less. Prior written approval of the Director is required where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a federally delineated wetland be expanded beyond 75 feet. Early in the planning process the project sponsor is encouraged to identify site-specific areas where excessively wide trenches could occur and/or where spoil piles could be difficult to maintain because existing soils lack adequate unconfined compressive strength.

4. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

5. Implement the measures of sections V and VI in the event a waterbody crossing is located within or adjacent to a wetland crossing. If all measures of sections V and VI cannot be met, the project sponsor must file with the Secretary a site-specific crossing plan for review and written approval by the Director before construction. This crossing plan shall address at a minimum:

   a. spoil control;

   b. equipment bridges;

   c. restoration of waterbody banks and wetland hydrology;

   d. timing of the waterbody crossing;

   e. method of crossing; and

   f. size and location of all extra work areas.

6. Do not locate aboveground facilities in any wetland, except where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation regulations.

B. INSTALLATION

1. Extra Work Areas and Access Roads

   a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

   b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from wetland boundaries, except where adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the site-specific conditions that will not permit a 50-foot setback and measures to ensure the wetland is adequately protected.

   c. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

      In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall

use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all other construction equipment to one pass through the wetland using the construction right-of-way.

d. The only access roads, other than the construction right-of-way, that can be used in wetlands are those existing roads that can be used with no modifications or improvements, other than routine repair, and no impact on the wetland.

2. Crossing Procedures

a. Comply with COE, or its delegated agency, permit terms and conditions.

b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.

c. Use “push-pull” or “float” techniques to place the pipe in the trench where water and other site conditions allow.

d. Minimize the length of time that topsoil is segregated and the trench is open. Do not trench the wetland until the pipeline is assembled and ready for lowering in.

e. Limit construction equipment operating in wetland areas to that needed to clear the construction right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction right-of-way.

f. Cut vegetation just above ground level, leaving existing root systems in place, and remove it from the wetland for disposal.

The project sponsor can burn woody debris in wetlands, if approved by the COE and in accordance with state and local regulations, ensuring that all remaining woody debris is removed for disposal.

g. Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction right-of-way in wetlands unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction right-of-way.

h. Segregate the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are

saturated. Immediately after backfilling is complete, restore the segregated topsoil to its original location.

i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the construction right-of-way.

j. If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.

k. Remove all project-related material used to support equipment on the construction right-of-way upon completion of construction.

3. Temporary Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the wetland or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Except as noted below in section VI.B.3.c, maintain sediment barriers until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan.

a. Install sediment barriers across the entire construction right-of-way immediately upslope of the wetland boundary at all wetland crossings where necessary to prevent sediment flow into the wetland.

b. Where wetlands are adjacent to the construction right-of-way and the right-of-way slopes toward the wetland, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the wetland.

c. Install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way through wetlands. Remove these sediment barriers during right-of-way cleanup.

4. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any wetland. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Where the pipeline trench may drain a wetland, construct trench breakers at the wetland boundaries and/or seal the trench bottom as necessary to maintain the original wetland hydrology.

2. Restore pre-construction wetland contours to maintain the original wetland hydrology.

3. For each wetland crossed, install a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In addition, install sediment barriers as outlined in the Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.

4. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate federal or state agency.

5. Consult with the appropriate federal or state agencies to develop a project-specific wetland restoration plan. The restoration plan shall include measures for re-establishing herbaceous and/or woody species, controlling the invasion and spread of invasive species and noxious weeds (e.g., purple loosestrife and phragmites), and monitoring the success of the revegetation and weed control efforts. Provide this plan to the FERC staff upon request.

6. Until a project-specific wetland restoration plan is developed and/or implemented, temporarily revegetate the construction right-of-way with annual ryegrass at a rate of 40 pounds/acre (unless standing water is present).

7. Ensure that all disturbed areas successfully revegetate with wetland herbaceous and/or woody plant species.

8. Remove temporary sediment barriers located at the boundary between wetland and adjacent upland areas after revegetation and stabilization of adjacent upland areas are judged to be successful as specified in section VII.A.4 of the Plan.

D. POST-CONSTRUCTION MAINTENANCE AND REPORTING

1. Do not conduct routine vegetation mowing or clearing over the full width of the permanent right-of-way in wetlands. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating may be selectively cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in wetlands that are between HDD entry and exit points.

2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate federal or state agency.

3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of wetland areas.

4. Monitor and record the success of wetland revegetation annually until wetland revegetation is successful.

5. Wetland revegetation shall be considered successful if all of the following criteria are satisfied:

   a. the affected wetland satisfies the current federal definition for a wetland (i.e., soils, hydrology, and vegetation);

   b. vegetation is at least 80 percent of either the cover documented for the wetland prior to construction, or at least 80 percent of the cover in adjacent wetland areas that were not disturbed by construction;

   c. if natural rather than active revegetation was used, the plant species composition is consistent with early successional wetland plant communities in the affected ecoregion; and

   d. invasive species and noxious weeds are absent, unless they are abundant in adjacent areas that were not disturbed by construction.

6. Within 3 years after construction, file a report with the Secretary identifying the status of the wetland revegetation efforts and documenting success as defined in section VI.D.5, above. The requirement to file wetland restoration reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advance notice provisions in the FERC's regulations.

   For any wetland where revegetation is not successful at the end of 3 years after construction, develop and implement (in consultation with a

professional wetland ecologist) a remedial revegetation plan to actively revegetate wetlands. Continue revegetation efforts and file a report annually documenting progress in these wetlands until wetland revegetation is successful.

VII. HYDROSTATIC TESTING

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply for state-issued water withdrawal permits, as required.

2. Apply for National Pollutant Discharge Elimination System (NPDES) or state-issued discharge permits, as required.

3. Notify appropriate state agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

B. GENERAL

1. Perform 100 percent radiographic inspection of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.

2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetland, address secondary containment and refueling of these pumps in the project's Spill Prevention and Response Procedures.

3. The project sponsor shall file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

C. INTAKE SOURCE AND RATE

1. Screen the intake hose to minimize the potential for entrainment of fish.

2. Do not use state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and/or local permitting agencies grant written permission.

3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.

4. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.

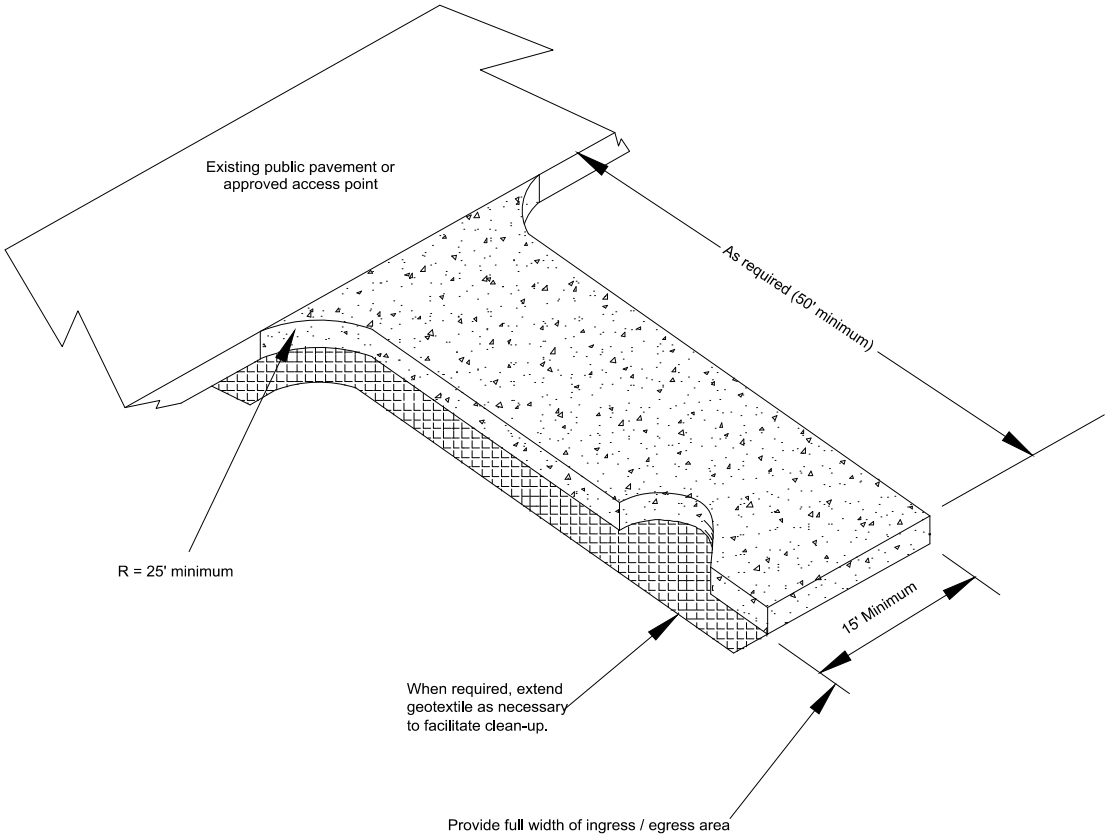
D. DISCHARGE LOCATION, METHOD, AND RATE

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow.

2. Do not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission.

ATTACHMENT C

Typical BMP Drawings



Notes:

Equipment mats or their equivalent may be used as a substitute for the graveled apron if approved by the Company.

Install construction entrances at right-of-way access points that intersect paved roads to reduce sediment transport onto roadway.

Install culverts in road ditches as necessary.

Crushed stone access pads shall be placed on synthetic fabric in residential or active agricultural areas to facilitate stone removal. Use Synthetic Industries style 22TEX, Light Stabilization Fabric, or equivalent (3 oz/yd woven geotextile).

INSTALLATION: The area of the entrance should be cleared of all vegetation, roots and other objectionable material. The gravel shall be placed to the specified dimensions. Any drainage facilities required because of washing should be constructed according to specifications in the plan. If wash racks are used, they should be installed accoriding to manufacturer's specifications.

AGGREGATE: 2" to 6" crushed Ballast Rock.

ENTRANCE DIMENSIONS: The aggregate layer must be at least 6 inches thick. It must extend the full width of the vehicular ingress and egress area. The length of the entrance must be at least 50 feet.

MAINTENANCE: The entrance shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 2-inch stone, as conditions demand, and repair and/or clean out any structures used to trap sediment. All materials spilled, dropped, washed or tracked from vehicles onto roadway or into storm drains must be removed immediately.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL CONSTRUCTION ENTRANCE ACCESS PAD

CE

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: JST	DATE: JUNE 2007	ISSUED FOR BID:	SCALE: NONE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0001	SHEET
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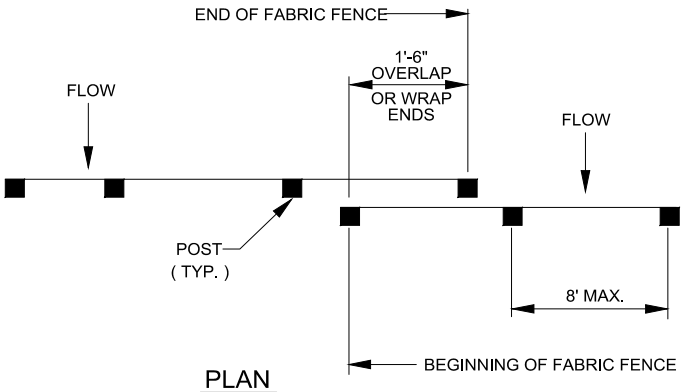
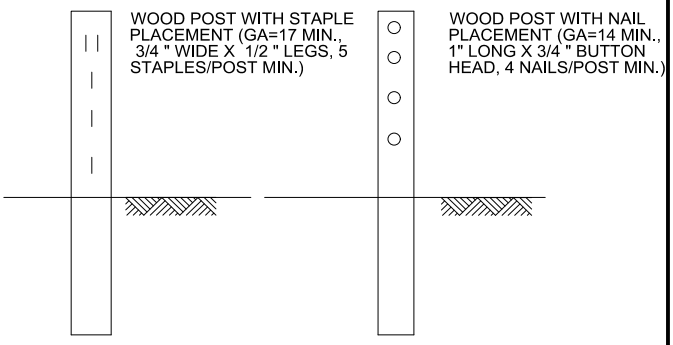
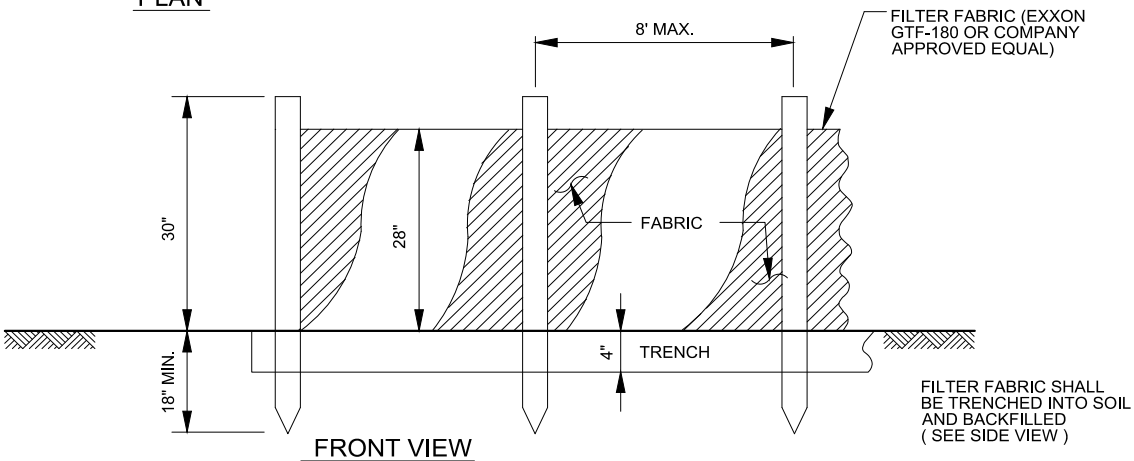


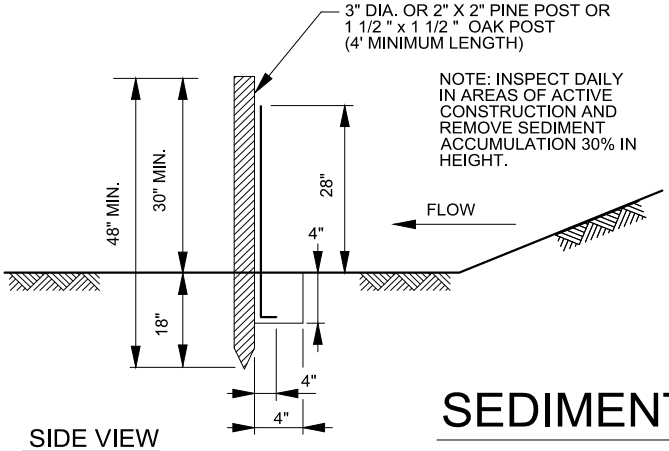
PLAN

FASTENER LOCATION





FRONT VIEW



SIDE VIEW

1. INSTALL FILTER FABRIC AFTER REVEGETATION CLEARING AND IMMEDIATELY AFTER SOIL DISTURBANCE:
   - AT APPROPRIATE LOCATIONS TO PREVENT SILTATION INTO WATERBODIES, WETLANDS OR ROADS CROSSED BY THE CONSTRUCTION RIGHT-OF-WAY
   -TO PREVENT STOCKPILED SOIL OR SPOIL FROM LEAVING THE WORK AREA.
2. FILTER FABRIC SHALL BE INSTALLED TO FILTER SEDIMENT FROM SURFACE RUNOFF.
3. INSTALLATIONS SHALL BE PERIODICALLY CHECKED ACCORDING TO FERC'S PLAN AND PROCEDURES, AND IF FLOW IS OBSTRUCTED, BUILD-UP OF SEDIMENT SHALL BE REMOVED.
4. FILTER FABRIC SHALL BE LEFT IN PLACE UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED UNLESS REMOVAL IS AUTHORIZED BY COMPANY REPRESENTATIVE.
5. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT IT REDUCES THE EFFECTIVENESS OF THE FILTER FABRIC.
6 FILTER FABRIC SHALL BE PLACED TO FOLLOW (RUN PARALLEL TO) THE CONTOURS.
7. ON UPSLOPE INSTALLATIONS, BOTH ENDS OF THE FILTER FABRIC SHALL BE TURNED AND EXTENDED UPSLOPE.
8. FILTER FABRIC SHALL BE CONSTRUCTED OF EXXON GTF-180 FABRIC OR A SIMILAR FABRIC WITH A TENSILE STRENGTH AT 20% (MAX.) ELONGATION OF 50 LB./LINEAR INCH OR GREATER.
9. AREA DISTURBED AS A RESULT OF REMOVING THE FILTER FABRIC SHALL BE RESTABILIZED BY SEEDING IN ACCORDANCE WITH THE REVEGETATION PLAN.

SEDIMENT BARRIER - SILT FENCE OPTION

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
SEDIMENT BARRIER - SILT FENCE
(FILTER FABRIC) OPTION

SB

Pacific Connector GAS PIPELINE

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-0002	SHEET 1
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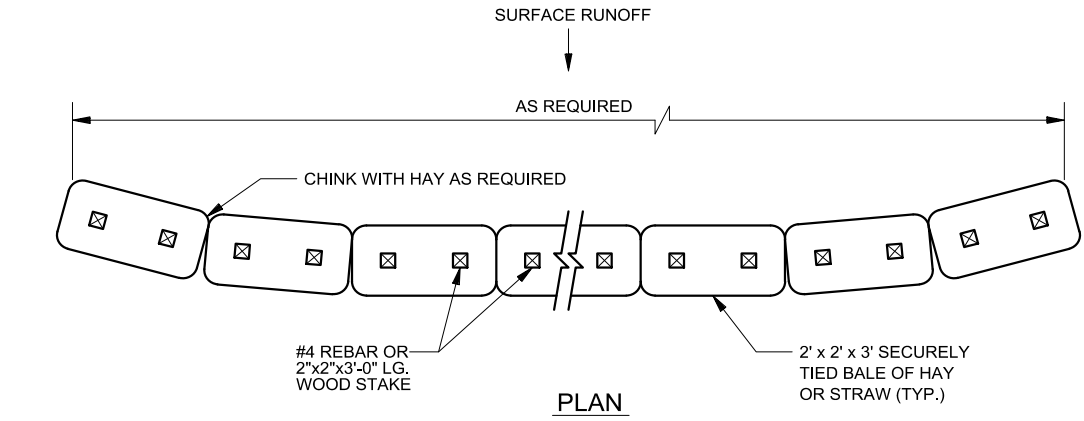
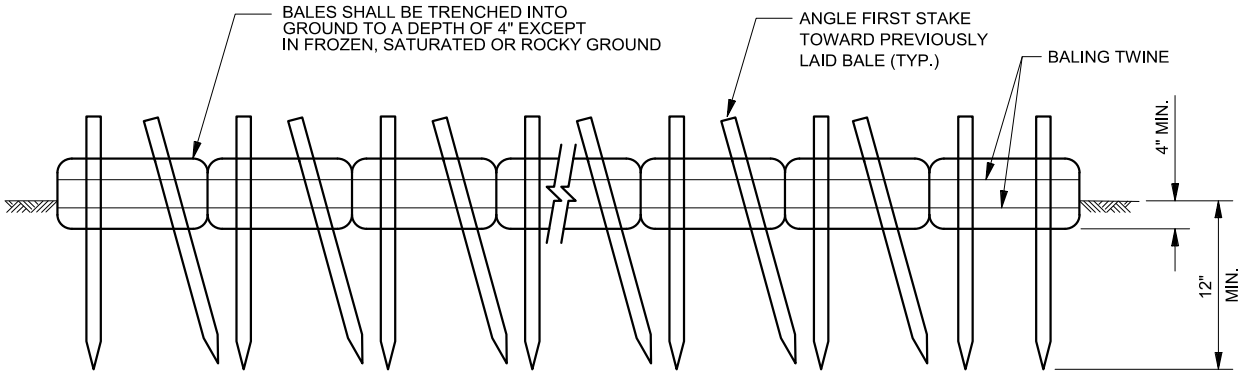


PLAN



NOT TO SCALE

ELEVATION

NOTES:

Straw bales will not be used as a primary sediment barrier. They may be used at road crossings and waterbodies where equipment will be moved up and down the right-of-way or at the end of the work day to allow traffic to leave the right-of-way. They may be used to reinforce other sediment barriers (i.e., silt fence).

1. BALE BARRIERS SHALL BE PLACED TO FOLLOW (RUN PARALLEL TO) THE CONTOURS AND SHALL NOT BE LOCATED IN AREAS OF CONCENTRATED FLOW.
2. INSTALLATIONS SHALL BE CHECKED AFTER EACH 0.5 INCHES OF RAINFALL AND IF FLOW IS OBSTRUCTED, THE SEDIMENT SHALL BE REMOVED.
3. BALE BARRIERS SHALL BE LEFT IN PLACE UNTIL PERMANENT VEGETATION COVER IS ESTABLISHED. MATERIAL FROM BALE BARRIERS MAY THEN BE USED AS MULCH AND SCATTERED OVER THE SURROUNDING AREA AS DIRECTED BY COMPANY REPRESENTATIVE.
4. ON UPSLOPE INSTALLATIONS, BOTH ENDS OF THE BALE BARRIER SHALL BE TURNED AND EXTENDED UPSLOPE.
5. AREA DISTURBED AS A RESULT OF REMOVING THE BALE BARRIER SHALL BE RESTABILIZED BY SEEDING ACCORDING TO THE REVEGETATION SPECIFICATIONS.
6. CONTRACTOR SHALL USE CERTIFIED NOXIOUS WEED FREE HAY OR STRAW.
7. BALES SHALL BE PLACED SUCH THAT TIES OR BALING TWINE IS NOT IN CONTACT WITH THE GROUND.

SEDIMENT BARRIER - STRAW BALE

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
SEDIMENT BARRIER - STRAW BALE OPTION

SB

Pacific Connector GAS PIPELINE

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-0002	SHEET 2
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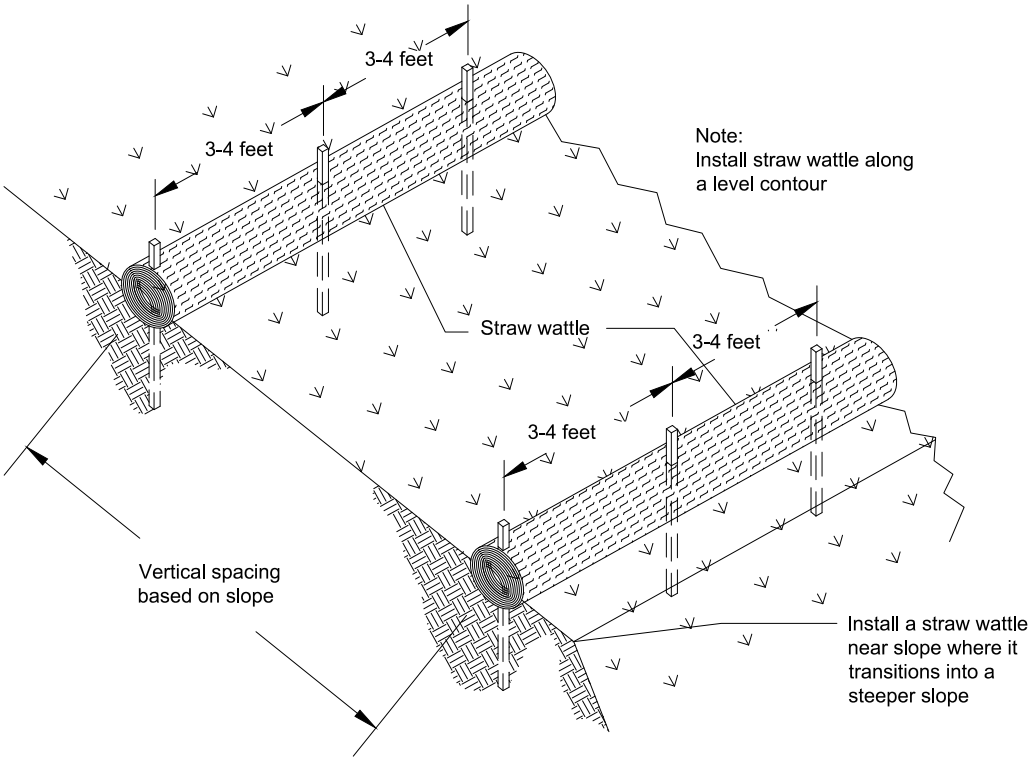
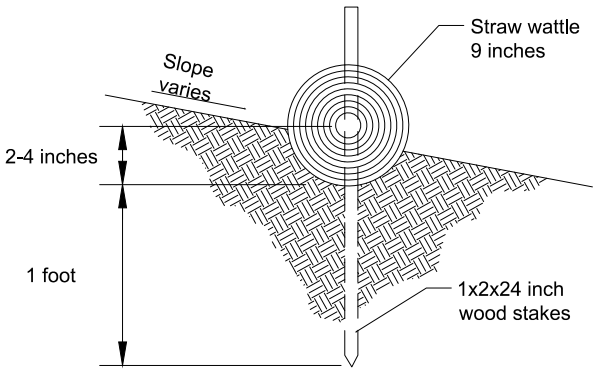


TYPICAL STRAW WATTLE INSTALLATION

N.T.S.



ENTRENCHMENT DETAIL

N.T.S.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
SEDIMENT BARRIER - STRAW WATTLE OPTION

SW

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
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APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0002	SHEET 3
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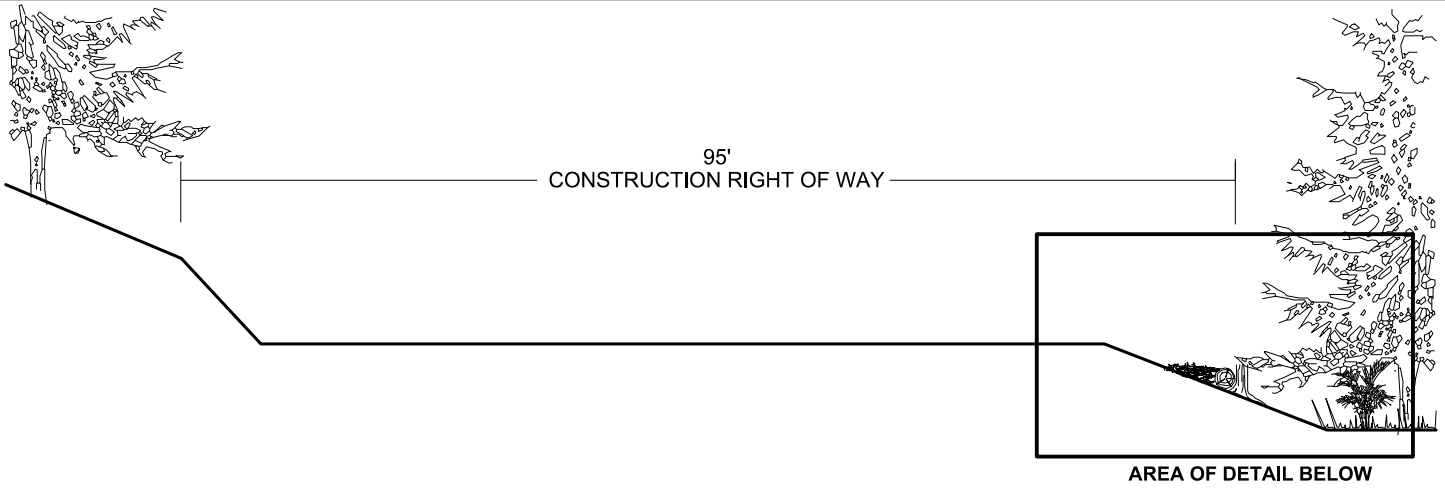
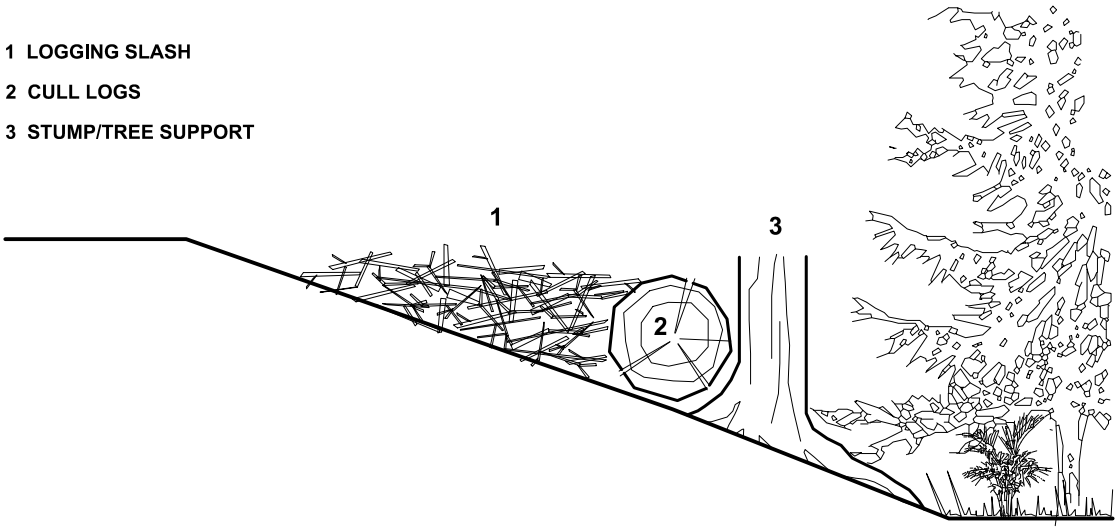


1 LOGGING SLASH

2 CULL LOGS

3 STUMP/TREE SUPPORT



Slash-Filter Windrows

1. In forested areas during timber clearing/right-of-way grading operations slash-filter windrows will be constructed on the downhill edge of the Construction Right-of-Way and Temporary Extra Work Areas (TEWAs), as directed by the Environmental Inspector.

2. Slash-filter windrows will be constructed of logging slash including cull logs, tree tops, limbs and branches. The windrow may be supported at the base by cull logs or rocks, which may be supported by stumps, rocks or trees parallel to the right-of-way.

3 Material in the windrow would be constructed (packed/tamped) to form a compact windrow that will be effective in filtering sediment, reducing water velocities and preventing stream sedimentation.

4. Windrows shall be placed so that they do not interfere with functioning drainage structures or stream channels.

DRAWING NO.	REFERENCE TITLE

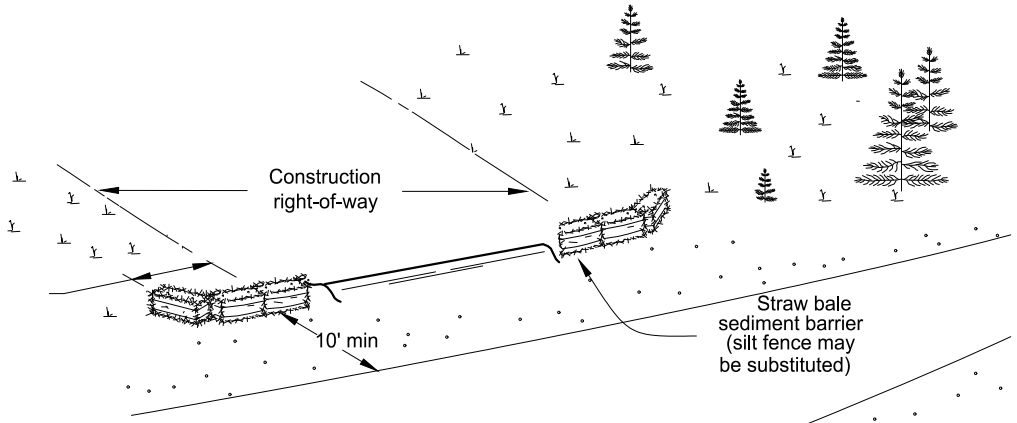
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

SLASH-FILTER WINDROW

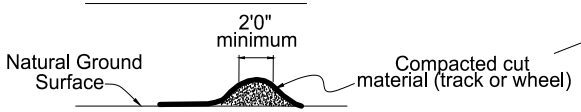
Pacific Connector GAS PIPELINE

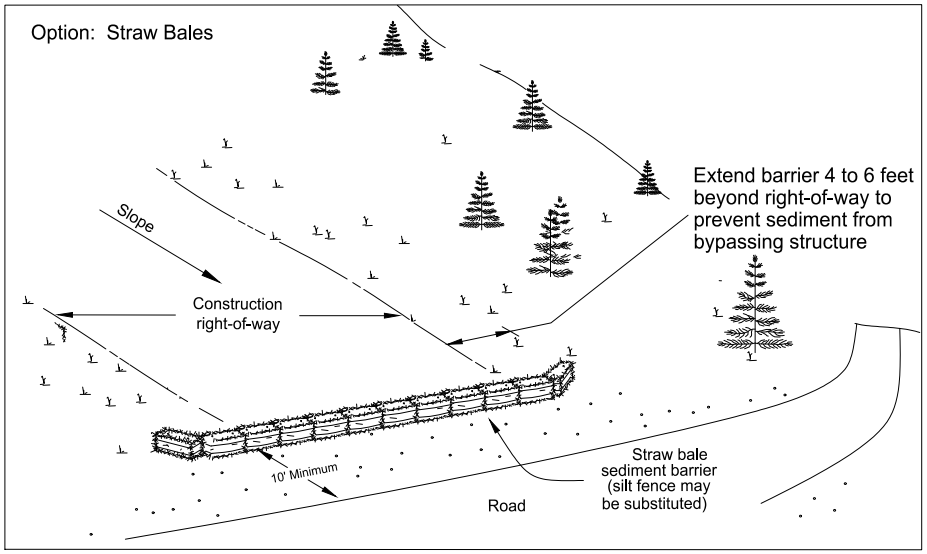
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

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-0002	SHEET 4 OF 4



TYPICAL CROSS SECTION





Notes:

Driving around sediment barriers is prohibited. Remove and replace barrier for access to right-of-way.

Install barriers off the right-of-way by hand only at location approved by Environmental Inspector.

DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
DRIVABLE BERMS / TEMPORARY SEDIMENT BARRIERS
ADJACENT TO ROAD CROSSINGS

DB

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 1-08-2004	ISSUED FOR BID:	SCALE: NONE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0003	SHEET
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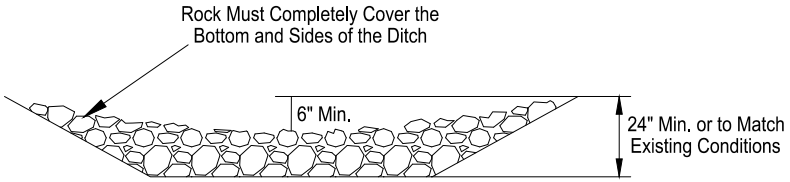
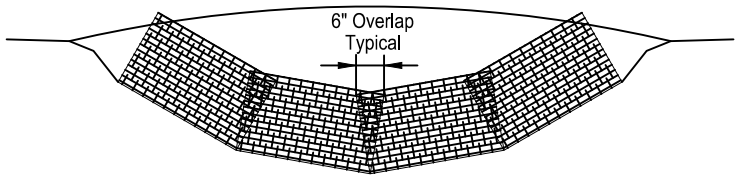


PROFILE (ROCK)



PROFILE (BIO BAG)

Notes:

Use wood stakes whenever possible. Steel rebar may be used when soil is frozen or rocky.

Biobags, straw wattles, or other approved materials may be used.

Sediment control structures can be placed off the construction right-of-way by hand if the location has been approved by the Environmental Inspector.

Contractor shall use certified noxious weed free hay or straw.

DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
SEDIMENT CONTROL IN DITCHES AND SWALES
SC

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 1-08-2004	ISSUED FOR BID:	SCALE: NONE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0004	SHEET
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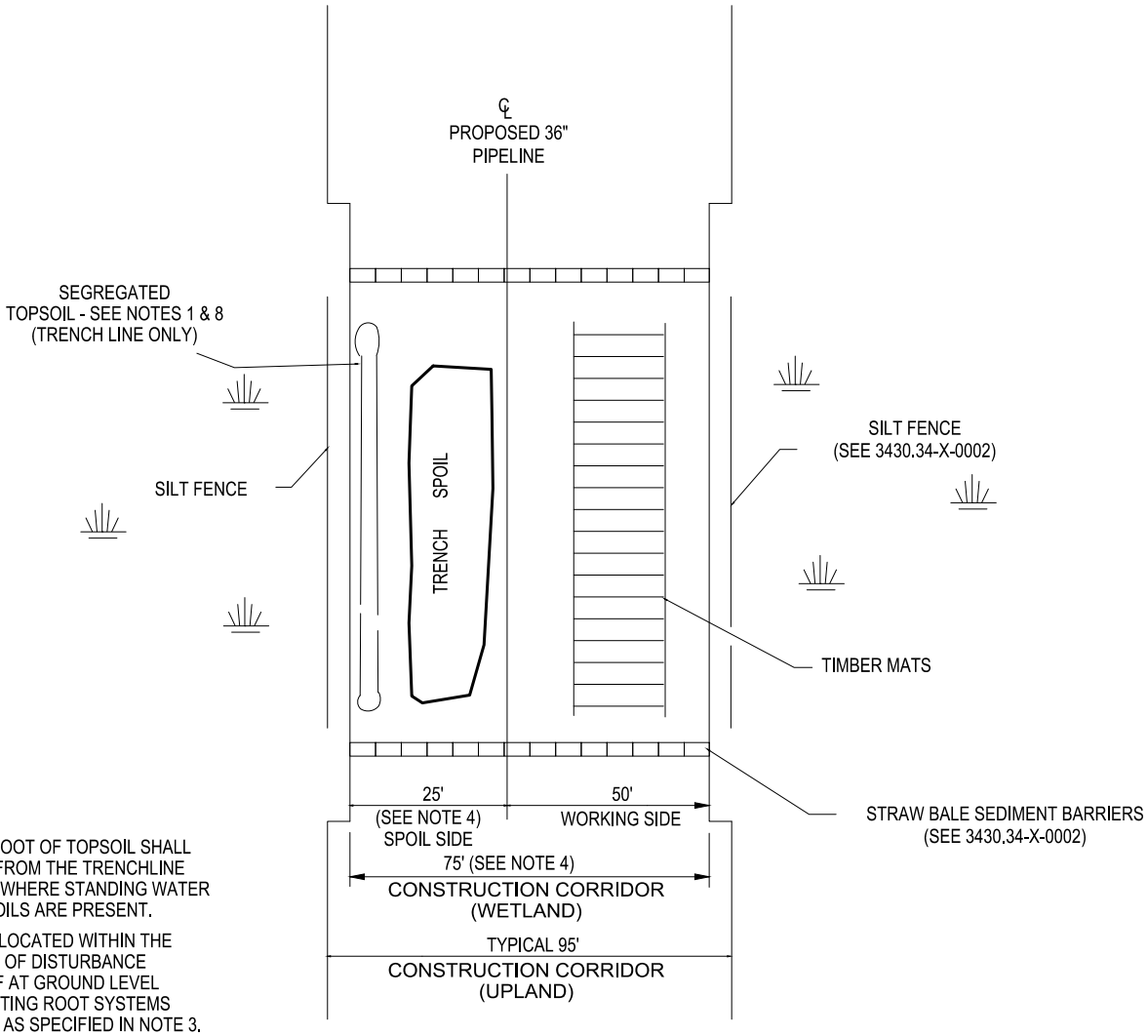
WETLAND CROSSING DETAIL



NOTES:

1. THE TOP ONE (1) FOOT OF TOPSOIL SHALL BE SEGREGATED FROM THE TRENCHLINE EXCEPT IN AREAS WHERE STANDING WATER OR SATURATED SOILS ARE PRESENT.
2. THE VEGETATION LOCATED WITHIN THE PROPOSED LIMITS OF DISTURBANCE SHALL BE CUT OFF AT GROUND LEVEL LEAVING THE EXISTING ROOT SYSTEMS IN PLACE, EXCEPT AS SPECIFIED IN NOTE 3.
3. PULLING OF TREE STUMPS AND GRADING ACTIVITIES SHALL BE LIMITED TO THE AREA DIRECTLY OVER THE TRENCHLINE UNLESS SAFETY CONDITIONS REQUIRE THE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE WORK CORRIDOR.
4. CONSTRUCTION CORRIDOR THROUGH WETLANDS WILL BE 75 FEET WIDE UNLESS A MODIFICATION IS GRANTED. CONFIGURATION OF RIGHT-OF-WAY MAY VARY.

PLAN VIEW

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

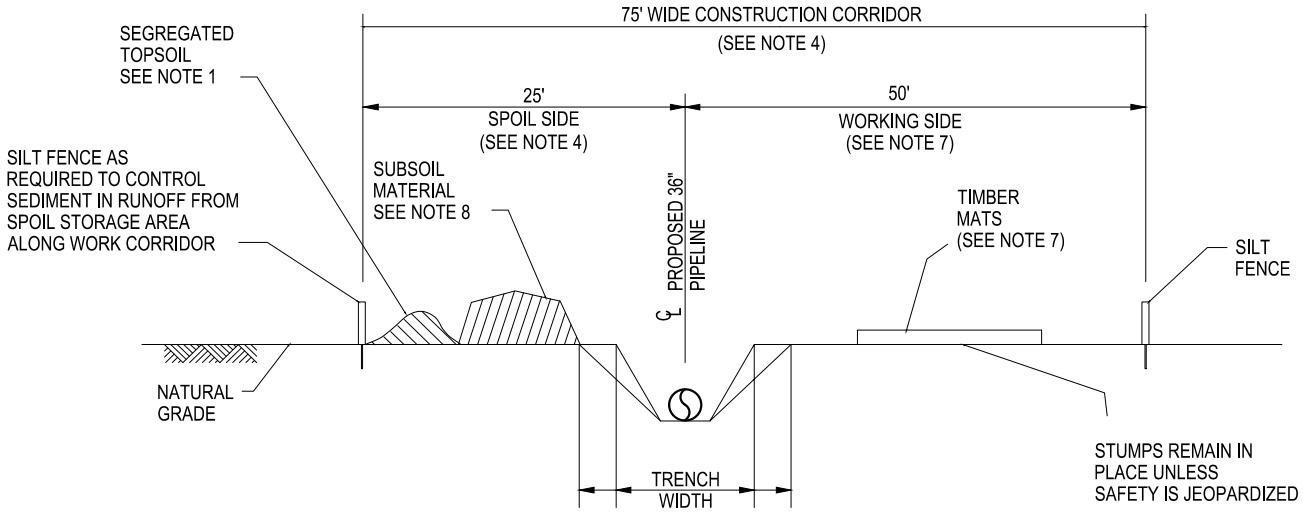
CROSSING DETAIL FOR WETLANDS

WC

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001		
CHECKED BY:	DATE:		
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0005	SHEET 1 OF 2



TRENCH WIDTH VARIES DEPENDING ON SOILS ENCOUNTERED DURING CONSTRUCTION

CROSS SECTION

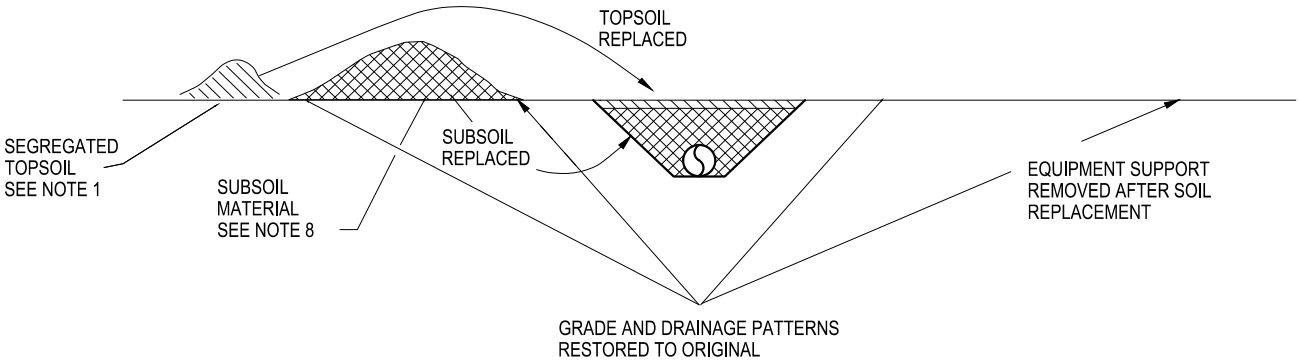
NOTES CONTINUED:

5. SILT FENCE OR STRAW BALES WILL BE USED WHERE APPROPRIATE TO PREVENT SILTATION INTO WATER BODIES OR WETLANDS.

6. SILT FENCES OR STRAW BALES WILL ALSO BE USED TO PREVENT STOCKPILED SOIL OR SPOIL FROM LEAVING THE CONSTRUCTION RIGHT-OF-WAY OR WORKSPACES.

7. TIMBER MATS MAY BE USED OVER SPOIL STORAGE WHERE STANDING WATER OR SATURATED SOILS ARE PRESENT.

8. IF STANDING WATER OR SATURATED SOILS ARE PRESENT, OR IF CONSTRUCTION EQUIPMENT CAUSES RUTS OR MIXING OF TOPSOIL AND SUBSOIL IN WETLANDS, USE LOW-GROUND WEIGHT EQUIPMENT, OR OPERATE NORMAL EQUIPMENT ON TIMBER RIPRAP, PREFABRICATED EQUIPMENT MATS OR TERRA MATS.



WETLAND RESTORATION

DRAWING NO.	REFERENCE TITLE

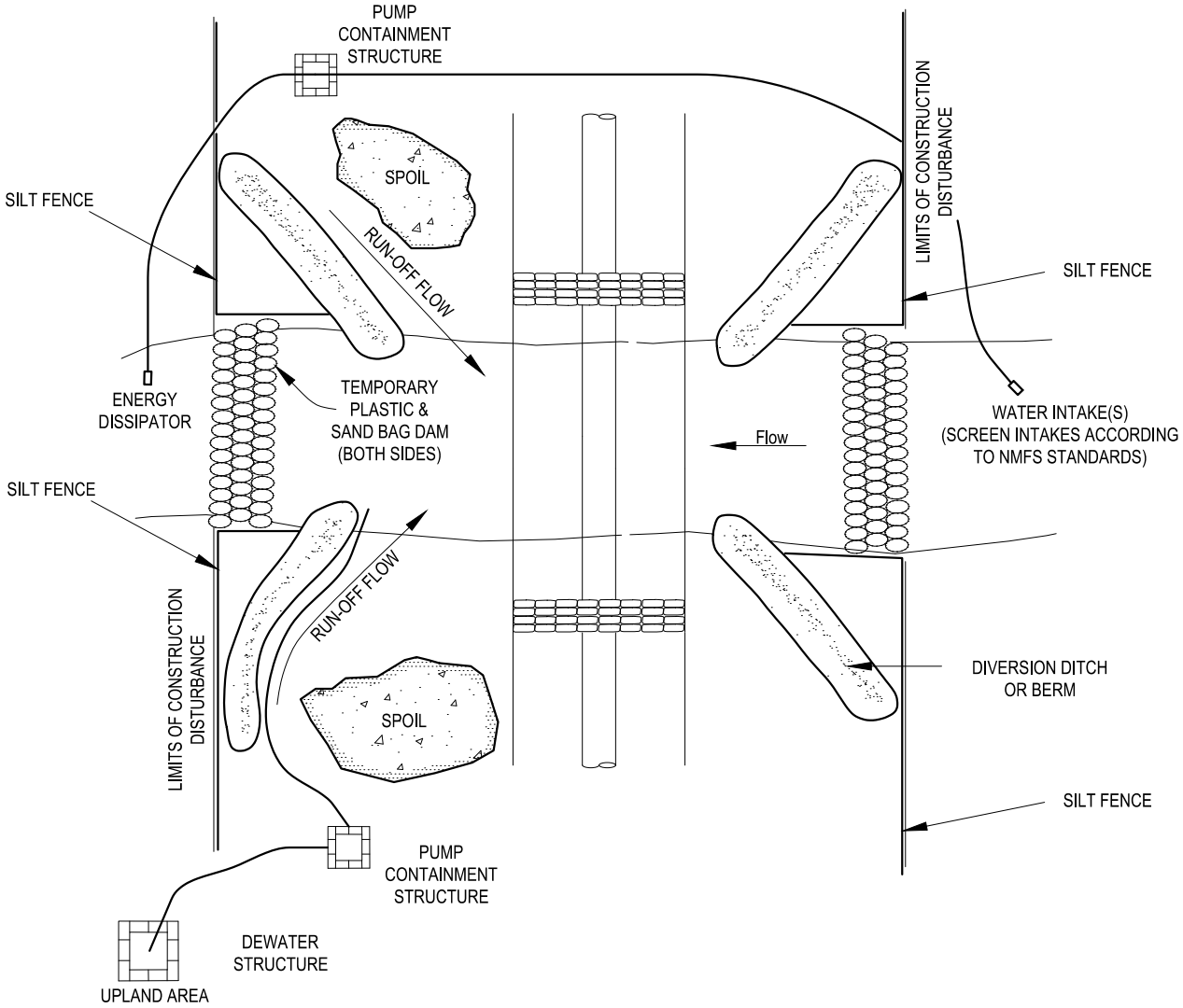
PACIFIC CONNECTOR GAS OPERATOR, LP
PACIFIC CONNECTOR GAS PIPELINE PROJECT
CROSSING DETAIL FOR WETLANDS

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001		
CHECKED BY:	DATE:		
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0005	SHEET 2 OF 2

CONFIGURATION THROUGH WATERBODIES WITH ASSOCIATED WETLANDS IS VARIABLE
BUT WILL NOT EXCEED 75 FEET IN WIDTH UNLESS A VARIANCE IS GRANTED

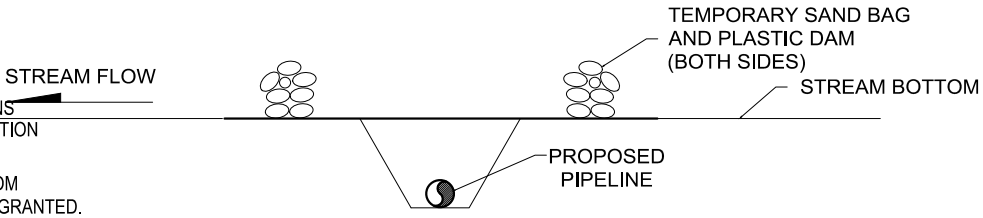


PLAN VIEW OF DAM & PUMP CROSSING METHOD

NOTES:

1. TRENCH WIDTH WILL VARY DUE TO SOIL CONDITIONS WHICH ARE NOT KNOWN UNTIL ACTUAL CONSTRUCTION TAKES PLACE.
2. EXTRA WORKSPACE WILL BE LOCATED 50 FEET FROM EDGE OF WATERBODY UNLESS A MODIFICATION IS GRANTED. FOR EXTRAWORKSPACE LOCATIONS AND DIMENSIONS SEE ENVIRONMENTAL ALIGNMENT SHEETS.

TEMPORARY EROSION CONTROL MEASURES MUST BE REPLACED AT THE END OF EACH WORKING DAY.



CROSS-SECTION OF DAM & PUMP CROSSING METHOD

3. DRAWING NO.	REFERENCE TITLE

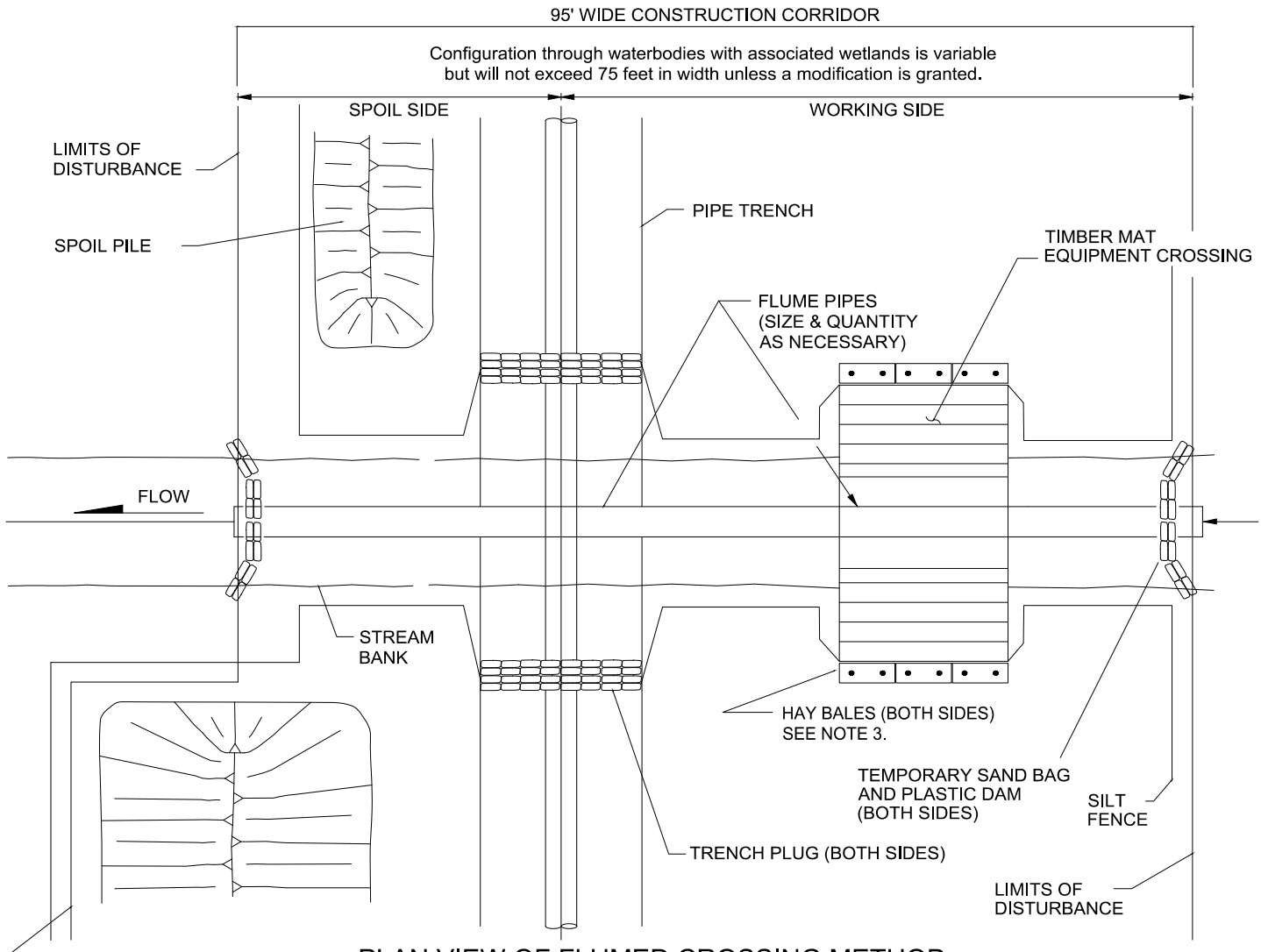
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

WATERBODY CROSSING DETAIL
DAM & PUMP CROSSING METHOD

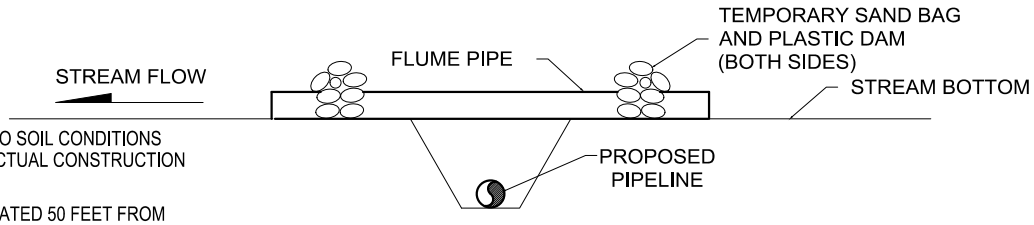
Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001		
CHECKED BY:	DATE:		
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0006	SHEET 1 OF 1



PLAN VIEW OF FLUMED CROSSING METHOD



CROSS-SECTION OF FLUMED CROSSING METHOD

NOTES:

1. TRENCH WIDTH WILL VARY DUE TO SOIL CONDITIONS WHICH ARE NOT KNOWN UNTIL ACTUAL CONSTRUCTION TAKES PLACE.
2. EXTRA WORKSPACE WILL BE LOCATED 50 FEET FROM EDGE OF WATERBODY UNLESS A MODIFICATION IS GRANTED. FOR EXTRA WORKSPACE LOCATIONS AND DIMENSIONS SEE ENVIRONMENTAL ALIGNMENT SHEETS.
3. TEMPORARY EROSION CONTROL MEASURES MUST BE REPLACED AT THE END OF EACH WORKING DAY.

DRAWING NO.	REFERENCE TITLE

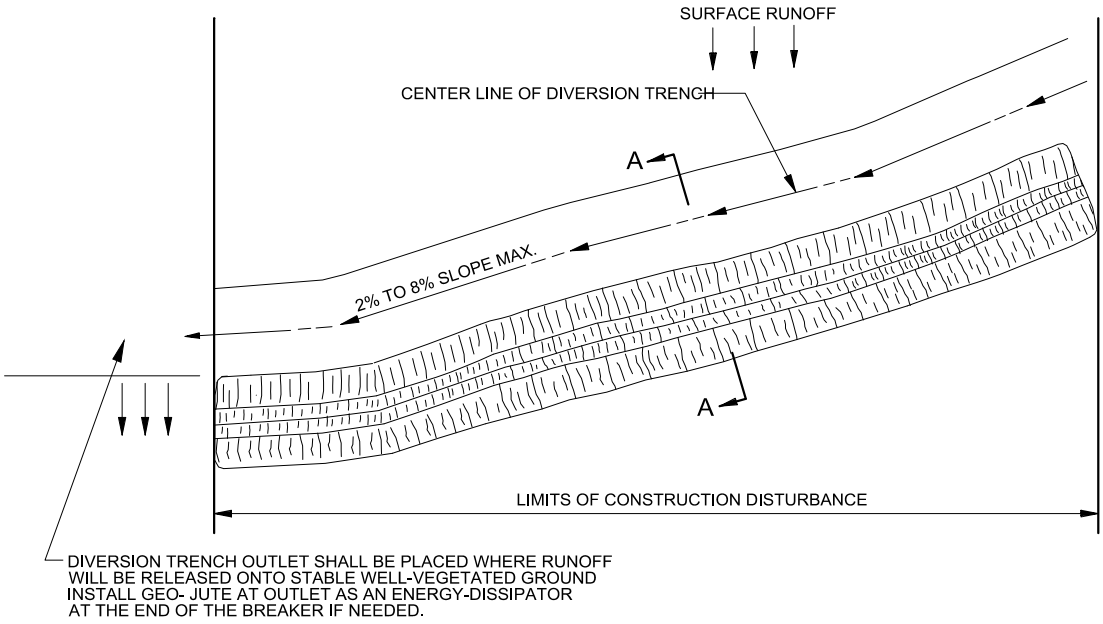
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

WATERBODY CROSSING DETAIL
FLUMED CROSSING METHOD

Pacific Connector GAS PIPELINE

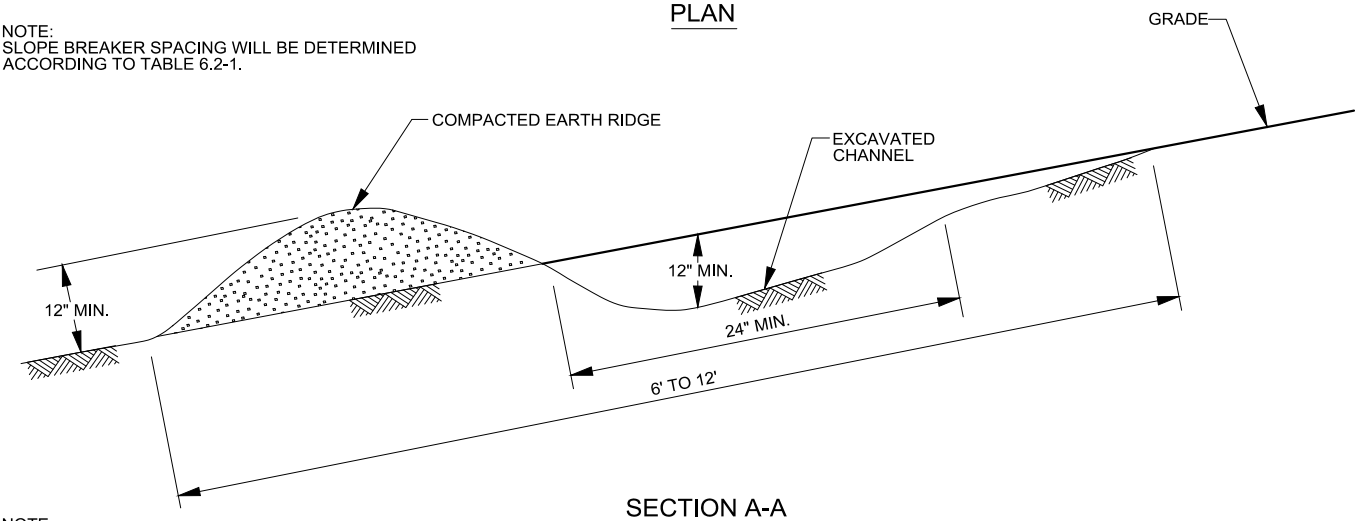
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-05-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0007	SHEET OF



PLAN

NOTE:
SLOPE BREAKER SPACING WILL BE DETERMINED
ACCORDING TO TABLE 6.2-1.



SECTION A-A

NOTE:
SLOPE BREAKERS MAY EXTEND SLIGHTLY (ABOUT 4 FEET) BEYOND
THE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY TO EFFECTIVELY
DRAIN WATER OFF THE DISTURBED AREA.

TEMPORARY AND PERMANENT SLOPE BREAKERS

TEMPORARY & PERMANENT EROSION CONTROL MEASURE

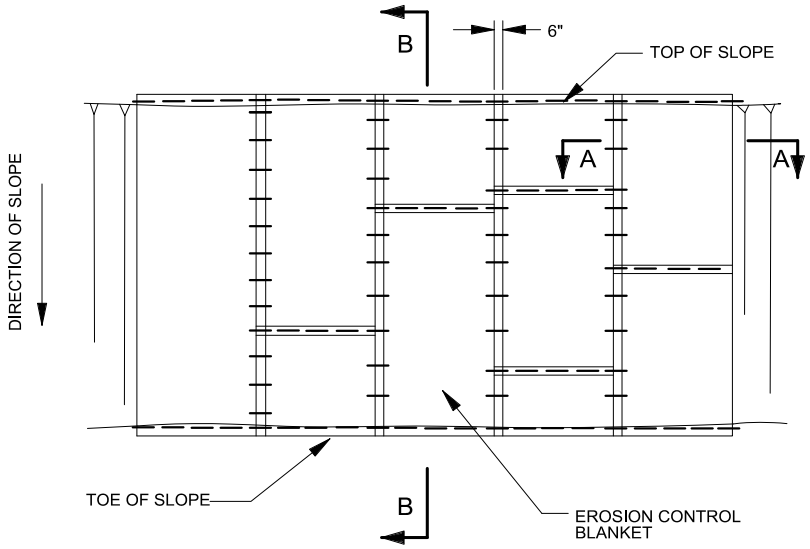
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
TEMPORARY AND PERMANENT
SLOPE BREAKERS
TPSB

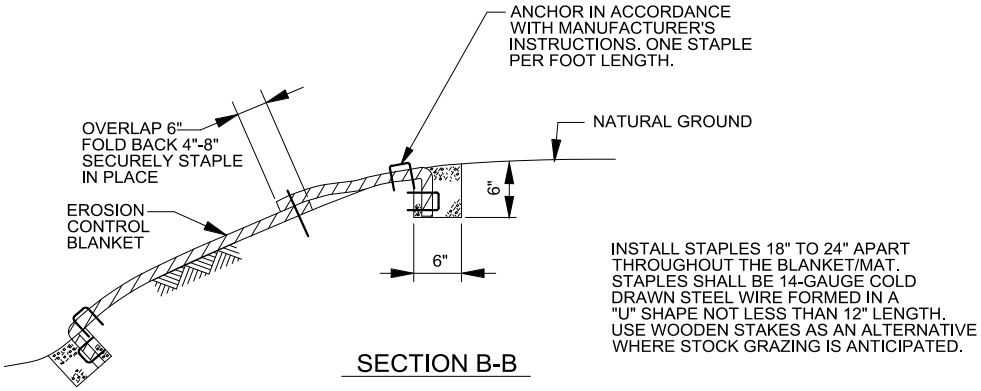
Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

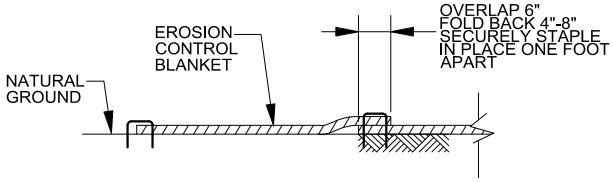
DRAWN BY: KLL	DATE: 02-05-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0008	SHEET OF



PLAN



SECTION B-B



SECTION A-A

EMBANKMENT INSTALLATION

EROSION CONTROL MATTING

PERMANENT EROSION CONTROL MEASURE

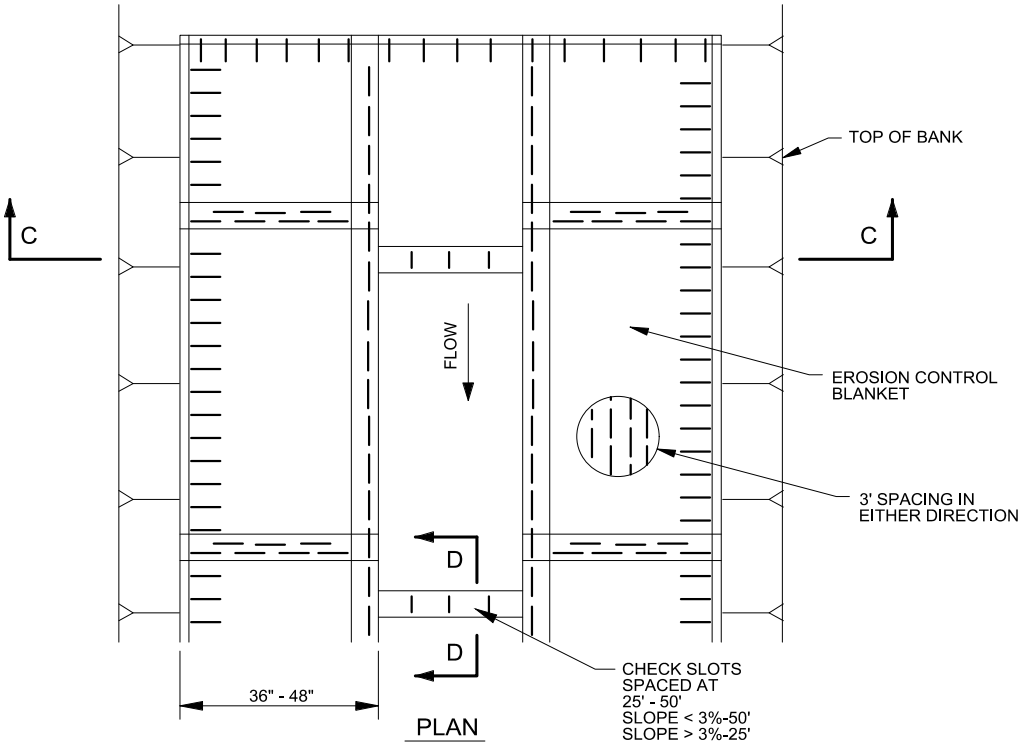
DRAWING NO.	REFERENCE TITLE

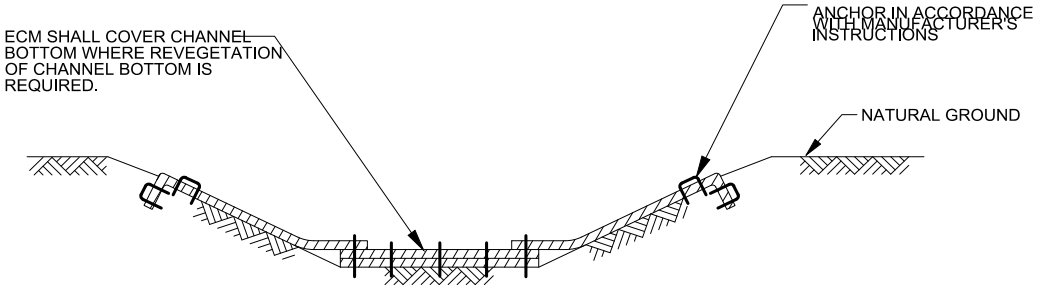
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
EROSION CONTROL MATTING
ECM

Pacific Connector GAS PIPELINE

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-0009	SHEET 1 OF 4





SECTION C-C

CHANNEL INSTALLATION

EROSION CONTROL MATTING

PERMANENT EROSION CONTROL MEASURE

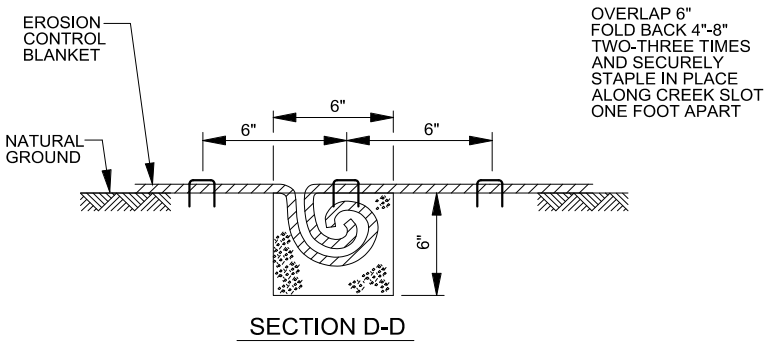
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
EROSION CONTROL MATTING
ECM

Pacific Connector GAS PIPELINE

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-0009	SHEET 2 OF 4



SECTION D-D

MATERIAL
NORTH AMERICAN GREEN SC150 (OR EQUIVALENT)

NOTES:

1. EROSION CONTROL BLANKETS SHALL EXTEND COMPLETELY ACROSS DISTURBED AREA TO PROTECT ERODIBLE SURFACES. THE SOIL SHALL BE PROPERLY PREPARED, SEEDED AND MULCHED PRIOR TO INSTALLATION.
2. INSTALL EROSION CONTROL BLANKETS ON FRESHLY GRADED EMBANKMENTS ON SLOPES IN EXCESS OF 3:1 (H:V) TO SUPPORT VEGETATION OR AS DIRECTED TO DO SO BY A COMPANY REPRESENTATIVE.
3. INSTALL BLANKETS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. BLANKET SHALL BE LOOSELY INSTALLED AND TAMPED OR ROLLED IN PLACE AFTER INSTALLATION. STAPLES SHALL BE DRIVEN FLUSH WITH THE GROUND.

EROSION CONTROL MATTING

PERMANENT EROSION CONTROL MEASURE

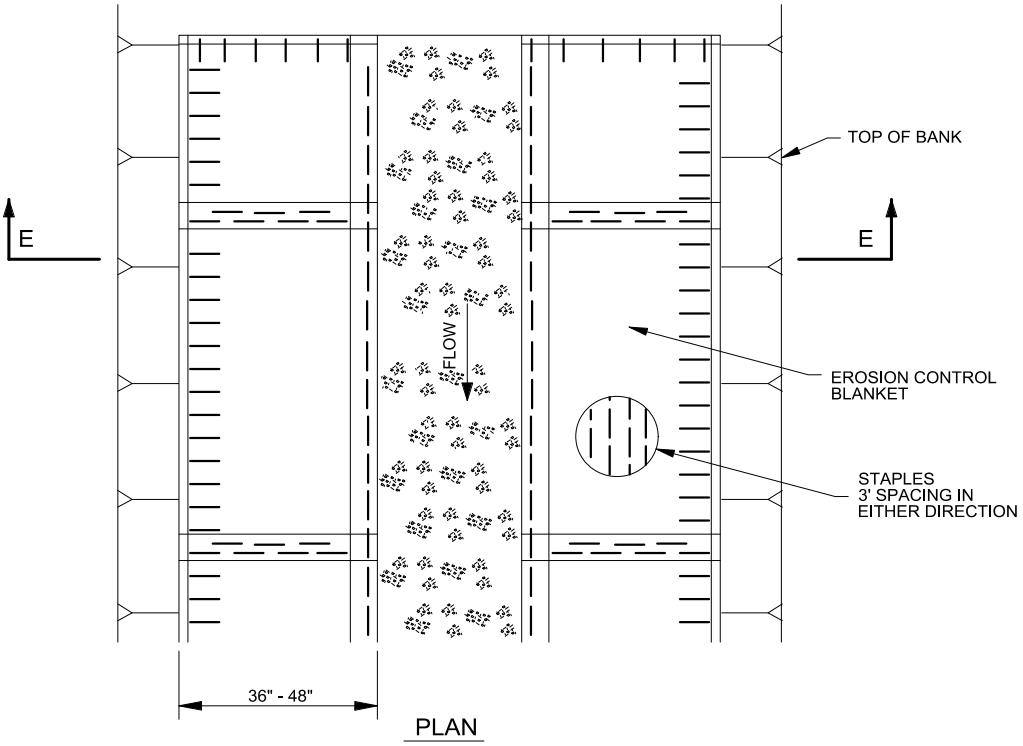
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
EROSION CONTROL MATTING
ECM

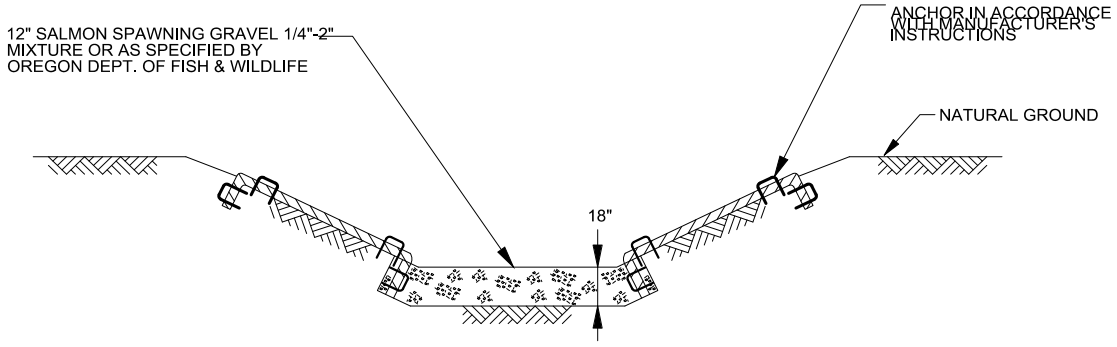
Pacific Connector GAS PIPELINE

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-0009	SHEET 3 OF 4



PLAN



SECTION E-E

SALMON STREAM RESTORATION ALTERNATIVE

EROSION CONTROL MATTING

PERMANENT EROSION CONTROL MEASURE

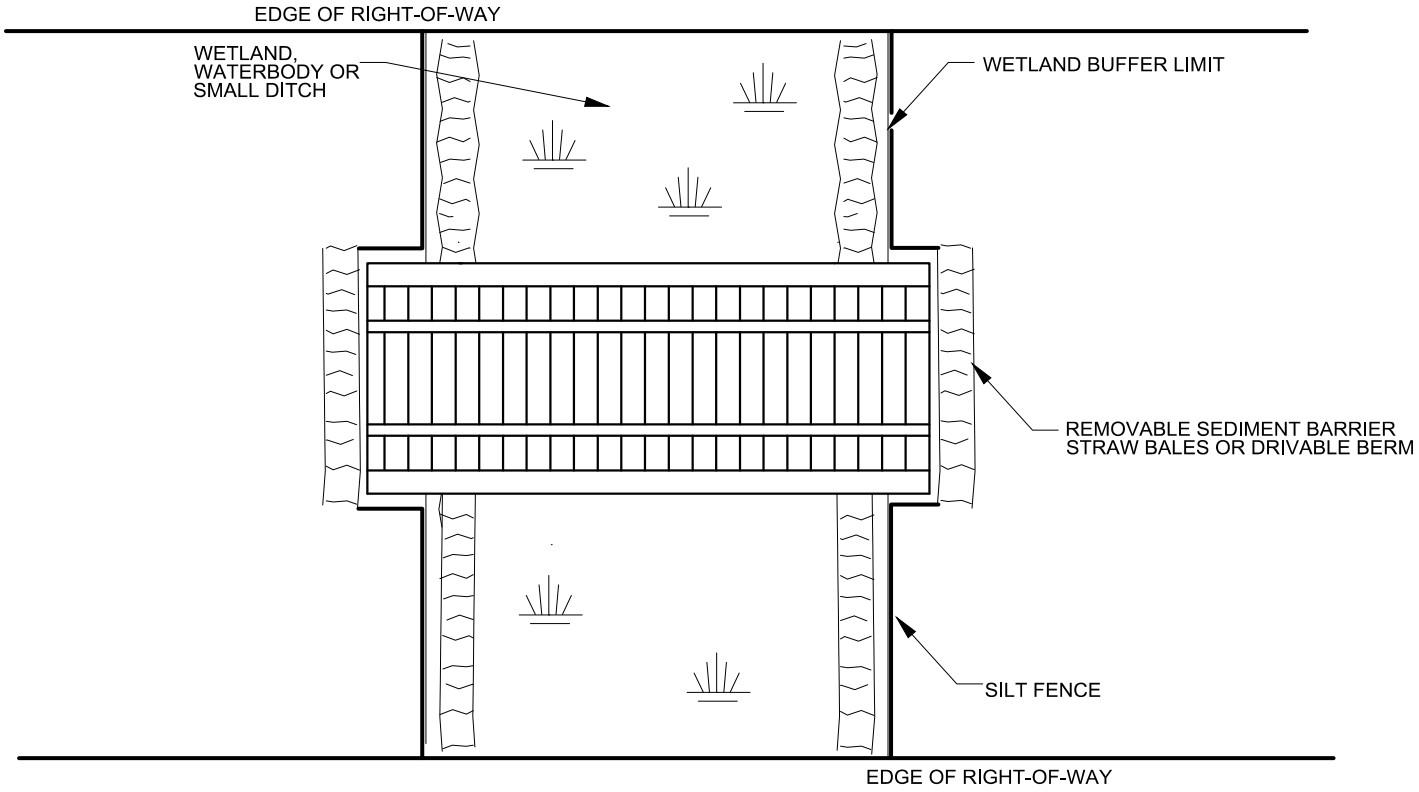
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
EROSION CONTROL MATTING
ECM

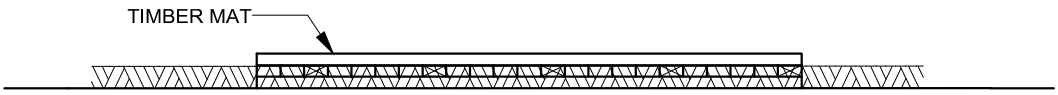
Pacific Connector GAS PIPELINE

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-0009	SHEET 4 OF 4



PLAN



PROFILE

NOTES:

1. PERIODICALLY CHECK INSTALLATION AND REMOVE BUILD-UP OF SEDIMENT OR DEBRIS.
2. MATERIALS PLACED IN WETLANDS SHALL BE COMPLETELY REMOVED DURING FINAL CLEAN-UP. REMOVAL OF THIS STRUCTURE IS NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION.
3. EXTEND TIMBER MATS TO EQUIPMENT CROSSING AT WATERBODY. CONTINUE EQUIPMENT MATS THROUGH THE WETLAND AND WATERBODY AREA.
4. USE ADDITIONAL TIMBER MAT LAYERS TO RAISE CROSSING ABOVE GRADE WHERE POOR SOIL CONDITIONS EXIST.

PORTABLE BRIDGE CROSSING

TEMPORARY EROSION CONTROL MEASURE

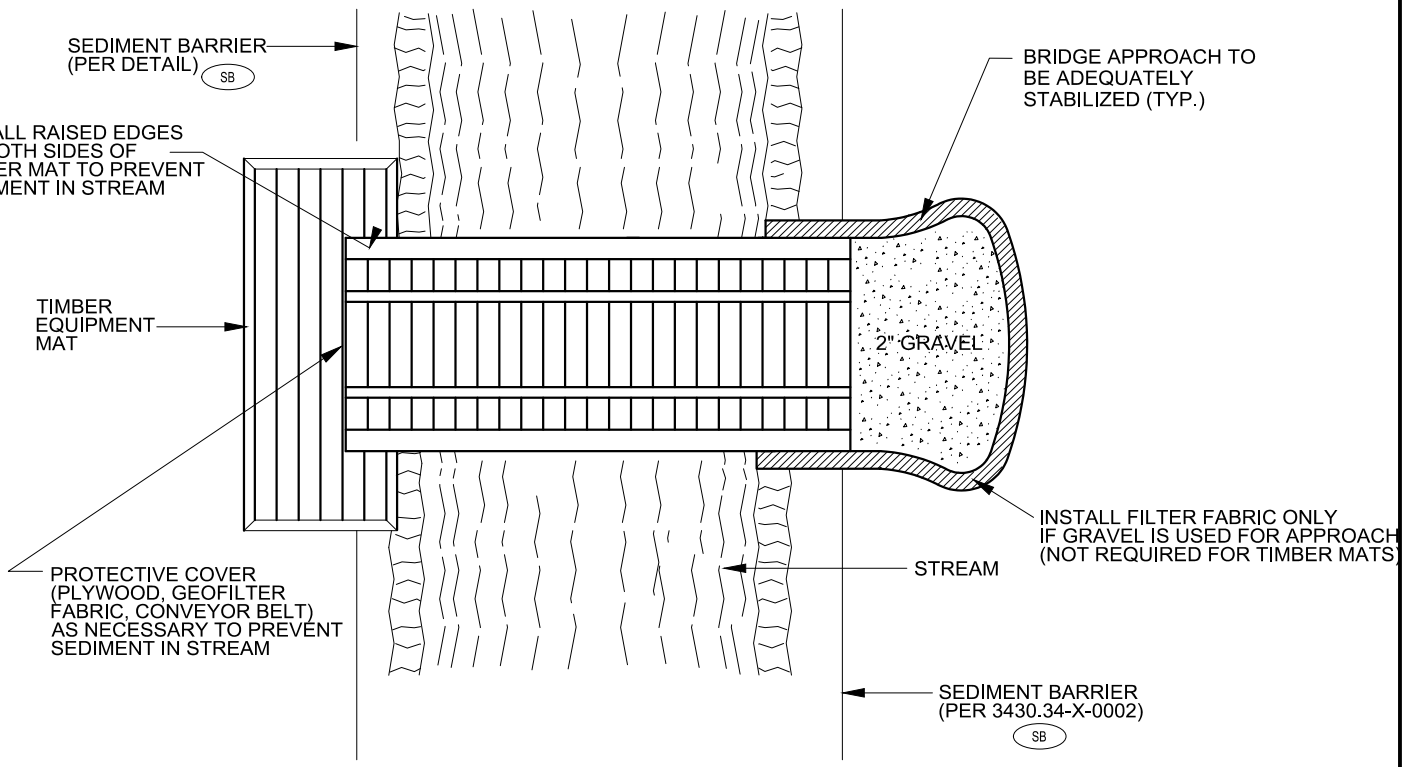
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
PORTABLE BRIDGE CROSSING
PB

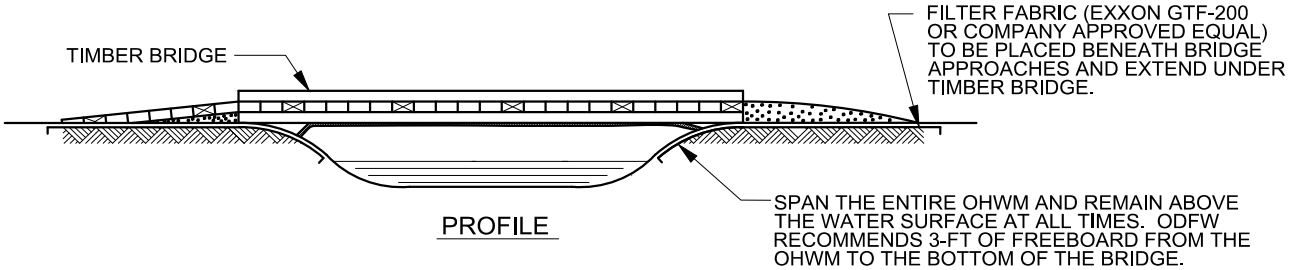
Pacific Connector GAS PIPELINE

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 1 OF 2



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 SPAND THE ENTIRE OHWM OF THE WATEBODIES 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, 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 APROVALS BEFORE INSTATALLATION.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

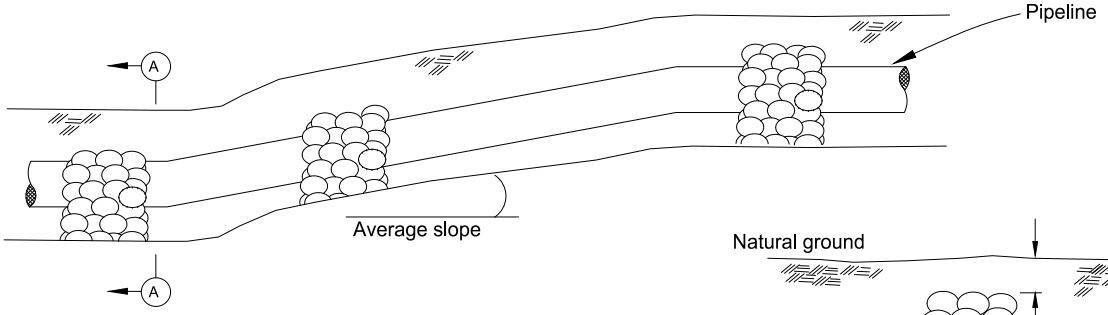
TYPICAL
PORTABLE BRIDGE CROSSING

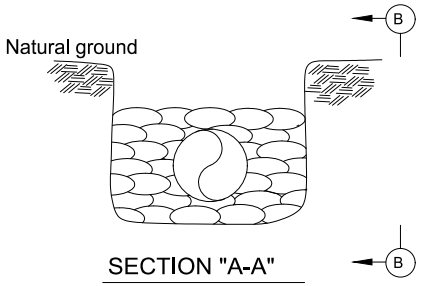
PB

Pacific Connector GAS PIPELINE

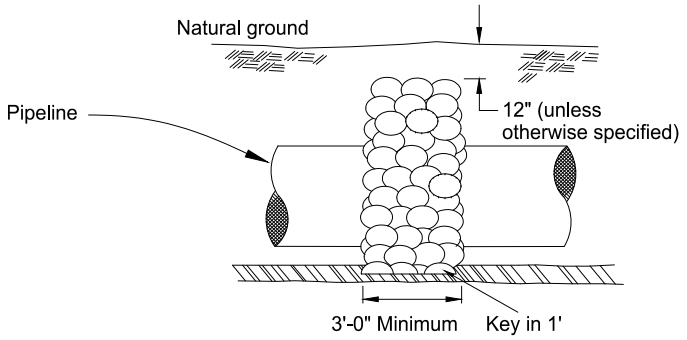
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

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

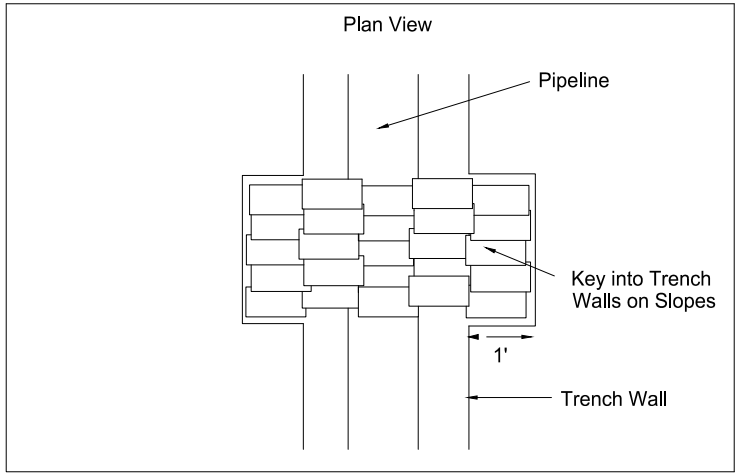




SECTION "A-A"



SECTION "B-B"



Notes:

Topsoil shall not be used in trench breakers.

Spacing of trench breakers shall be installed base on slope or as directed by Pacific Connector Gas Pipeline, LP authorized representative. Soft plugs (unexcavated sections along the pipeline trench line) may be left in place to perform function of permanent breakers prior to pipe placement.

SLOPE PERCENT	SPACING (feet)
10-15	500
15-20	300
20-30	150
>30	100

DRAWING NO.	REFERENCE TITLE

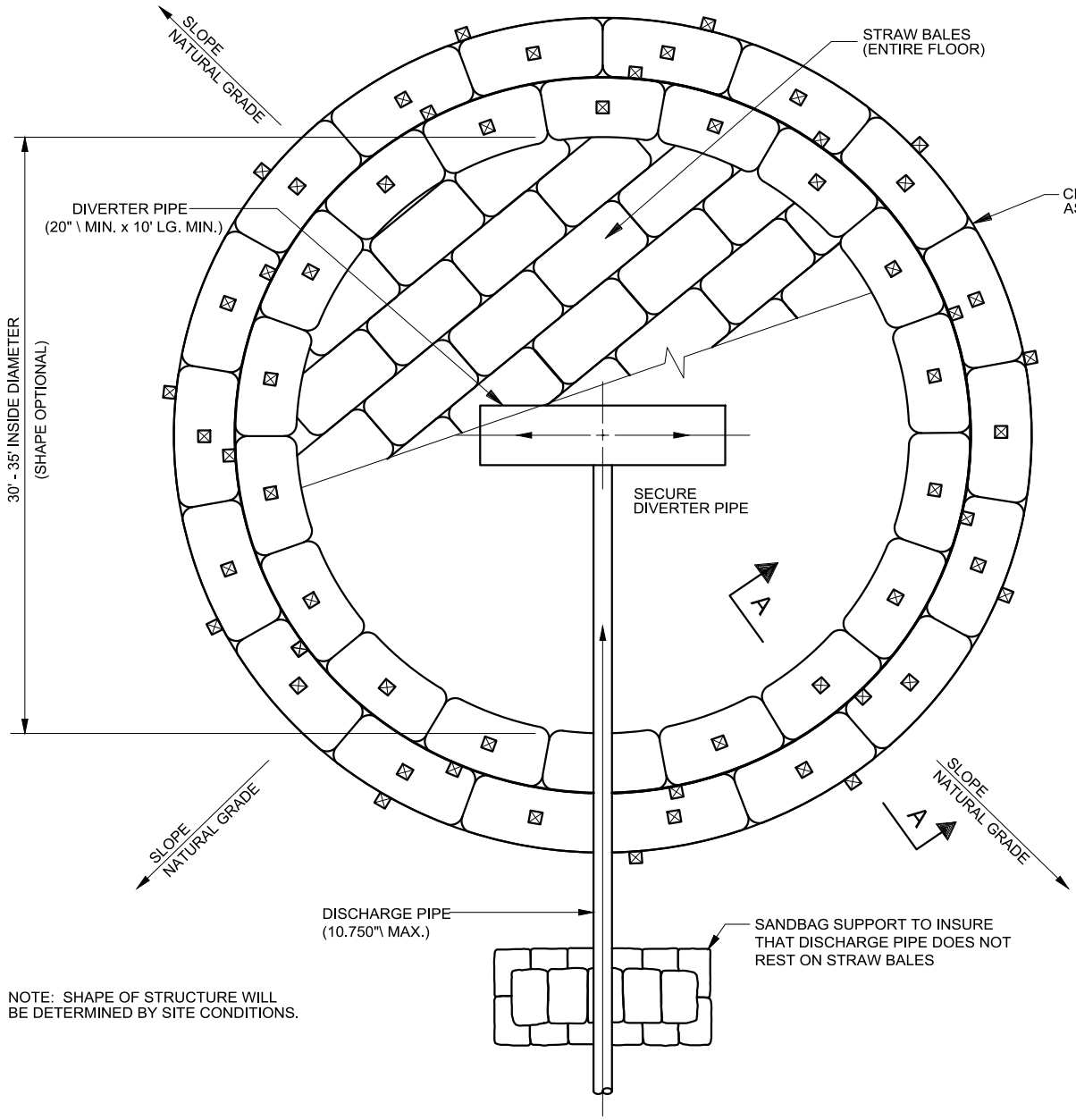
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TRENCH BREAKER INSTALLATION

TB

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: JST	DATE: 1-08-2004	ISSUED FOR BID:	SCALE: NONE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0011	SHEET OF



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

HYDROSTATIC TEST DEWATERING STRUCTURE

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

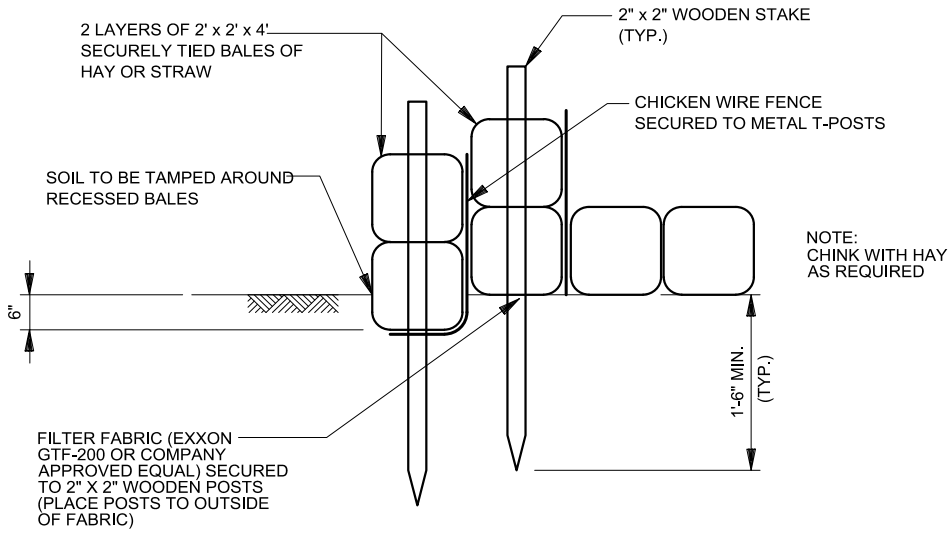
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL HYDROSTATIC TEST
DEWATERING STRUCTURE

HDW

Pacific Connector GAS PIPELINE

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-0012	SHEET 1 OF 4



SECTION A-A

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

NOTES:

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

HYDROSTATIC TEST DEWATERING STRUCTURE

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

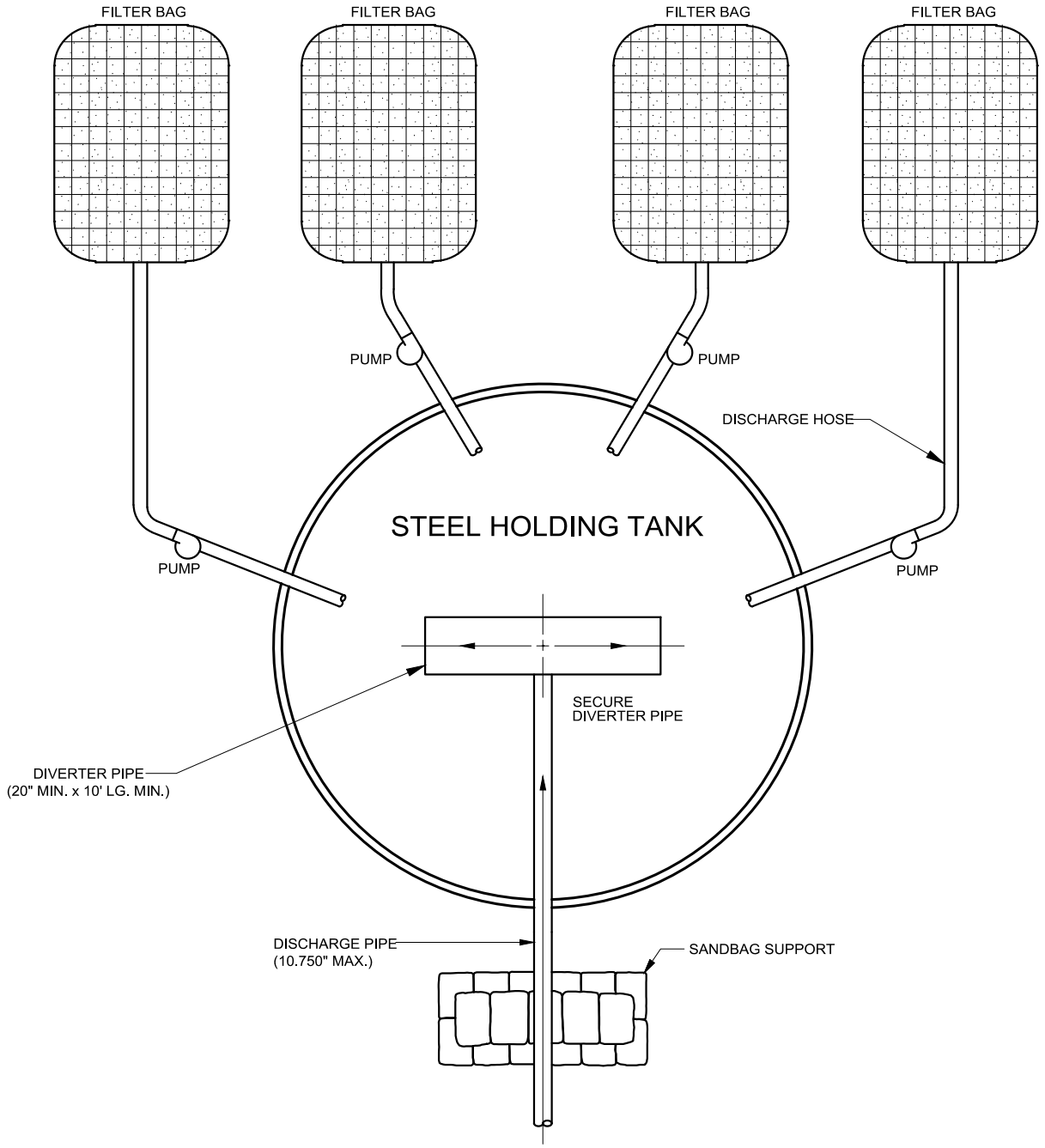
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL HYDROSTATIC TEST
DEWATERING STRUCTURE

HDW

Pacific Connector GAS PIPELINE

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-0012	SHEET 2 OF 4



HYDROSTATIC TEST DEWATERING STRUCTURE

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

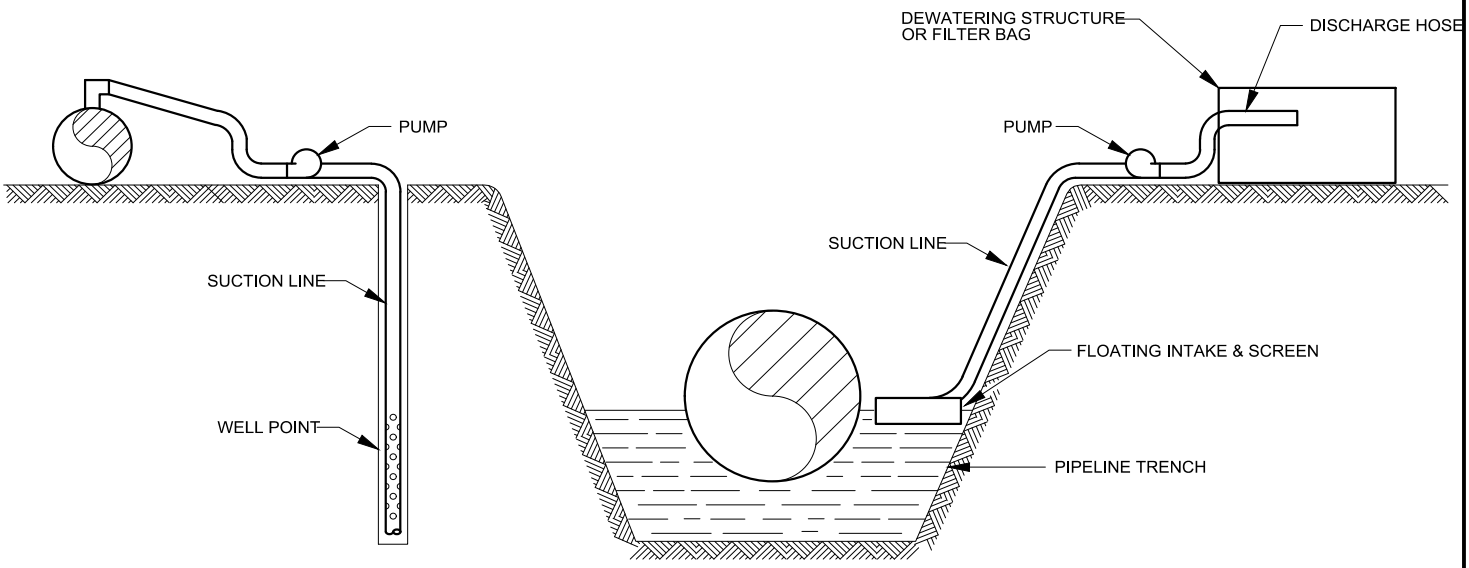
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL HYDROSTATIC TEST
DEWATERING STRUCTURE

HDW

Pacific Connector GAS PIPELINE

.	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-0012	SHEET 3 OF 3



NOTES:

1. DEWATERING MEASURE/METHODS

   A. PUMP WATER TO A FILTERING STRUCTURE TYPICALLY CONSTRUCTED WITH HAY BALES OR GEOTEXTILE AND DISCHARGE AS "SHEET FLOW" OUT OF STRUCTURE. (SEE SHT. 3)
   B. PUMP WATER INTO A FILTER BAG. (SEE SHT. 1)
   C. PUMP WATER TO A SETTLING TANK AND HAUL TO A DISPOSAL SITE.
   D. PUMP WATER TO A SETTLING TANK AND DISCHARGE OVERLAND.
   E. TRANSFER WATER TO NEXT SECTION OF TRENCH.
   F. INSTALL WELL POINTS AND PUMP TO FILTERING STRUCTURE AND DISCHARGE TO DRAINAGE, CHANNEL OR SHEET FLOW IF WATER IS SEDIMENT FREE.
   G. INSTALL WELL POINTS AND DISCHARGE SHEET FLOW.
   H. DISPOSE OF WATER COLLECTED IN TANK OR FILTRATION STRUCTURE BY AERATION THROUGH A SPRINKLER SYSTEM.

   WATER PUMPED OUT OF TRENCH SHALL NOT BE DISCHARGED INTO WATERBODIES OR WETLANDS.

2. PUMP SHALL BE CONTROLLED SO THAT DISCHARGE DOES NOT OVERFLOW DEWATERING
3. STRUCTURE.

   PUMP SUCTION HOSE MUST NOT BE ALLOWED TO SETTLE THE TRENCH BOTTOM. PROVISIONS
4. MUST BE MADE TO ELEVATE THE SUCTION HOSE TO AT LEAST ONE FOOT ABOVE THE BOTTOM UNTIL BOTTOM DEWATERING IS NECESSARY.

TRENCH DEWATERING

TEMPORARY EROSION CONTROL MEASURE

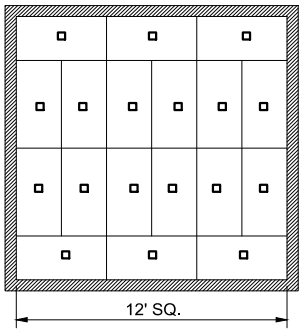
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
TRENCH DEWATERING
TDW

Pacific Connector GAS PIPELINE

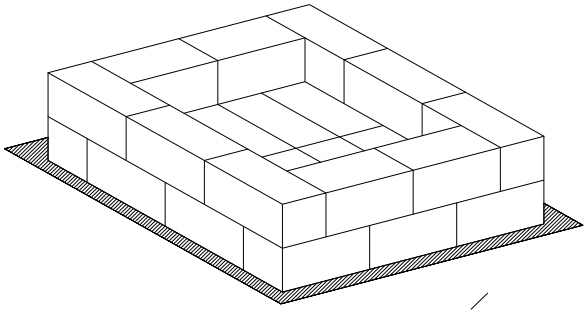
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0013	SHEET 1 OF 3



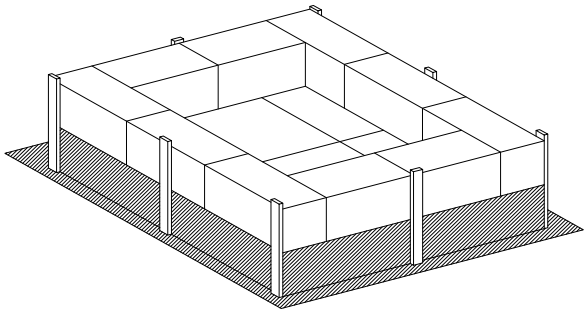
STEP 1

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



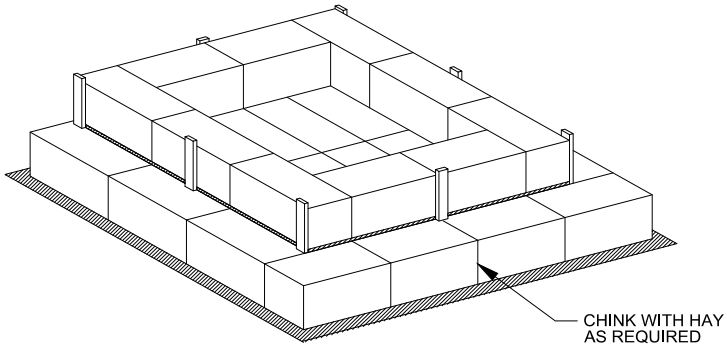
STEP 2

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



STEP 3

INSTALL FILTER FABRIC ALL AROUND HAY BALE STRUCTURE AS SHOWN



STEP 4

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

NOTES:

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

TRENCH DEWATERING

TEMPORARY EROSION CONTROL MEASURE

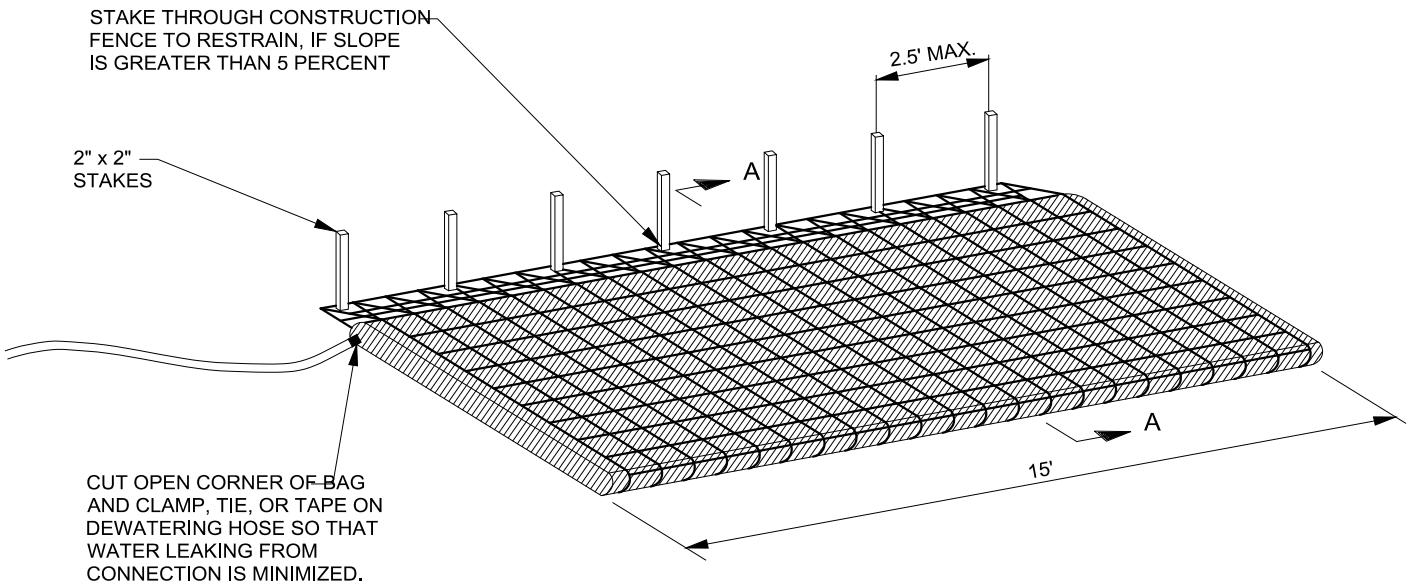
DRAWING NO.	REFERENCE TITLE

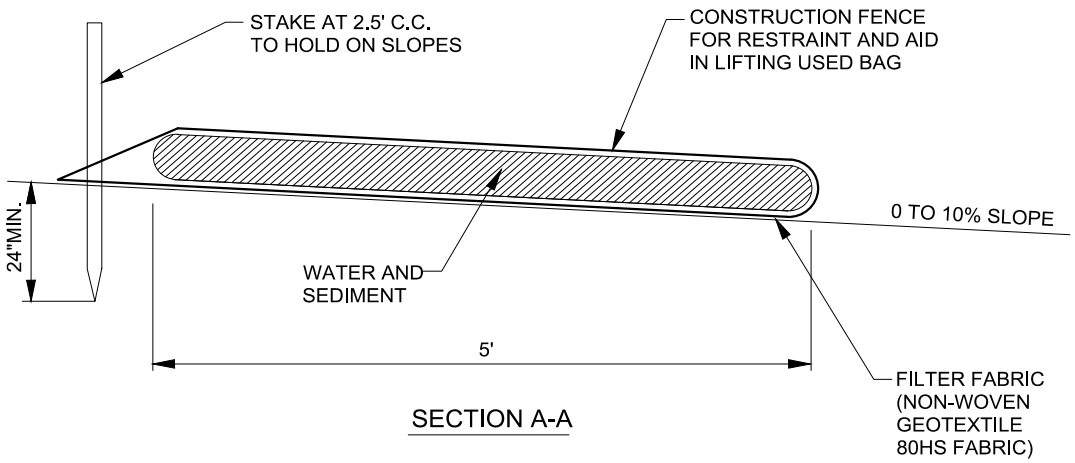
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
TRENCH DEWATERING
TDW

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0013	SHEET 2 OF 3





SECTION A-A

NOTES:

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

TRENCH DEWATERING - FILTER BAG

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

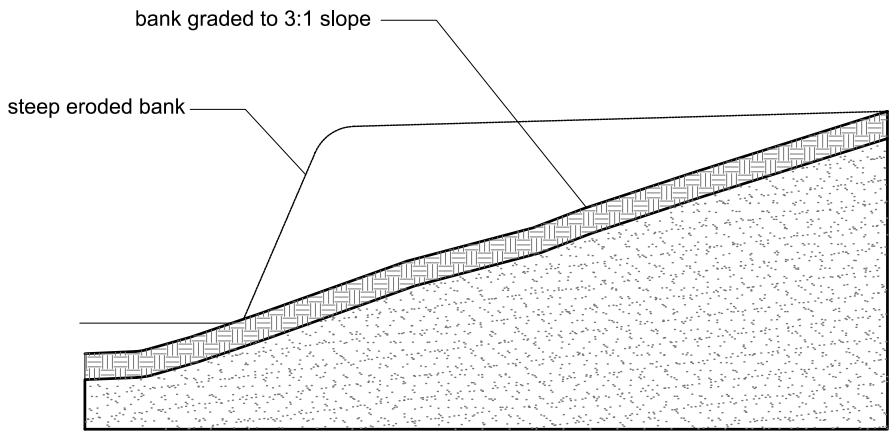
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
TYPICAL
TRENCH DEWATERING
TDW

Pacific Connector GAS PIPELINE

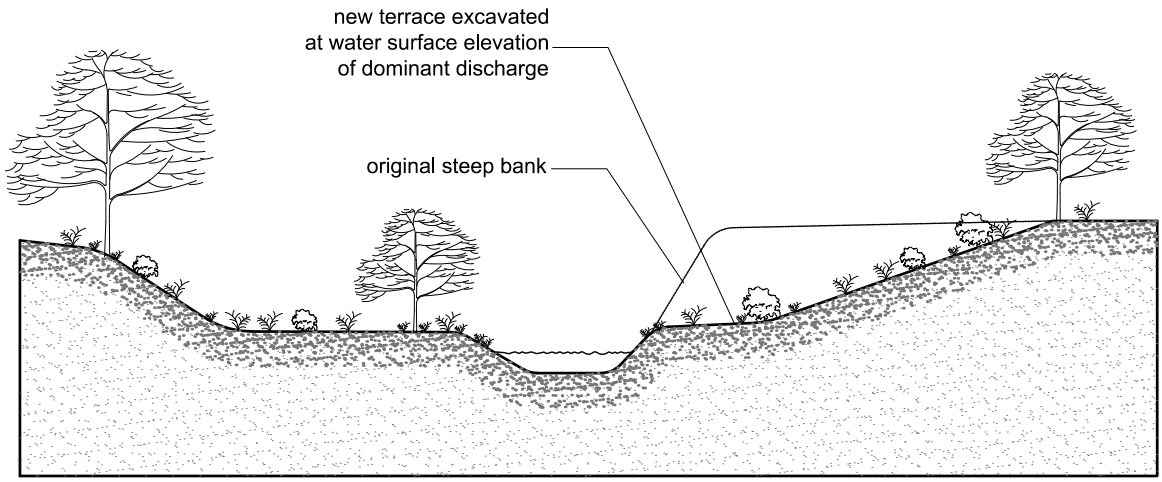
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0013	SHEET 3 OF 3

Stable Gradient



Terraced Bank



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

STREAMBANK RESTORATION / RECONTOURING

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
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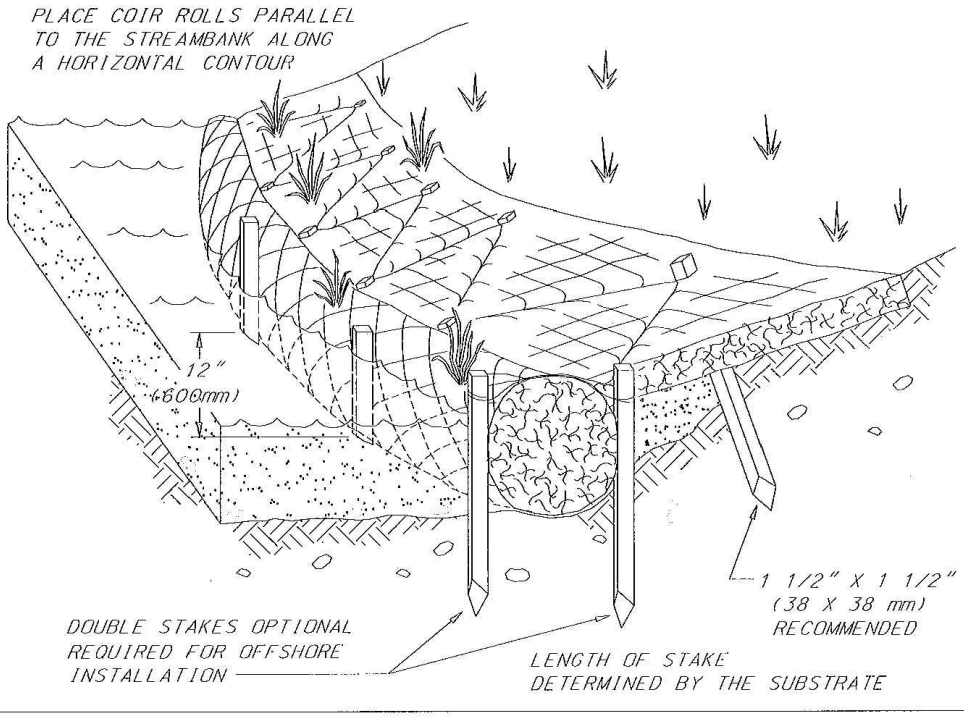
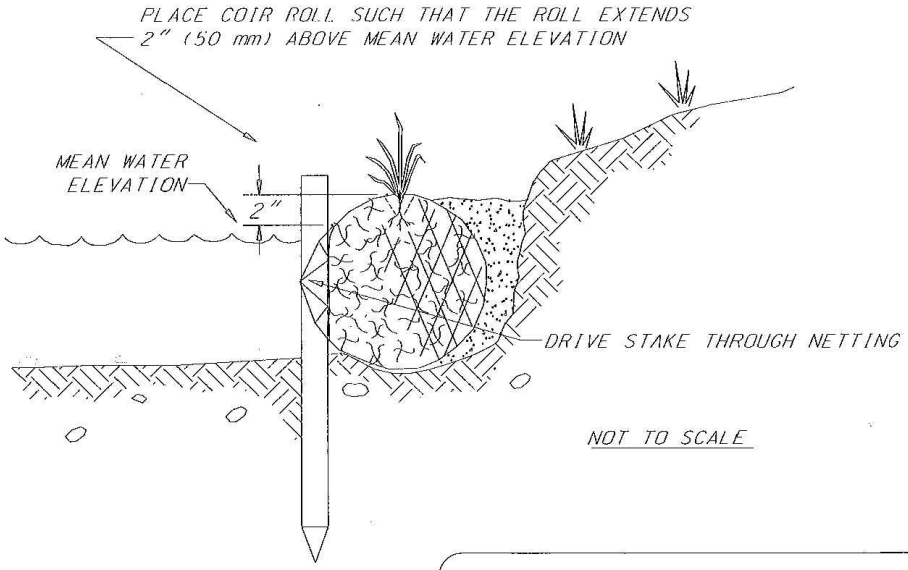
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0014	SHEET 1 OF 2





COIR ROLL COIR MATS

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

DURING STREAM RESTORATION
TYPICAL COIR ROLL

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
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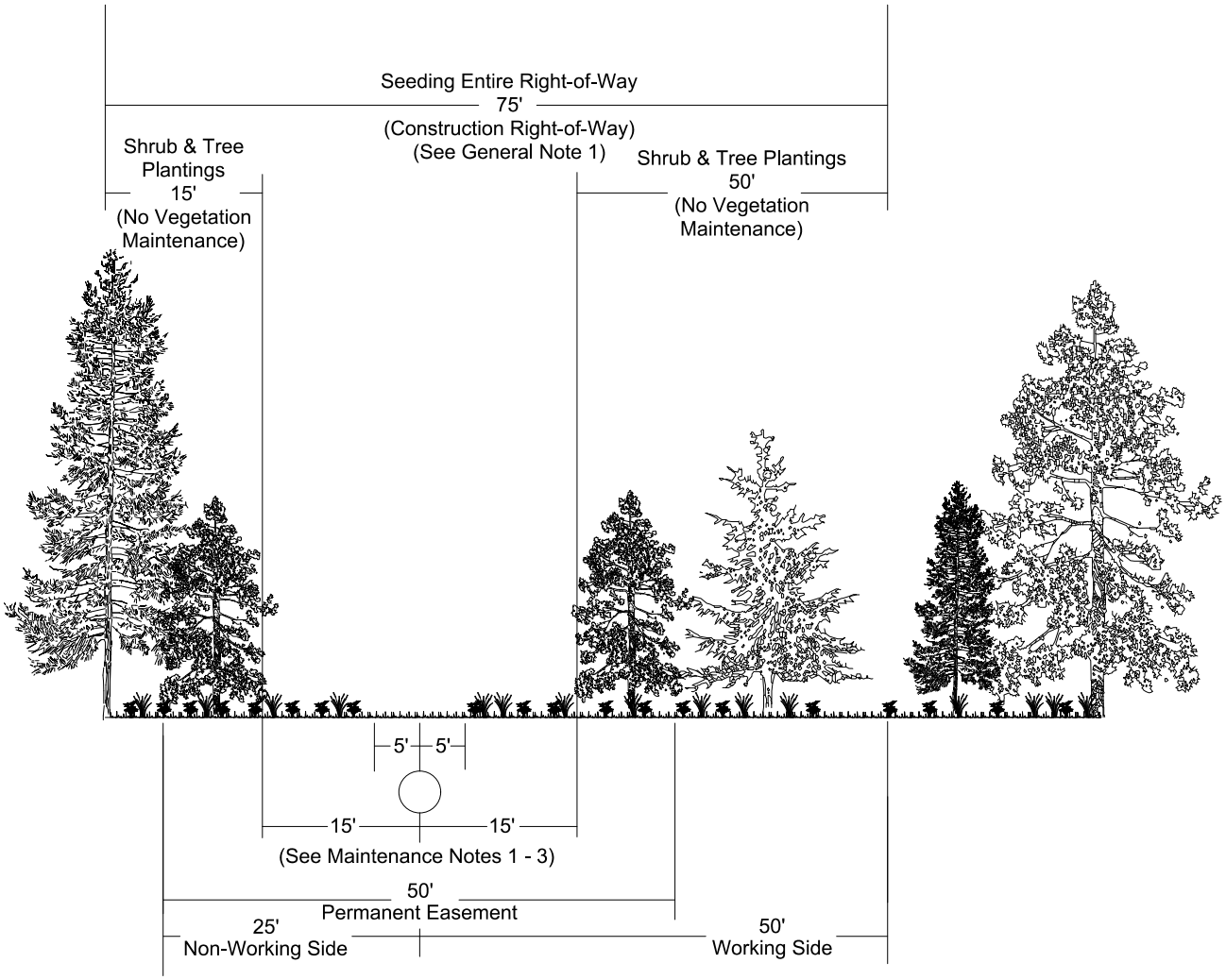

Shrubs

Herbaceous vegetation/ seed mixture

General Notes:

1. Construction right-of-way through wetlands will be 75 feet wide unless a modification is granted.\ Configuration of Right-of-Way may vary.

Planting Notes:

1. Entire right-of-way to be seeded with appropriate wetland seed mixture (see Section 10.9).
2. Shrubs not to be planted within 5' of the pipeline centerline.
3. Trees not to be planted within 15' of the pipeline.
4. Trees and shrubs will be planted in all disturbed forested and shrub wetland areas beyond 15' of pipeline centerline (see Table 10.12-1).

Maintenance Notes:

1. Maintenance of right-of-way in herbaceous state permitted in a 10' corridor centered on the pipeline.
2. Selective cutting of trees within 15' of the pipeline.
3. No vegetation maintenance proposed beyond 15' of the pipeline centerline.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

FOREST & SHRUB WETLAND
REVEGETATION & MAINTENANCE PLAN

Pacific Connector GAS PIPELINE

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:	
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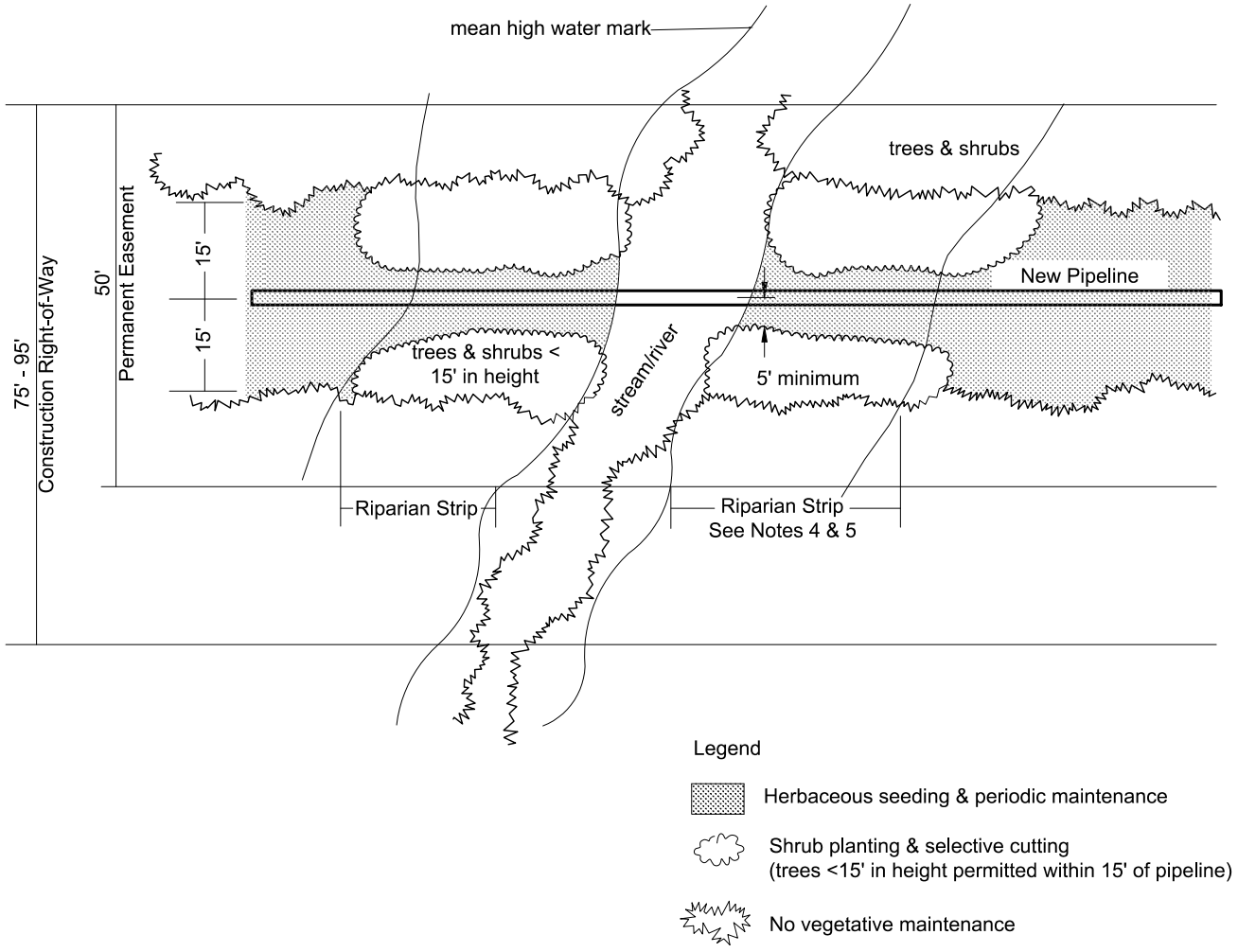

Notes:

1. Maintenance of right-of-way in herbaceous state permitted in a 10' corridor centered on the pipeline.
2. Selective hand cutting of trees within 15' of the pipeline.
3. No vegetation maintenance permitted beyond 15' of the pipeline centerline.
4. On private lands riparian planting will occur across the ROW based on ODF RMA buffer widths (see ECRP), subject to the 15-foot (trees) restriction on either side of centerline. The riparian planting area will occur to the RMA buffer width, or to the limit of existing riparian vegetation where the riparian vegetation does not exceed the RMA buffer width.
5. On federal lands extend riparian strip planting along all perennial & intermittent streams within federally-designated riparian reserves to 100' or to limit of existing riparian vegetation.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

WATERBODY / RIPARIAN
REVEGETATION & MAINTENANCE PLAN

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
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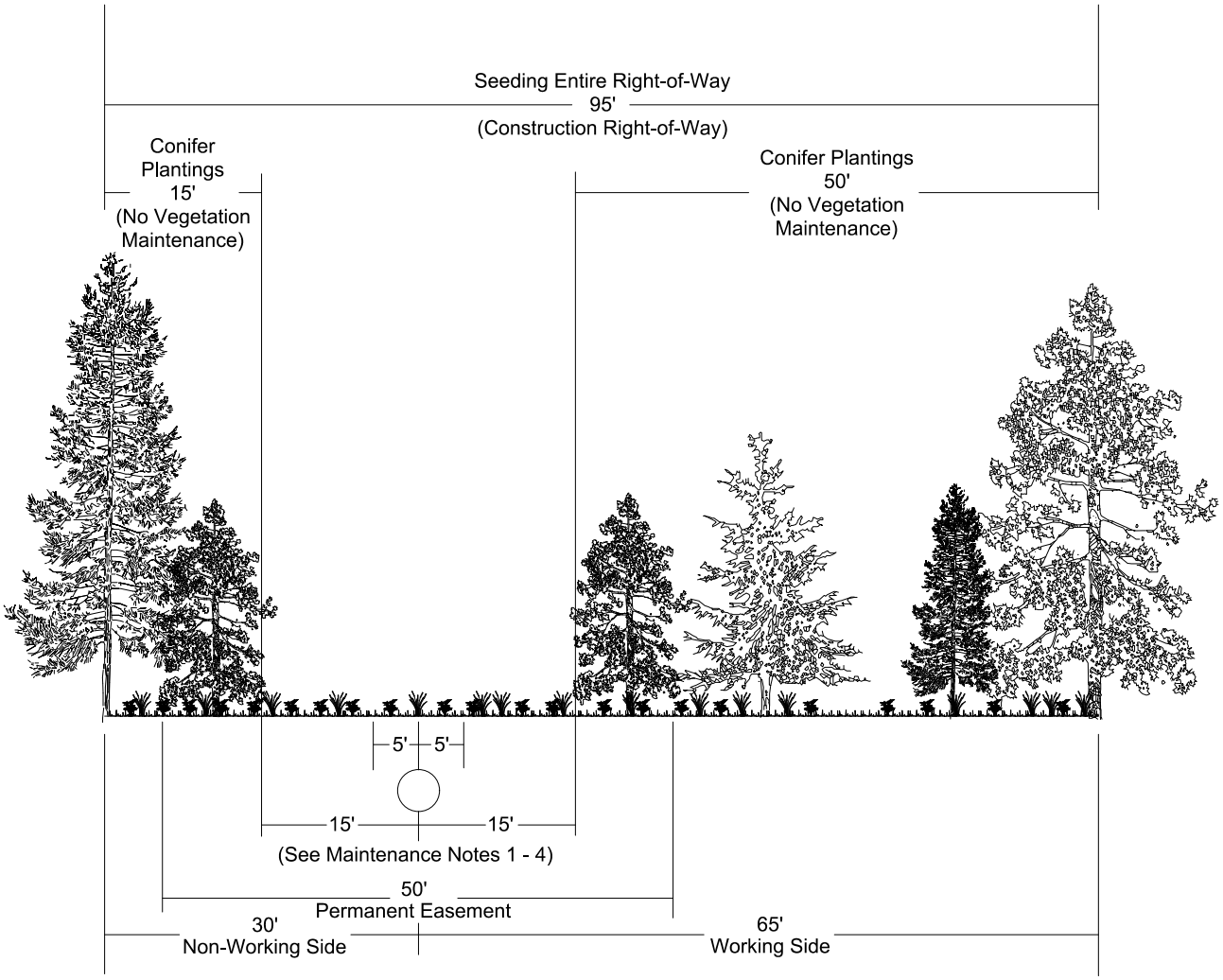
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0016	SHEET 1 OF 1



Planting Notes:
1. Entire right-of-way to be seeded with appropriate seed mixture (see Section 10.9).
2. Trees will be planted in all disturbed forested areas beyond 15' of pipeline centerline.
3. On National Forest System lands, shrubs to be planted from 15' each side of pipeline centerline to the outer edge of the construction limits (see Table 10.13-11).

Volunteer Shrubs

Herbaceous vegetation/ seed mixture

Maintenance Notes:
1. Selective cutting of trees within 15' of the pipeline
2. No vegetation maintenance proposed beyond 15' of the pipeline centerline.
3. Routine vegetation mowing or clearing shall not be done more frequently than every 3 years. However to facilitate periodic corrosion/leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state.
4. In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless approved in writing by responsible land management agency or the U.S. Fish and Wildlife Service.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

FOREST
REVEGETATION & MAINTENANCE PLAN

Pacific Connector GAS PIPELINE

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:	
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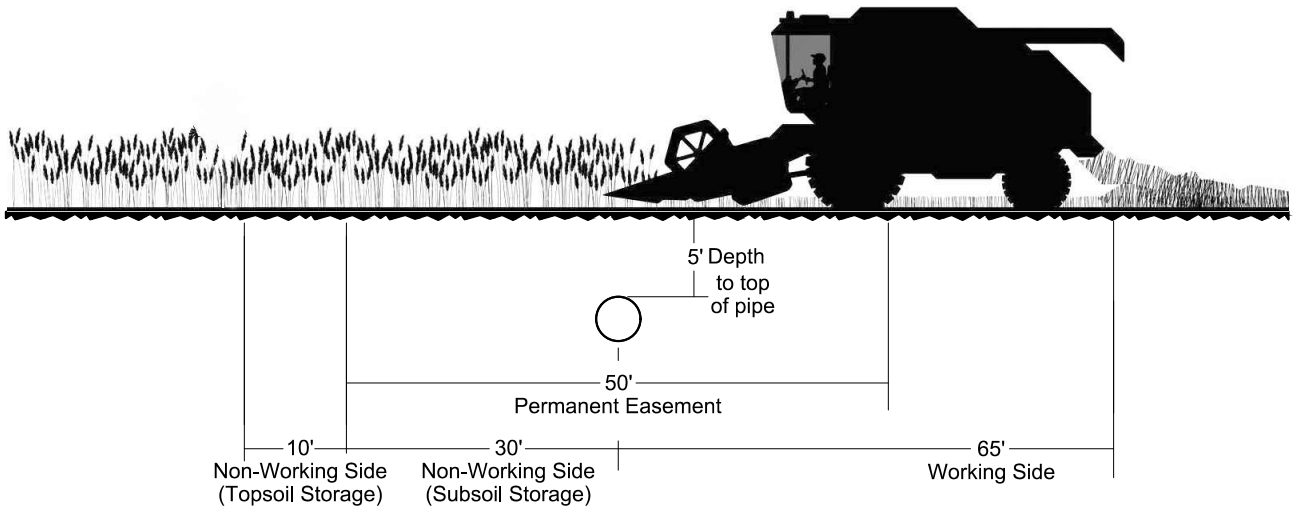

General Note:

Topsoil segregation will be performed over the trenchline in croplands, hayfields, pastures, and residential areas. Pacific Connector will stockpile topsoil from the trenchline separately from all subsoil and will replace the two horizons in the proper order during backfilling and final grading.

Soil compaction test will be completed in agricultural (e.g., active croplands, hayfields, and pastures), and residential areas during restoration.

Excess rock from the top 12 inches of soil will be removed to the extent practicable in all rotated and permanent croplands, hayfields, managed pastures, residential areas, and other areas upon landowner request. Clean up of excess rock will be 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 Pacific Connector negotiate different stipulations.

Pacific Connector will work with landowners to address restoration of active agricultural areas such as croplands (e.g., hayfields, alfalfa, cereal grains, row crops, etc.), orchards, nurseries, and vineyards as well as residential lawns, ornamental shrubs, gardens, and other landscaping, if affected by the project. In active agricultural areas, Pacific Connector will encourage the landowner to complete final restoration efforts in these areas and will compensate the landowner for these efforts.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

AGRICULTURAL / CROPLAND
RESTORATION

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: EE	DATE: 03-06-2017	ISSUED FOR BID:	SCALE: NOT TO SCALE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0017	SHEET 2
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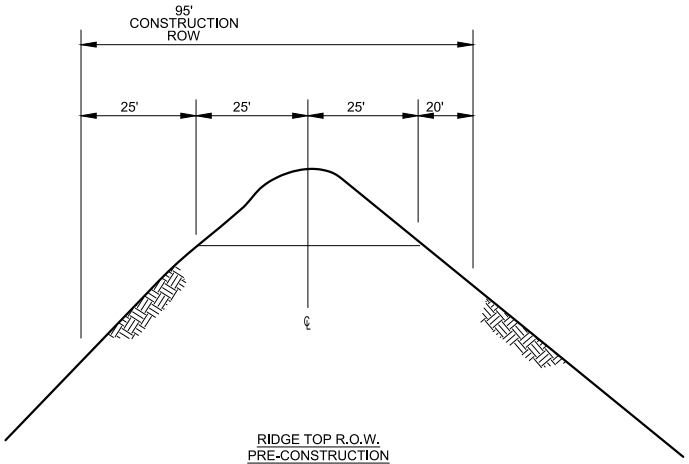
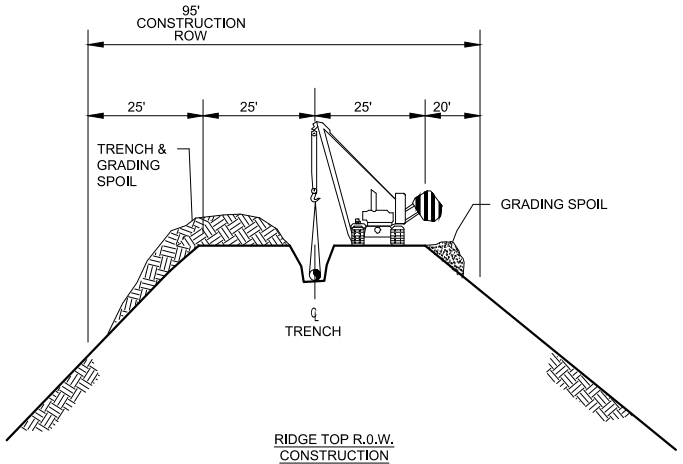


RIDGE TOP R.O.W.
PRE-CONSTRUCTION
NOT TO SCALE



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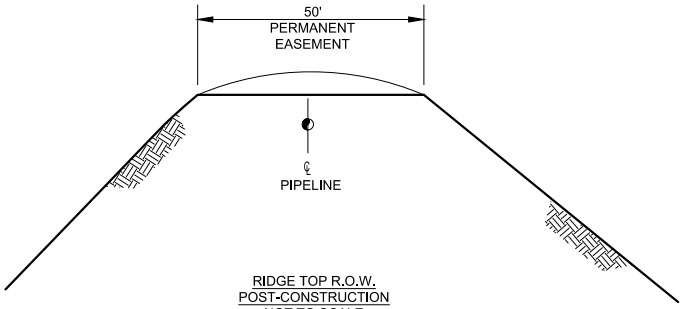

RIDGE TOP R.O.W.
POST-CONSTRUCTION
NOT TO SCALE

NOTES:

1. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES AND EMPLOY BMP'S WHERE NECESSARY. DO NOT PUSH SPOIL INTO CREEKS OR WETLANDS.

2. WHERE RIDGE TOP SECTION IS NARROW OR OF SEVERE GRADE, ONLY A SINGLE COMBINED WORKING AND TRAVEL LANE MAY BE CONSTRUCTED. PIPE LINE-UP, WELDING AND JOINT COATING SHALL BE PERFORMED AT AN ADJACENT AREA AND THE LINE INSTALLED AS A "DRAG SECTION."

3. SURFACE MAY BE RESTORED TO NEAR ORIGINAL LINE, GRADE AND CROSS SLOPE UPON COMPLETION OF CONSTRUCTION. THE FINISHED SURFACE SHALL HAVE WATER BARS INSTALLED, SLOPE MATTING PLACED, RESEEDING AND RE-VEGETATION WORK DONE AS STATED IN THE EROSION CONTROL & RE-VEGETATION PLAN, OR WHEN ORDERED BY THE ENVIRONMENTAL INSPECTOR.

4. UCSA'S (UNCLEARED STORAGE AREAS) AND TEWA'S ARE SITE SPECIFIC AND ARE SHOWN ON ENVIRONMENTAL CONSTRUCTION ALIGNMENTS.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
RIGHT-OF-WAY SECTIONS

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 1-15-2007	ISSUED FOR BID:	SCALE: NONE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
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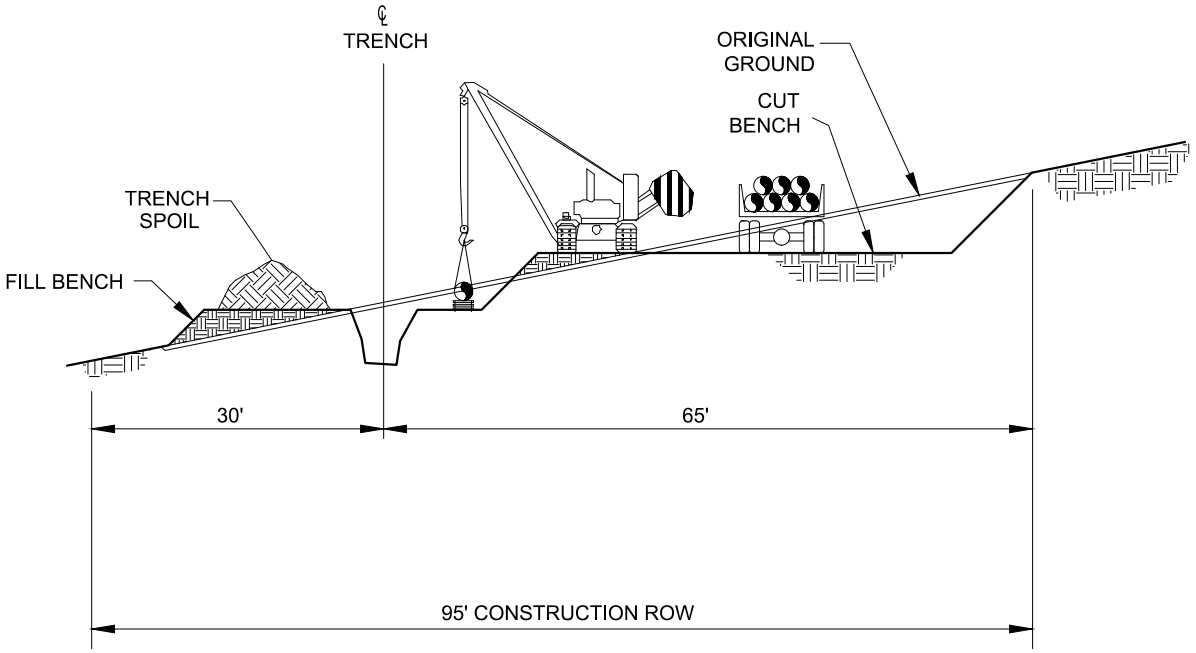


SIDE HILL R.0.W.
NOT TO SCALE

NOTES:

1. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES AND EMPLOY BMP'S WHERE NECESSARY. DO NOT PUSH SPOIL INTO CREEKS OR WETLANDS.

2. WHERE SIDE HILL SECTION IS OF SEVERE GRADE, ONLY A SINGLE COMBINED WORKING AND TRAVEL LANE MAY BE CONSTRUCTED. WHERE REQUIRED, PIPE LINE-UP, WELDING AND JOINT COATING MAY BE PERFORMED AT AN ADJACENT AREA AND THE LINE INSTALLED AS A "DRAG SECTION."

3. SURFACE MAY BE RESTORED TO NEAR ORIGINAL LINE, GRADE AND CROSS SLOPE UPON COMPLETION OF CONSTRUCTION. THE FINISHED SURFACE SHALL HAVE WATER BARS INSTALLED, SLOPE MATTING PLACED, RESEEDING AND RE-VEGETATION WORK DONE AS STATED IN THE EROSION CONTROL & RE-VEGETATION PLAN, OR WHEN ORDERED BY THE ENVIRONMENTAL INSPECTOR.

4. UCSA'S (UNCLEARED STORAGE AREAS) AND TEWA'S ARE SITE SPECIFIC AND ARE SHOWN ON ENVIRONMENTAL CONSTRUCTION ALIGNMENTS.

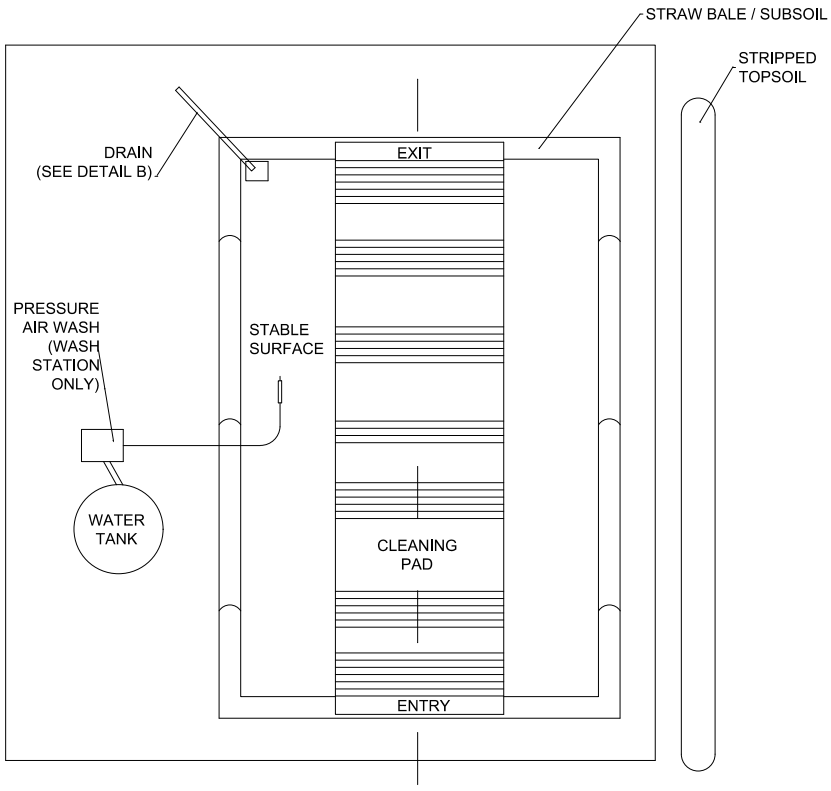
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
RIGHT-OF-WAY SECTION
WITH TWO-TONE GRADING

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 1-15-2007	ISSUED FOR BID:	SCALE: NONE
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0019	SHEET OF



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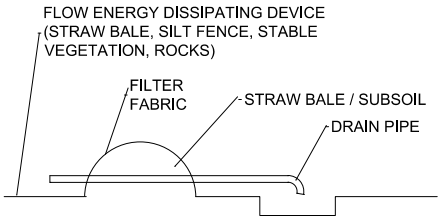

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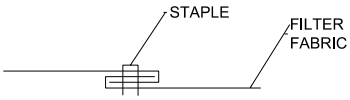

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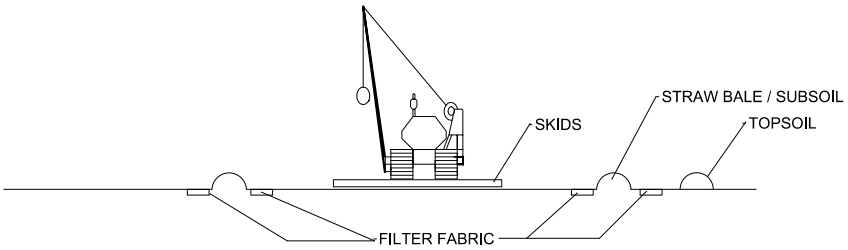

ELEVATION

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

EQUIPMENT CLEANING STATION

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
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Equipment Cleaning Station Notes:

1. Equipment moved from a weed infested area as determined by weed invintory must be washed or otherwise cleaned prior to mobilization.

2. During non -frozen soil conditions, construct cleaning stations for high pressure water cleaning at approved locations by stripping topsoil and construction containment berms out of subsoil.

3. Containment berms will not be required when cleaning will be done using compressed air and shovels instead of high pressure water.

4. Cleaning shall be carried out under the supervision and to satisfaction of the environmental inspector.

5. Station to be equipped with timber mats, skid pads, or racks to elevate equipment tracks / tires so that soil and weeds will be contained in the station basin.

5. Filter fabric to be installed as a continuous piece and placed over the top and to the outside edge of the berm and firmly fastened in place. the edges of parallel pieces shall be overlapped a minimum of 12 inches (shingle style), and folded over (see detail A). Staple through the overlapped area every 12 inches.

7. Filter fabric shall be non-woven polypropylene, with an apparent opening size of 70 to 100 (U.S. sieve), 200-pound grab strength, and 8 ounces per yard unit weight, or better in areas that are not rocky. Contractor may choose to use non-woven polypropylene, 160-pound grab strength, and 6 ounces per yard unit weight.

8. Water used for cleaning shall not be allowed to flow into any waterbody, wetland or irrigation canal/ditch.

9. Size of station shall be adequate to accommodate the maximum size of equipment expected.

10. Equipment is to consistently enter at one end and exit at another.

11. Skids are to be cleaned between washing independent pieces of equipment.

12. Filter fabric will be removed to an acceptable landfill when the wash station is dismantled.

13. The depression will be backfilled with bermed material and soils contaminated by petroleum based or other undesirable materials from clean off stations shall be removed in accordance with applicable requirements. Topsoil will be returned and the area reclaimed.

14. Cleaning sites will be monitored during the post construction monitoring program and weeds controlled as required.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

EQUIPMENT CLEANING STATION

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
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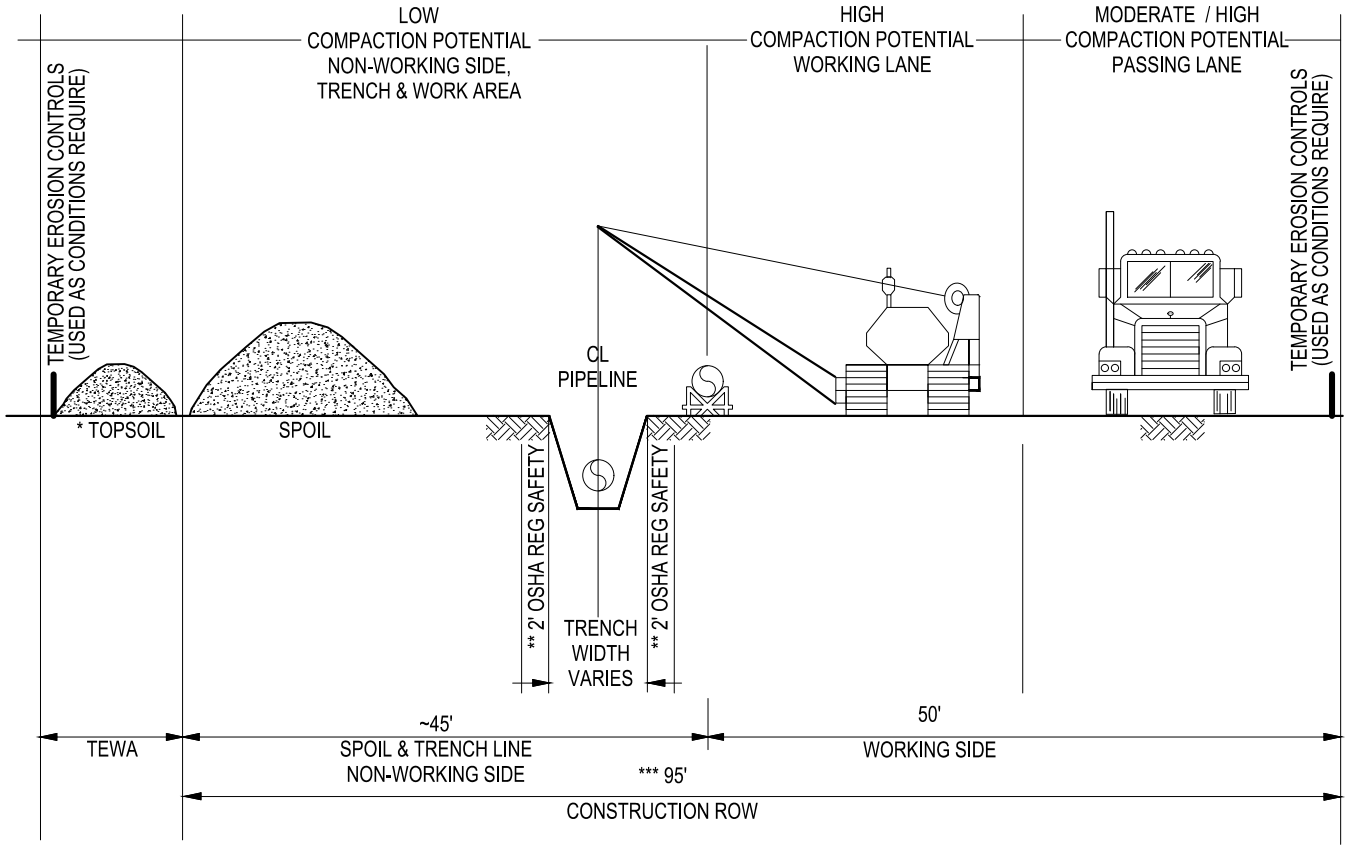
APPROVED BY:	DATE:	DRAWING NUMBER: 3430.34-X-0020	SHEET 2 OF 2



* Topsoil and subsoil segregated within unsaturated wetlands, residential, agricultural, pasture lands, hayfields and areas of landowner requests

** Rev 29 CFR CH.XVII Part 1926, subpart WSEC 1926 550 (A) (15) (iii)

*** Where topsoil and subsoil segregation occur, a minimum of an additional 10 feet of temporary extra work area will be added to the construction right-of-way

Notes:

The dimensions shown on this figure are typical; however, some variations exist due to site-specific terrain features and alignment location. The maximum width of the construction right-of-way will be 95 feet; where topsoil and subsoil segregation occur, the construction right-of-way and TEWAs will be a minimum of 105 feet (see Environmental Alignment Sheets).

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT

POTENTIAL FOR SOIL COMPACTION
ON CONSTRUCTION RIGHT-OF-WAY

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

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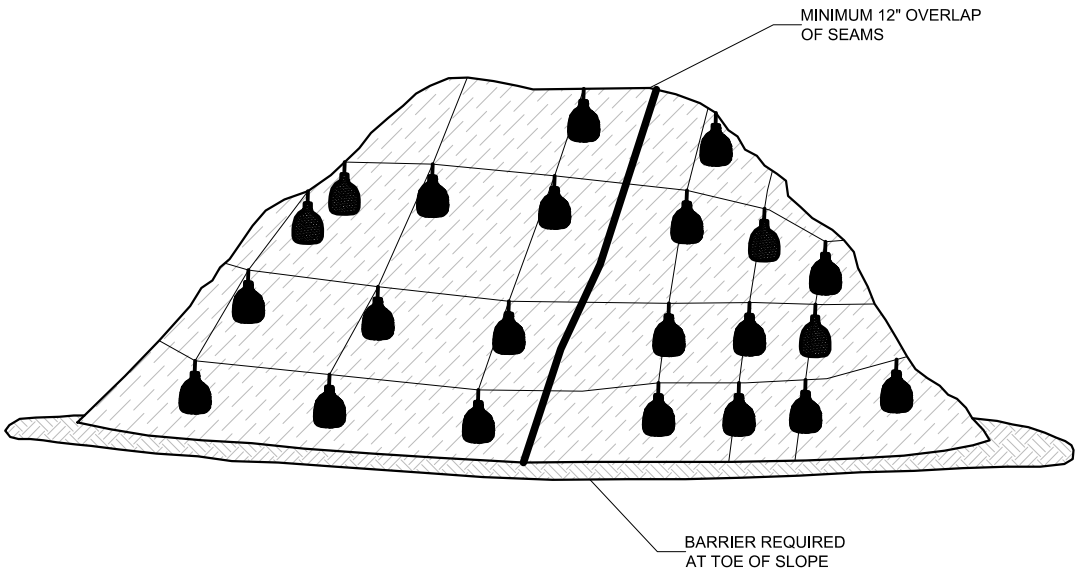

NOTES

1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. BARRIER REQUIRED AT TOE OF SLOPE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECIONS.
4. PLASTIC (VISQUEEN) SHEETING CAN BE USED TO COVER SOIL STOCKPILES WHERE EROSION PROBLEMS OCCUR IN THE WET SEASON AND ARE UNABLE, DUE TO THE SOFT SOIL CONDITIONS, TO BE ACCESSED BY EQUIPMENT TO MAKE A PERMANENT REPAIR OR PLACEMENT OF OTHER APPROPRIATE BMPS. UNDER THESE CONDITIONS NORTHWEST WILL CONSIDER A TEMPORARY PLACEMENT OF PLASTIC SHEETING TO PROTECT THE AREA AND DIVERT RUNOFF AWAY FROM THE AREA OF CONCERN UNTIL A MORE PERMANENT SOLUTION CAN BE APPLIED.

SOIL STOCKPILE COVER

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

TYPICAL SOIL STOCKPILE COVER

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: KLL	DATE: 02-02-2001	ISSUED FOR BID:	SCALE: NOT TO SCALE
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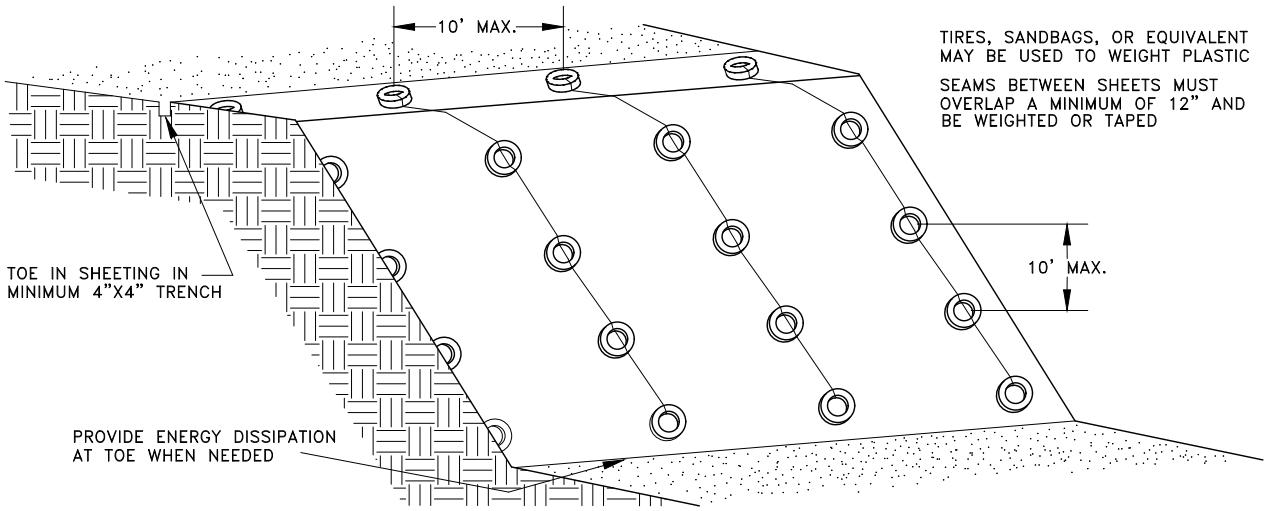

SOIL STOCKPILE COVER

TEMPORARY EROSION CONTROL MEASURE

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

TYPICAL SOIL STOCKPILE COVER

Pacific Connector GAS PIPELINE

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-0023	SHEET 2
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ATTACHMENT D

Equipment Cleaning Inspection Checklist

EQUIPMENT CLEANING CHECKLIST

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

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

Rubber-Tired Vehicles:

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

Track-Laying Vehicles:

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

All Vehicles as Appropriate:

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

Other Materials

- □ Equipment Mats / Temporary Bridge Materials

ATTACHMENT E

Winterization Plan

Winterization Plan

1.0 Introduction

As outlined in Section 3.2 of the ECRP, the Pipeline's mainline and facility construction is planned for the spring of Year Two and continuing through fall of Year Two with the in-service date scheduled for the fourth quarter of Year Two. Restoration of construction disturbance is expected to begin in the fall of Year Two and be completed by the end of the winter season the following year when forest, wetland, and riparian plantings would be completed. Depending on site-specific conditions, it may be necessary to continue restoration through the spring of the next year. This Plan provides the winterization measures that PCGP would implement in areas where final restoration has not been completed and which would occur in the spring to ensure disturbed areas are stabilized and erosion and potential sedimentation is minimized over the winter. This Plan would also be implemented in areas where construction has been initiated in Year One but has not been completed prior to the onset of the wet season when ground conditions become wet/saturated and no longer practical to complete. During the time this Plan is being implemented, PCGP's contractor will be available to address erosion issues and landowner concerns that may arise.

During the winterization period PCGP will have a minimum of one EI assigned to each Construction Spread to monitor the right-of-way for erosion, the effectiveness of erosion and sediment control measures, and compliance with permit conditions and plans. PCGP will have additional personnel to support the EI as conditions required. The EI or PCGP's authorized representative will coordinate with the agencies, as necessary, regarding spring cleanup and/or restoration activities.

2.0 Notification

In areas where final restoration has not been completed and winterization measures will be implemented, PCGP will notify affected landowners, as necessary according to landowner agreements, to inform them of the measures that will be implemented to stabilize the right-of-way and when restoration activities will most likely resume. During these notifications, PCGP will determine if any day-to-day activities/travel on the properties will be necessary so that potential effects can be mitigated. The landowners will be provided with contact information in the event of a problem or questions arise. PCGP will coordinate with affected landowners, as necessary, regarding spring cleanup and/restoration activities.

3.0 Grading Practices

During the wet season PCGP will implement the following the construction practices during earthmoving activities:

- In areas where PCGP's Chief Inspector and EI determine that soil conditions are favorable, the contractor may continue with final cleanup and/or restoration activities.

- In areas where PCGP's Chief Inspector and EI determine that soil conditions are unfavorable for achieving final grade contours, final grading will be limited. At a minimum, the contractor will provide positive drainage across the right-of-way and implement effective long-term soil stabilization measures, such as erosion control devices, mulch, and temporary seeding, as outlined in Section 4.0.

- Where topsoil or spoil stockpiles remain in place during the winter, openings in the topsoil or spoil pile at drainage crossings will be present to allow runoff to be diverted off the work area and minimize interference with runoff.

- No open trench or bell-holes will be left over winter.

- The work area will be left in a significantly roughened condition to reduce potential for erosion during snowmelt until final cleanup and restoration efforts are completed.

4.0 Erosion Control Measures

Temporary and permanent erosion control measures will be installed and maintained as outlined in PCGP's ECRP (see Appendix I to the POD), to the extent possible, in all areas where final clean-up and reclamation efforts have not been completed. Temporary erosion and sediment control measures may include installation of sediment barriers (such as silt fence, straw bale barriers, or straw wattles), temporary slope breakers (waterbars), interceptor dikes or swales, application of mulch or installation of erosion control matting, temporary seeding, and/or installation of other sediment control measures where necessary and where identified by PCGP. The following erosion control measures/practices will be implemented as soon as practical prior to onset of the wet season when ground conditions become wet/saturated and no longer practical to attempt final cleanup and/or restoration activities.

- All temporary erosion controls will be properly maintained during construction and reinstalled as necessary until permanent erosion controls are constructed, unless the control measures are buried under snowpack or inaccessible. Temporary erosion controls measures will be inspected and installed with the intent to be operational for the duration of winter and to withstand periods of snowmelt and thawing conditions.

- Temporary slope breakers will be installed as described in the ECRP. In the event that soils are saturated and prevent construction of slope breakers, other temporary erosion control measures would be utilized (i.e., silt fence, straw bales, sandbags, straw wattles/coir rolls, mulched or erosion control fabric).

- Subsoil and topsoil piles will be stabilized, where necessary as determined by the EI, using appropriate erosion controls. Silt fences or staked straw bales will be installed where the disturbed right-of-way intersects wetlands and waterbodies, other sensitive areas, or steep slopes. Silt fences will be installed on the edges of the disturbed right-of-way, perpendicular to wetlands/waterbodies or sensitive areas. Water flow direction and volumes expected during spring melt and heavy spring rains will be taken into account when installing erosion control measures.

- Mulching will be used where necessary to stabilize soil surfaces where reclamation has not been completed. If site conditions require, soil tackifiers would be used to help stabilize soil surfaces. During mulching operations temporary seeding will also be considered using annual ryegrass and white clover, winter-active species, to help stabilize disturbed areas. Mulch will be applied using a minimum mulch application rate of two tons per acre. The mulch application rate will be increased to 3 tons per acre on all slopes within 100 feet of waterbodies and wetlands.

- Timber mats may be left in the wetlands to allow for travel during final restoration activities. Mats will be removed from areas prone to flooding.

- Depending on the schedule and field conditions, temporary bridges and mats may be removed before the contractor leaves the right-of-way for the winter. Temporary bridges may need to be reinstalled before construction resumes. Temporary bridges that are removed may be stored on the right-of-way or in a temporary extra work area ("TEWAs") in a secure upland area near the crossing. Any equipment crossings remaining in place would be designed to allow passage of predicted high flows and would be approved by the U.S. Army Corps of Engineers, FERC, BLM, Forest Service, and private landowners, depending on jurisdiction. Immediately following the removal of equipment bridges, stream banks will be restored and stabilized in accordance with the ECRP.

- Construction access pads will be left in place and will be removed as part of final restoration activities.

5.0 Winter Inspection and Monitoring Procedures

During the wet season when the ground is wet/saturated and there are periods of snow melt and thawing conditions, there is a substantial increased potential for erosion and sedimentation. During these conditions the EIs will conduct inspections to determine if maintenance or erosion/sediment control measures are necessary.

Right-of-way and access road inspections will be prioritized based on weather conditions and precipitation amounts which could generate runoff. Inspection frequency will increase, as necessary, based on site conditions, weather patterns, and proximity to sensitive resources. In areas where the contractor has completed work and demobilized for the winter and after necessary erosion controls have been installed and approved by the EI, the right-of-way and associated access roads may only be inspected monthly, when the potential for erosion and sedimentation is low. In areas where the soil becomes frozen and snow-covered, the need for frequent inspection is reduced because the disturbed areas of the right-of-way would be stabilized in a frozen state. When inspections are conducted, they would consist primarily of ground inspections; however, periodic aerial surveys may also be utilized. Inspections will primarily focus on waterbody crossings, road crossings, wetlands, steep slopes, or other sensitive areas and would identify:

- Erosion control structures requiring maintenance and/or repair;
- Roads needing repair or maintenance;
- Areas where erosion and offsite sedimentation is occurring; and
- Areas of slope instability.

The EI and Chief Inspector would determine the most effective means of dealing with identified problems, taking into consideration the suitability of the construction right-of-way for access by equipment, potential damage that could occur by equipment accessing the construction work area, and the urgency/significance of the problem. Corrective actions may be deferred until spring where no sensitive resources would be impacted, where access is not feasible, or where damage from accessing the site would outweigh the benefits of correcting the issue during the winter.

ATTACHMENT F

Culvert Crossing BMP

Pacific Connector Gas Pipeline, LP

Culvert Crossing Best Management Practices

Pacific Connector Gas Pipeline Project

September 2017

Culvert Crossing Best Management Practices

Prior to construction, existing culverts will be investigated along all private roads and federally authorized roads (i.e., BLM and Forest Service) identified for access to the construction right-of-way. These investigations would occur on access roads where PCGP is authorized to be and/or where PCGP has negotiated an access use agreement or easement. The investigation will determine the condition and integrity of existing culverts and identify any location that may require mitigative measures to ensure construction activities do not damage or impair the existing function of the culverts. Mitigative measures may be required prior to access road use to allow safe construction equipment travel and prevent damage to the culverts. In select locations, replacement and/or modification of a culvert may be necessary. PCGP will not assume responsibility for repairing previously damaged, impaired, inadequately sized fish barriers or non-functioning culverts unless negotiated otherwise with the landowner who has responsibility/jurisdiction for such culverts.

Mitigative measures for protecting existing culverts may include placing thick metal plates, construction timber mats, additional fill/aggregate, or temporary bridges across culvert locations requiring protection during construction activities. A typical drawing of these mitigation measures is included as Attachment 1. Any mitigative measures implemented to protect existing culverts would be temporarily placed and maintained throughout timber and construction activities where access is needed.

A culvert replacement/reconstruction may be necessary only if the above mitigation measures cannot be applied to a specific culvert location or if determined to be required through landowner negotiations. Culvert replacements/reconstruction that may be required along existing access roads will be completed according to the exemptions specified under OAR 141-085-0530 (see Attachment 2). Where culvert replacement or reconstruction activities trigger Oregon fish passage rules and regulations (OAR 635-412-0005(9)), PCGP will follow the fish passage criteria as specified in OAR 635-412-0035. Attachment 3 provides a typical culvert replacement design which includes the design criteria according to OAR 635-412-0035. PCGP would submit a Fish Passage Plan with a Road-Stream Crossing application to ODFW and receive approval prior to conducting culvert replacement or installation activities.

PCGP will use the following BMPs to ensure potential resource impacts are minimized during any culvert replacement or removal allowed under the exemptions provided in OAR 141-085-0530 or Oregon fish passage rules and regulations found in OAR 635-412-0005(9). The BMPs will mitigate the potential impacts of proposed culvert maintenance, repair, replacement, or removal activities on protected, endangered, threatened, or sensitive species and habitats:

1. Any work, which must be performed in flowing water, will be completed during the ODFW in-water work period for that system, or as negotiated with ODFW if fish are present at the time of replacement. Some culvert locations may require temporary mitigative measures be installed (i.e., timber mats, steel plating, additional cover or a temporary bridge – see Attachment 1), to allow road use to occur prior to the ODFW in-water work window. Culvert replacement or repair activities would then be completed during the ODFW in-water work period.

2. Culvert installation/replacement or culvert extension on fish barrier streams are required to meet provisions for fish passage as required by OAR 635-412-0035.. Culvert replacement for culverts identified as requiring fish passage will occur in accordance with guidelines outlined in the ODFW Guidelines: Oregon Road/Stream Crossing Restoration Guide: Advanced Fish Passage Training Version. Oregon Department of

Forestry (1999)[1] and Fish Passage Guidelines for New and Replacement Stream Crossings Structures. Forest Practices Technical Note Number 4 (Version 1.0 May 2002)[2]. Attachment 3 is a typical culvert replacement design which meets the ODFW Fish Passage Criteria specified in OAR 635-412-0035.

3. Disturbance and vegetation removal will be minimized to the greatest extent possible.

4. Excavated materials will be kept out of live streams unless designed to be placed there (i.e., riprap, etc.).

5. The culvert bed on streams must conform to the natural streambed and the bed should be either rock free or gravel. Clean gravel will be used where appropriate. Bedding should provide even distribution of the load over the length of the pipe.

6. Sediment producing materials will not be left within the 100-year floodplain any longer than necessary to replace the culvert. Once the construction is complete, fill material will be removed and properly disposed of in upland areas.

7. All disturbed areas will be restored as closely as possible to pre-disturbance contours upon construction completion of culvert replacements or where temporary mitigative measures (plates, mats, etc.) are implemented. In areas where additional cover (i.e., aggregate or approved fill as determined by the landowner and PCGP) is applied, PCGP will leave the additional cover in place as a permanent culvert protection, unless directed otherwise by the landowner.

8. Any vegetation removed as part of construction will be left on-site at disturbed areas to aid in sediment retention.

9. All equipment used during construction will be inspected and determined to be free of any fluid leakage prior to use.

10. All equipment refueling and maintenance will occur outside of the riparian habitat conservation areas.

11. The Spill Prevention, Containment, and Countermeasures (SPCC) Plan will be followed during any culvert replacement/reconstruction repair. The SPCC Plan describes measures to prevent and control any inadvertent spill of hazardous materials such as fuels, lubricants, and solvents that could contaminate soils and affect water quality.

12. All equipment will remain on the road's prism at all times or within the approved work space limits necessary for construction.

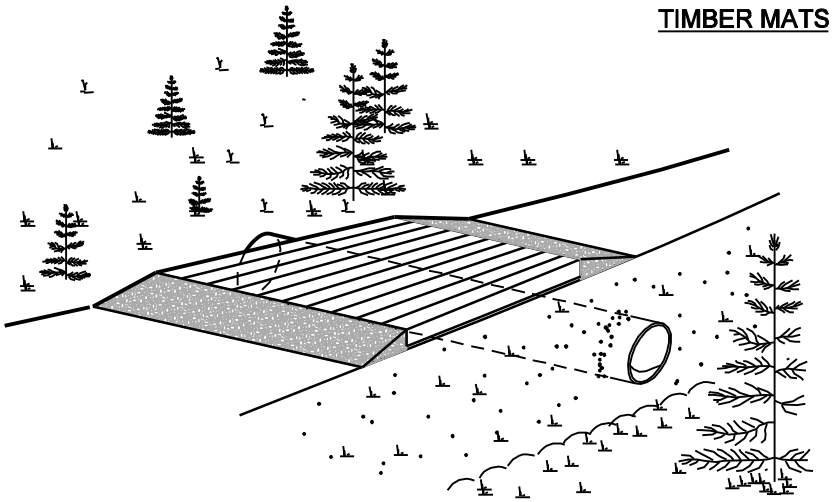
13. Construction activities will be conducted in a manner to ensure that turbidity levels do not exceed ten percent of the pre-activity levels on perennial streams or as specified in the Pipeline's 401 Water Quality Certification.

[1] http://arcweb.sos.state.or.us/pages/rules/oars_100/oar_141/141_085.html
[2] http://www.oregon.gov/odf/privateforests/docs/fishpassguidelines.pdf

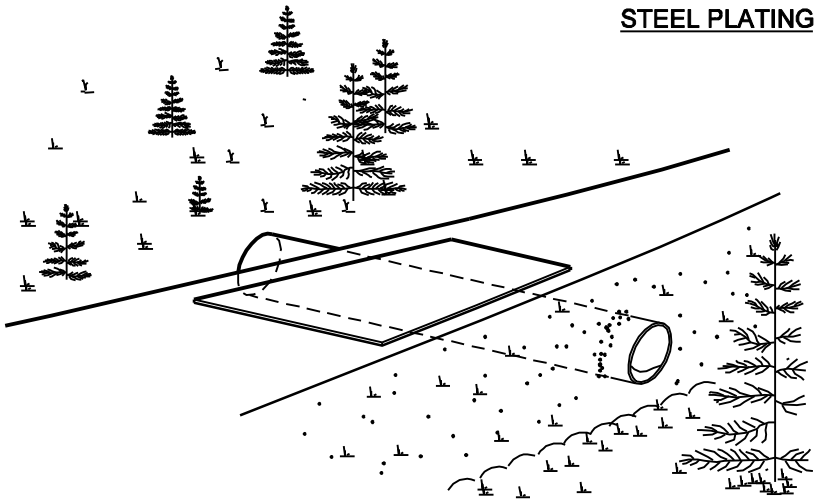
Attachment 1

Typical Drawings

TIMBER MATS



STEEL PLATING



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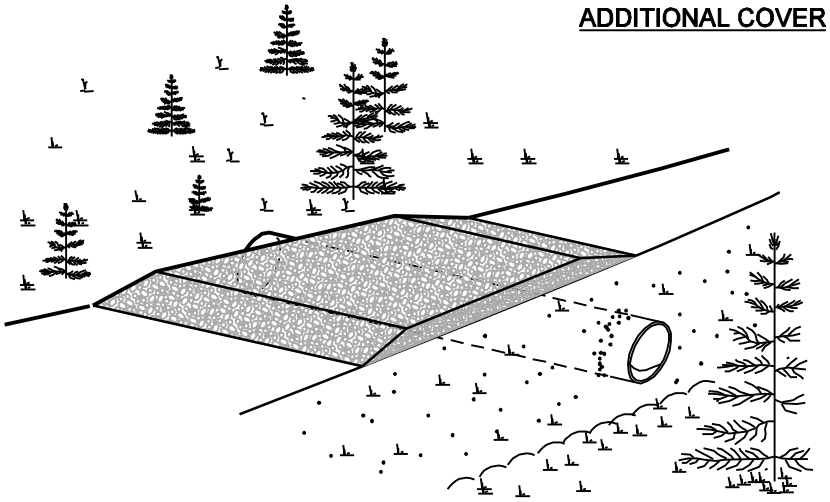

NOTES

1. Mitigation measures to protect existing culverts from project traffic would be installed as necessary, as determined by Pacific Connector and their construction contractors, and as negotiated with the landowner.
2. All temporary culvert crossings will be removed at the completion of construction activities, unless negotiated otherwise with the landowner.
3. Pacific Connector will ensure all temporary culvert crossings are designed to protect the buried culvert and handle the load requirements.
4. All temporary culvert crossings will meet landowner requirements.
5. Temporary protective matting, plating or cover will be appropriately designed to ensure protection of the existing culvert or drainage feature.
6. Measures implemented to protect existing culverts would be temporary and maintained throughout timber and pipeline construction activities. Where additional cover (i.e., aggregate or approved fill) is required for culvert protection, Pacific Connector would leave the added material as a permanent protective measure, unless negotiated otherwise with the landowner.
7. Sediment control measures (i.e., Silt fences, hay bales, etc.) will be used where appropriate, as determined necessary by Pacific Connectors Environmental Inspector, to prevent potential sedimentation of area waters, wetlands or other sensitive resources.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS OPERATOR, LP
PACIFIC CONNECTOR GAS PIPELINE PROJECT

TYPICAL MITIGATION MEASURE
TO PROTECT EXISTING CULVERTS

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

DRAWN BY: JST	DATE: 07-15-2008	ISSUED FOR BID:	SCALE: NOT TO SCALE
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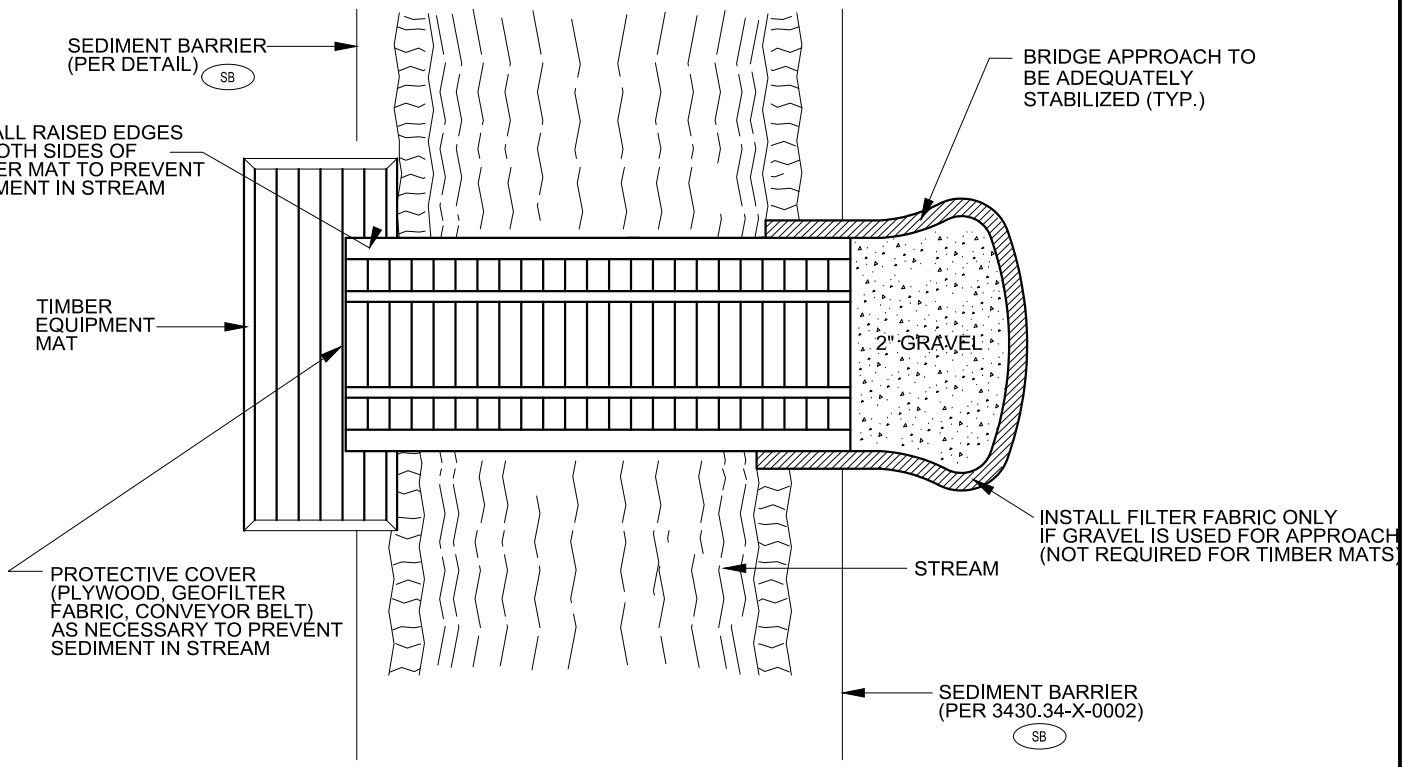

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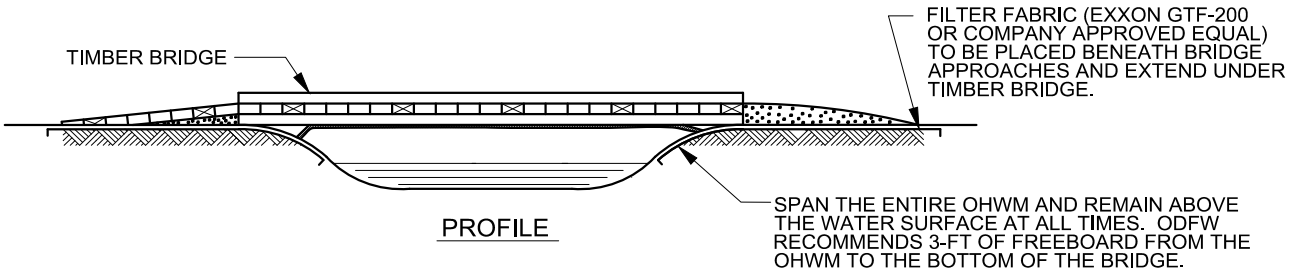


PROFILE

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 SPAND THE ENTIRE OHWM OF THE WATEBODIES 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, 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 APROVALS BEFORE INSTATALLATION.

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP

TYPICAL
PORTABLE BRIDGE CROSSING

PB

Pacific Connector SM
GAS PIPELINE

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

Attachment 2

Excerpts from OAR 141-085

Excerpts from OAR 141-085-0530[1]

Exemptions for Certain Activities and Structures

These exemptions apply in all waters of this state except State Scenic Waterways.

(4) Maintenance or Reconstruction of Water Control Structures. Fill or removal or both for maintenance or reconstruction of water control structures such as culverts, dikes, dams, levees, groins, riprap, tidegates, drainage ditches, irrigation ditches, and tile drain systems are exempt if:

(a) The project meets the definition of maintenance under OAR 141-085-0510; or

(b) The project meets the definition of reconstruction under OAR 141-085-0510;

(c) The structure was serviceable within the past five years; and

(d) The maintenance or reconstruction would not significantly adversely affect wetlands or other waters of this state to a greater extent than the wetlands or waters of this state were affected as a result of the original construction of those structures.

(7) Fish Passage and Fish Screening Structures in Essential Indigenous Anadromous Salmonid Habitat (ESH). Less than 50 cubic yards of removal-fill for construction or maintenance of fish passage and fish screening structures that are constructed, operated or maintained under ORS 498.306, 498.316, 498.326 or 509.600 to 509.645. This exemption includes removal of material that inhibits fish passage or prevents fish screens from functioning properly.

Excerpts from 141-085-0510

Definitions

(34) “Essential Indigenous Anadromous Salmonid Habitat (ESH)” means the streams designated pursuant to ORS 196.810 that are necessary to prevent the depletion of indigenous anadromous salmonid species during their life history stages of spawning and rearing, and any adjacent off-channel rearing or high-flow refugia habitat with a permanent or seasonal surface water connection to an ESH stream.

(52) “Maintenance” means the periodic repair or upkeep of a structure in order to maintain its original use. “Maintenance” includes a structure being widened by no more than twenty percent of its original footprint at any specific location in waters of this state if necessary to maintain its serviceability. “Maintenance” also includes removal of the minimum amount of sediment either within, on top of or immediately adjacent to a structure that is necessary to restore its serviceability, provided that the spoil is placed on upland.

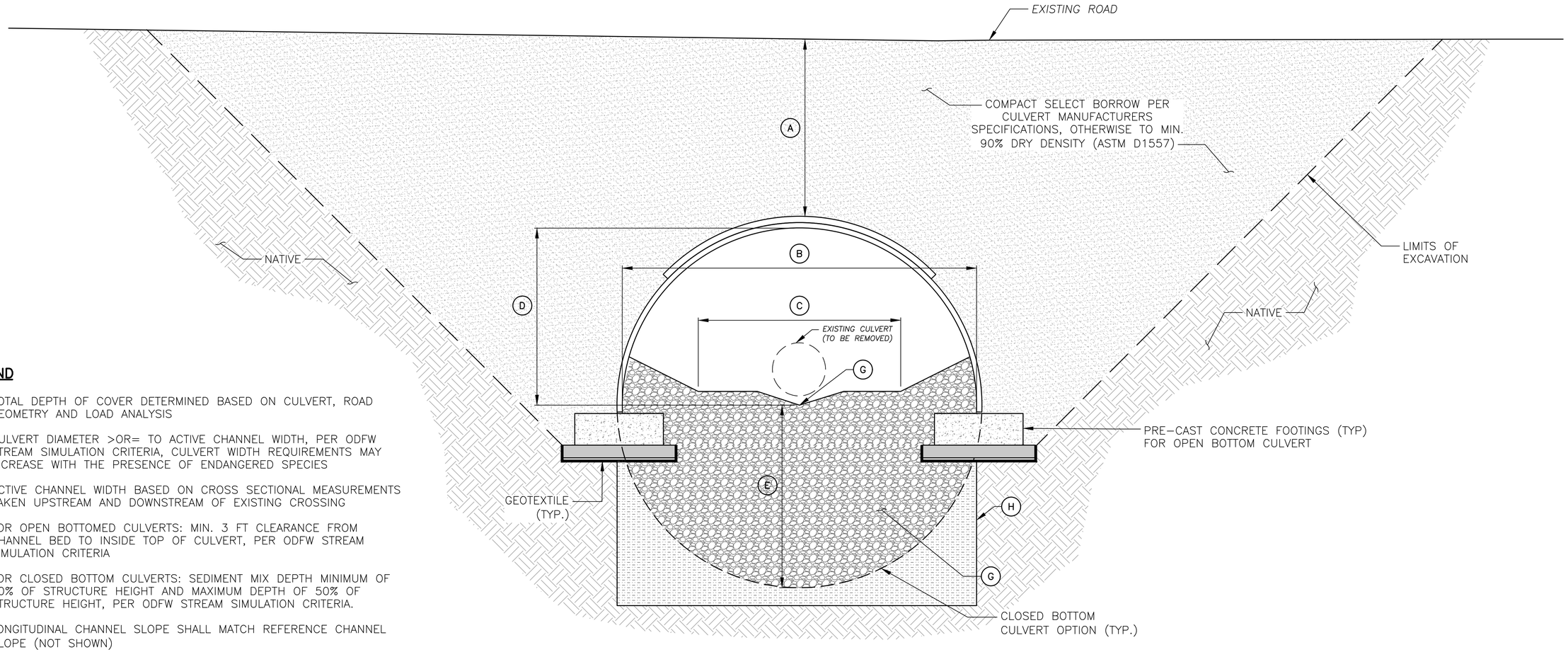
(80) “Reconstruction” means to rebuild or to replace the existing structure in-kind. “Reconstruction” includes a structure being widened by no more than twenty percent of its original footprint at any specific location in waters of this state.

(88) "State Scenic Waterway (SSW)" means a river or segment of river or lake that has been designated as such in accordance with Oregon Scenic Waterway Law (ORS 390.805 to 390.995).

[1] http://arcweb.sos.state.or.us/pages/rules/oars_100/oar_141/141_085.html

Attachment 3

Typical Culvert Replacement Design



TYPICAL–CULVERT CHANNEL SECTION

LOOKING DOWNSTREAM
NTS

LEGEND

(A) TOTAL DEPTH OF COVER DETERMINED BASED ON CULVERT, ROAD GEOMETRY AND LOAD ANALYSIS

(B) CULVERT DIAMETER >OR= TO ACTIVE CHANNEL WIDTH, PER ODFW STREAM SIMULATION CRITERIA, CULVERT WIDTH REQUIREMENTS MAY INCREASE WITH THE PRESENCE OF ENDANGERED SPECIES

(C) ACTIVE CHANNEL WIDTH BASED ON CROSS SECTIONAL MEASUREMENTS TAKEN UPSTREAM AND DOWNSTREAM OF EXISTING CROSSING

(D) FOR OPEN BOTTOMED CULVERTS: MIN. 3 FT CLEARANCE FROM CHANNEL BED TO INSIDE TOP OF CULVERT, PER ODFW STREAM SIMULATION CRITERIA

(E) FOR CLOSED BOTTOM CULVERTS: SEDIMENT MIX DEPTH MINIMUM OF 20% OF STRUCTURE HEIGHT AND MAXIMUM DEPTH OF 50% OF STRUCTURE HEIGHT, PER ODFW STREAM SIMULATION CRITERIA.

(F) LONGITUDINAL CHANNEL SLOPE SHALL MATCH REFERENCE CHANNEL SLOPE (NOT SHOWN)

(G) SEDIMENT MIX OF SIMILAR COMPOSITION TO SURROUNDING STREAM CHANNEL, OR SUPPLEMENTED, PER ODFW STREAM SIMULATION CRITERIA. FOR CULVERTS LONGER THAN 40–FEET, SEDIMENT MIX SHALL CONTAIN PARTIALLY–BURIED OVER–SIZED ROCK.

(H) PIPE BEDDING PER MANUFACTURER'S RECOMMENDATIONS

NOTES:

1. THE PURPOSE OF THE DRAWING IS TO PRESENT A GENERAL AND CONCEPTUAL CULVERT REPLACEMENT PLAN FOR DISCUSSION PURPOSES USING STREAM SIMULATION CRITERIA.
2. DRAWING NOT TO SCALE (NTS).
3. FISH PASSAGE CRITERIA TO BE MET AS DETERMINED BY OREGON ADMINISTRATIVE RULES (OAR) 635–412–0035, ODFW FISH PASSAGE CRITERIA (2006), NMFS ANADROMOUS SALMONID PASSAGE FACILITY DESIGN (2008).

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PACIFIC CONNECTOR GAS PIPELINE, LLC

SYM	DATE	REVISION DESCRIPTION	BY
APPROVED AND RELEASED FOR CONSTRUCTION			
CHIEF ENGINEER ..... DATE:			
PROGRAM ..... DATE:			

0 — 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY
CHECKED BY
DRAWN BY
DATE

CULVERT REPLACEMENT USING STREAM SIMULATION METHOD

TYPICAL SECTION

PROJECT NO.

SHEET OF

APPENDIX G

Pacific Connector's TEWAs, UCSAs, and Permanent Rock Source/Disposal Sites

TABLE G-1

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 0.01-W	1.26	25-330 x 557 (Irregular)	HDD, staging, parking, meter station fabrication	Industrial	Industrial	PV
TEWA 0.01-N	1.70	231 x 560 (Irregular)	HDD, staging, parking, meter station fabrication	Industrial, Nonforested Wetlands	Industrial, Palustrine Emergent (PEM)	PV
TEWA 0.10	10.25	150 x 3,160	HDD Pull-Back	Evergreen Forest Land, Industrial, Mixed Barren Land, Trans, Comm, Utilities Corridors	Forested Dunes, Industrial, Roads, Corridors, Shrublands	PV
TEWA 1.09-N	0.46	70 x 293	HDD	Industrial	Industrial	ST
TEWA 1.09-W	0.26	35 x 316	HDD	Industrial	Industrial	ST
TEWA 1.17-W	0.21	30 x 302	Railroad crossing, bore staging, wetland crossing staging	Industrial, Nonforested Wetlands	Industrial, Palustrine Emergent (PEM), Palustrine Shrub (PSS)	ST
TEWA 1.17-N	0.11	20 x 293	Railroad crossing, bore staging, wetland crossing staging	Industrial, Nonforested Wetlands	Industrial, Palustrine Emergent (PEM), Palustrine Shrub (PSS)	ST
TEWA 1.23-N	0.05	20 x 120	Railroad crossing, bore staging	Industrial	Industrial	ST
TEWA 1.23-W	0.08	30 x 130	Railroad crossing, bore staging	Industrial	Industrial	ST
TEWA 1.36-W	0.25	35 x 300	HDD	Industrial, Nonforested Wetlands	Industrial, Palustrine Emergent (PEM)	ST
TEWA 1.36-N	0.47	70 x 300	HDD	Industrial, Nonforested Wetlands	Industrial, Palustrine Emergent (PEM)	ST
TEWA 3.07-N	1.39	10-70 x 3,063	HDD staging, wetland crossing, topsoil/spoil storage staging, PI	Cropland and Pasture, Mixed Forest Land, Streams and Canals	Agriculture, Mixed Conifer/Mixed Dec, Palustrine Emergent (PEM), Rivers and Streams	PV, ST
TEWA 3.07-W	1.77	30-35 x 2,596	HDD staging, wetland crossing staging, topsoil salvage, PI, soil storage	Cropland and Pasture, Streams and Canals	Palustrine Emergent (PEM), Rivers and Streams	ST
TEWA 3.09-W	7.64	150 x 2,456	HDD Pull-Back	Cropland and Pasture, Mixed Forest Land, Nonforested Wetlands, Streams and Canals	Agriculture, Mixed Conifer/Mixed Dec, Palustrine Emergent (PEM), Rivers and Streams	PV, ST
TEWA 3.55-N	9.34	150 x 2,735	HDD Pull-Back	Cropland and Pasture, Streams and Canals, Trans, Comm, Utilities Corridors	Agriculture, Palustrine Emergent (PEM), Rivers and Streams, Roads, Corridors	PV, ST

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 6.49-W	0.92	30-55 x 1,198	PIs, road crossings, side cut, steep slope	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 6.55-N	0.13	15 x 375	PI, side cut	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 6.67-N	0.34	50 x 385	PI, road crossing, side cut	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 6.70-W	0.10	30 x 155	PI, road crossing, side cut	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 6.77-W	0.90	15-30 x 2,277	PIs, road crossings, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 7.21-N	2.09	15-300 x 773 (Irregular)	PIs, road crossings, parking, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 7.31-W	0.08	30 x 160	PI, road crossing	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 7.40-W	0.09	30 x 152	PI, road crossing	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 7.44-W	1.75	15 - 557 x 1014 (Irregular)	Ingress/egress, PI, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 7.68-W	0.07	15 x 210	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 7.76-W	0.07	15 x 211	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 7.91-W	0.12	30 x 210	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 7.91-N	0.47	15 x 1,368	PI, spoil storage, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 8.00-W	0.33	15 x 970	PI, spoil storage, road crossings	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 8.27-N	0.21	15-80 x 490 (Irregular)	Topsoil Salvage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 8.35-W	0.14	38 x 163	Ingress/egress, staging, road crossing	Cropland and Pasture	Agriculture	PV
TEWA 8.44-W	0.18	40 x 162	PI, waterbody crossing, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 8.46-N	0.52	20 x 1,142	Spoil storage/sideslope, waterbody crossing, ingress/egress	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec	PV
TEWA 8.72-W	0.26	50 x 190	Powerline crossing, PI, log/spoil storage	Clearcut Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 8.76-W	0.26	50 x 200	Powerline crossing, PI, log/spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 8.94-W	0.25	50 x 190	Powerline crossing, PI, log/spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 8.98-N	0.33	30-173 x 190	Powerline crossing, PI, staging/spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 9.03-W	1.32	30 x 1,914	PIs, road crossings, side cut	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 10.22-W	4.66	30-160 x 4691	Ingress/egress, staging, log/spoil storage, road crossings, sideslopes	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 10.25-W	0.52	30-50 x 175 (Irregular)	Road crossing, side cut	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 10.41-W	0.08	25 x 150	Road crossing, side cut	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 10.52-W	0.13	30 x 200	PI, road crossing, log landing/steep slope, log/spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 10.71-W	1.27	30 x 1,834	PIs, road crossing, side cut, steep slope	Cropland and Pasture, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 10.96-W	0.59	75 x 314 (Irregular)	Coos River HDD	Cropland and Pasture, Mixed Forest Land	Agriculture, Mixed Conifer/Mixed Dec, Palustrine Emergent (PEM)	PV
TEWA 11.27-W	0.38	60 x 300	Coos River HDD	Cropland and Pasture	Agriculture	PV
TEWA 11.27-N	0.55	75 x 300	Coos River HDD	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 11.33-W	1.10	10-75 x 4,126	Topsoil storage, PIs, stream crossing staging	Cropland and Pasture, Streams and Canals, Trans, Comm, Utilities Corridors	Agriculture, Palustrine Emergent (PEM), Rivers and Streams, Roads, Corridors	PV
TEWA 11.33-N	1.11	10-30 x 4,137	Topsoil salvage, PI, spoil storage, HDD pullback staging	Cropland and Pasture, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Agriculture, Mixed Conifer/Mixed Dec, Palustrine Emergent (PEM), Rivers and Streams, Roads, Corridors	PV
TEWA 11.53-N	0.72	300 x 360 (Irregular)	HDD pullback staging, ingress/egress, PI spoil storage	Cropland and Pasture, Residential, Streams and Canals, Trans, Comm, Utilities Corridors	Agriculture, Palustrine Emergent (PEM), Rivers and Streams, Roads, Corridors, Urban	PV
TEWA 12.12-W	3.79	30-75 x 8,338	PIs, spoil storage, ingress/egress, road crossing staging	Clearcut Forest Land, Cropland and Pasture, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 13.56-N	0.16	30 x 240	PIs, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 13.64-N	0.17	20 x 385	PI, ingress/egress, road crossing/in road lay staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 13.76-W	0.05	45 x 113 (Irregular)	PI, spoil storage, in road lay	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 13.79-W	2.15	30 x 1,257 (Irregular)	PI, in road lay, staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 14.03-W	0.24	30 x 390	PI, spoil storage, in road lay	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM, PV
TEWA 14.14-W	0.14	30 x 244	PI, spoil storage, in road lay	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM, PV
TEWA 14.20-W	0.26	50 x 250	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 14.32-W	0.14	30 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 14.38-N	0.07	15 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 14.39-W	0.14	30 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 14.45-W	0.25	50 x 200	PI, spoil storage, steep slope staging	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 14.62-W	0.20	50 x 200	PI, spoil storage, steep slope staging	Cropland and Pasture, Regenerating Evergreen Forest Land	Agriculture, Mixed Conifer/Mixed Dec	PV
TEWA 14.63-N	0.17	15 x 488	PI, spoil storage, topsoil storage	Cropland and Pasture, Regenerating Evergreen Forest Land	Agriculture, Mixed Conifer/Mixed Dec	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 14.72-W	0.22	50 x 200	PI, spoil storage	Cropland and Pasture, Regenerating Evergreen Forest Land	Agriculture, Mixed Conifer/Mixed Dec	PV
TEWA 14.73-N	0.67	15 x 1,945	PI, spoil storage, topsoil storage, road crossing staging	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 14.83-W	0.25	50 x 200	PI, spoil storage, side slopes	Cropland and Pasture, Regenerating Evergreen Forest Land	Agriculture, Mixed Conifer/Mixed Dec	PV
TEWA 15.07-W	0.34	50-75 x 214	Road crossing staging, spoil storage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 15.12-N	0.46	10-50 x 1,065	Topsoil salvage, PI, road crossing staging, stream crossing staging	Cropland and Pasture, Streams and Canals	Agriculture, Palustrine Emergent (PEM), Rivers and Streams	PV
TEWA 15.12-W	0.37	50-75 x 229	Road crossing staging, PI, spoil storage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 15.26-W	0.19	50 x 202	PI, spoil storage, stream crossing staging	Cropland and Pasture, Nonforested Wetlands	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 15.37-W	0.92	30 x 1,344	PI, spoil storage, steep slope	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 15.55-N	0.07	15 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 15.66-W	0.14	30 x 200	PI, spoil storage, ingress/egress, road crossing	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 15.75-W	0.78	360 x 185 (Irregular)	Ingress/egress, road crossing, staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 15.96-W	0.14	20 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 16.21-W	0.13	30 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 16.28-N	0.06	15 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 16.29-W	0.28	50 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 16.38-W	0.14	30 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 16.45-W	0.14	30 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 16.50-W	0.14	30 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 16.60-W	0.28	30 x 415	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 16.71-W	1.65	30-50 x 2,366	PIs, road crossing and in road lay staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 17.23-W	1.90	15 x 3,823	PIs, road crossing and in road lay, ingress/egress, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 18.03-W	0.33	20-30 x 523	Ingress/egress, road crossing, PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 18.05	0.79	140 x 290 (Irregular)	Staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 18.19-W	0.26	15-50 x 240	PI, spoil storage, ingress/egress	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 18.26-W	0.20	50 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 18.35-W	0.31	30 x 454	Ingress/egress, road crossing, PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 18.50-W	0.51	30-93 x 630 (Irregular)	Ingress/egress, steep staging, PIs, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 18.66-W	1.60	15-30 x 2,998	Ingress/egress, road crossing and steep staging, PIs, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 19.33-N	0.19	30 x 300	PI, spoil storage, in road lay	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 19.45-W	0.39	127 x 254	PI, ingress/egress, staging, in road lay, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 19.58-N	0.23	30 x 366	Ingress/egress, road crossing staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 19.86-N	0.75	30 x 1,122	Ingress/egress, road crossing and steep staging, PIs, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 19.87-W	0.72	30 x 1,070	Road crossing and steep slope staging, PIs, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 20.13-N	0.11	15 x 334	Stream crossing staging, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.13-W	0.19	30 x 299	Stream crossing staging, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.22-W	0.07	30 x 100	Stream crossing staging	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.22-N	0.03	15 x 100	Stream crossing staging	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.51-W	0.29	30 x 475	PIs, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.63-W	0.13	30 x 217	Ingress/egress, road crossing, staging, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.69-W	0.26	30 x 400	Spoil storage, PI, staging	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.72-N	0.11	30 x 193	Ingress/egress, staging, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.81-W	0.07	30 x 128	Spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.87-W	0.05	30 x 98	Spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 21.11-N	0.67	20-50 x 718	PIs, staging, spoil storage	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 21.12-W	0.53	95 x 379 (Irregular)	Ingress/egress, staging, parking	Clearcut Forest Land, Commercial and Services, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors, Urban	BLM
TEWA 21.34-W	0.15	30 x 250	Ingress/egress, PI, spoil storage, in road lay	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 21.41-W	0.11	30 x 200	Ingress/egress, staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 21.48-W	0.37	30 x 570	PI, spoil storage, in road lay	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 21.50-N	0.07	15 x 200	PI, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 21.63-W	0.27	30 x 422	PI, spoil storage, in road lay	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 21.76-W	0.19	30 x 300	PI, spoil storage, in road lay	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 21.88-W	0.23	50 x 253	PI, spoil storage, in road lay	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 21.95-W	0.19	30 x 285	PI, spoil storage, in road lay	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 22.00-W	0.18	30 x 300	PI, spoil storage, in road lay	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 22.09-W	0.18	30 x 300	PI, road crossing staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 22.32-W	0.19	30 x 300	PI, spoil storage, side slopes	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 22.46-W	0.25	30 x 402	Ingress/egress, road crossing, PIs, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 22.61-W	0.12	30 x 198	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 22.92-W	0.33	30 x 517	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 23.16-W	1.46	165 x 621 (Irregular)	PI, road crossing, staging, steep slope/side cut, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 23.33-W	0.12	30 x 200	Ingress/egress, road crossing staging, PI, spoil storage,	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 23.41-W	0.11	30 x 200	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 23.67-W	0.19	30 x 298	PI, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 23.77-W	0.18	30 x 300	PI, spoil storage	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM, PV
TEWA 23.84-N	0.14	30 x 200	Ingress/egress, road crossing staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 23.99-N	0.32	75 x 183	Ingress/egress, road crossing staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 24.17-W	0.13	30 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
TEWA 24.26-N	0.14	50 x 122	Stream crossing staging, spoil storage	Cropland and Pasture	Agriculture	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 24.26-W	0.03	30 x 50	Stream crossing staging, spoil storage	Cropland and Pasture, Evergreen Forest Land	Agriculture, Douglas Fir-W. Hemlock- W.Red Cedar	PV
TEWA 24.32-W	0.19	50 x 173	Ingress/egress, road and stream crossing, staging, spoil storage	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 24.37-W	0.21	50 x 177	Ingress/egress, road crossing, staging, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 24.55-W	0.52	150 x 150	Staging, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 24.78-W	0.35	30 x 523	PI, spoil storage	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, PV
TEWA 24.95-W	0.16	30 x 264	PI, spoil storage	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 25.26-N	0.10	15 x 300	PI, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 21.76-W	0.10	30 x 150	PI, side cut	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 21.87-N	0.42	95 x 309 (Irregular)	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 21.90-W	0.09	30 x 150	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec	PV
TEWA 21.99-W	0.03	30 x 50	Road crossings, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 22.10-W	0.31	50 x 292	PI, road crossing, side cut, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec	PV
TEWA 22.17-W	0.27	50 x 279	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 22.18-N	0.08	30 x 164	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 22.29-W	0.09	25 x 186	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 22.55-N	0.53	150 x 158	Ingress/egress, road crossing, parking, staging	Regenerating Evergreen Forest Land, Residential	Douglas Fir-W. Hemlock-W.Red Cedar, Urban	PV
TEWA 22.55-W	0.27	80 x 147	Ingress/egress, road crossing, parking, staging	Regenerating Evergreen Forest Land, Residential	Douglas Fir-W. Hemlock-W.Red Cedar, Urban	PV
TEWA 22.59-N	0.81	10-50 x 2,415	Ingress/egress, road/wetland crossing, topsoil	Cropland and Pasture, Ditch, Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Grasslands (W. Cascades), Mixed Conifer/Mixed Dec, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 22.59-W	0.54	150 x 161	Ingress/egress, road crossing, parking, staging	Herbaceous Rangeland	Grasslands (W. Cascades)	PV
TEWA 23.01-W	0.31	80 x 168	North Fork Coquille River crossing	Cropland and Pasture, Mixed Forest Land	Agriculture, Mixed Conifer/Mixed Dec	PV
TEWA 23.09-W	0.93	15-100 x 1,488	North Fork Coquille River crossing, PI	Evergreen Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 23.24-N	0.38	50 x 400	PI, spoil storage, steep slope staging	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 23.40-W	1.87	15-50 x 3,042	PI, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec	BLM, PV
TEWA 23.87-N	0.46	50 x 485 (Irregular)	Ingress/egress, parking, staging, powerline crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 24.08-W	0.14	50 x 120	Ingress/egress, road crossing, staging, parking	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 24.11-N	0.17	75 x 192 (Irregular)	Ingress/egress, staging, road crossing, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 24.13-W	1.22	15-50 x 2,095	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 24.30-N	0.28	15-30 x 579	Ingress/egress, PI, road crossing, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 24.52-N	0.14	50 x 150	Ingress/egress, road crossing	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 24.55-W	0.38	70 x 352	Ingress/egress, road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 24.55-N	3.72	150 x 2,318 (Irregular)	HDD staging, ingress/egress, In road lay	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 24.88-W	1.90	200 x 675 (Irregular)	Timber clearing landing, PI, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 25.61-N	4.41	50-288 x 1,197 (Irregular)	HDD, Log landing, PI, powerline/pipeline crossing, staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 25.63-W	0.22	41 x 332 (Irregular)	PIs, road crossings, side cut, parking, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 25.83-W	0.10	37 x 206 (Irregular)	Ingress/egress	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 25.88-W	0.18	53 x 133 (Irregular)	Staging, parking, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 25.95-W	2.27	8-120 x 1,789.64 (Irregular)	PI, powerline/pipeline crossing, staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 26.09-N	3.68	105 x 1,553	PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 26.56-W	0.51	50 x 457	Ingress/egress, staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 26.62-N	0.13	50 x 125	PI, spoil storage, road crossing, staging	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 26.64-W	0.42	50 x 393	Ingress/egress, staging, parking	Clearcut Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec	PV
TEWA 26.76-N	0.68	20-75 x 978	Ingress/egress, road crossing/steep slope staging	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 26.91-W	0.36	100 x 175	Ingress/egress, road crossing/steep slope staging	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 26.96-W	0.36	75 x 200	Middle Creek crossing	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
TEWA 27.05-W	0.41	100 x 150	Middle Creek crossing	Cropland and Pasture, Mixed Forest Land, Orchards, Groves, Vineyards, Nurseries, Horticultural	Agriculture, Mixed Conifer/Mixed Dec	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 27.22-W	0.09	30 x 150	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 27.48-N	0.32	50 x 273	Log landing, ingress/egress, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 27.49-W	0.23	50 x 250	Log landing, ingress/egress, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 27.63-N	0.23	30 x 325	PIs, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 27.85-N	0.09	49 x 122 (Irregular)	PI, log/spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 28.04-W	0.10	30 x 150	PI, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 28.11-N	0.06	34 x 122 (Irregular)	PI, log/spoil storage, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 28.28-W	0.63	50 x 615	Log landing, PI/spoil storage, hydrostatic discharge	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, PV
TEWA 28.30-N	0.64	50 x 605	Ingress/egress, PI, road crossing, log/spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 28.47-W	0.07	30 x 116	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 28.47-W	0.06	30 x 98	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 28.50-W	1.31	15-50 x 1,888	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 28.50-N	0.07	30 x 119	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 28.83-N	0.17	50 x 162	Waterbody crossing staging	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 28.88-N	0.80	25 x 1,450	Waterbody crossing and steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 28.88-W	0.91	25 x 1,655	Waterbody crossing and steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 29.18-N	0.11	50 x 100	Steep staging spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 29.24-N	0.07	30 x 100	Ingress/egress, road crossing staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 29.32-W	0.05	20 x 100	Ingress/egress, road crossing staging, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 29.29	0.26	111 x 125 (Irregular)	Staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 29.33-N	0.07	30 x 100	Ingress/egress, road crossing staging, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 29.38-W	0.11	20 x 240	PI, spoil storage, ingress/egress	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 29.43-W	0.07	20 x 172	Ingress/egress, stream crossing staging	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 29.43-N	0.12	30 x 194	Stream crossing staging	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 29.50-N	0.11	30 x 156	Waterbody and road crossing staging, ingress/egress	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 29.50-W	0.08	20 x 192	Waterbody and road crossing staging, ingress/egress	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 29.61-N	1.24	10-100 x 1,866	Road crossing, topsoil, E Fork Coquille River crossing	Cropland and Pasture, Mixed Forest Land	Agriculture, Mixed Conifer/Mixed Dec	PV
TEWA 29.78-W	0.78	100 x 367	PI, waterbody crossing, top soil storage	Cropland and Pasture, Mixed Forest Land	Agriculture, Mixed Conifer/Mixed Dec	PV
TEWA 29.87-W	0.81	15-100 x 1,252	PI, waterbody crossing, top soil storage	Cropland and Pasture, Regenerating Evergreen Forest Land	Agriculture, Douglas Fir-W. Hemlock- W.Red Cedar	PV
TEWA 29.87-N	0.64	100 x 282	PI, waterbody crossing, top soil storage	Cropland and Pasture	Agriculture	PV
TEWA 30.17-W	0.09	30 x 150	PI, side cut	Cropland and Pasture, Regenerating Evergreen Forest Land	Agriculture, Douglas Fir-W. Hemlock- W.Red Cedar	PV
TEWA 29.92	1.03	202 x 228	Parking/Staging	Residential	Urban	PV
TEWA 30.29-W	0.74	30-50 x 910	PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 30.68-W	0.12	30 x 210	PI, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 30.72-N	0.36	50 x 358	Log landing, PI/spoil storage, steep slope staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 30.78-W	0.20	30 x 296	PI, road crossing, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 30.87-W	0.56	50 x 509	Logging landing, PI, spoil storage, staging, hydrostatic test discharge	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 30.87-N	0.38	30 x 553	Logging landing, PI, spoil storage, staging, hydrostatic test discharge	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 31.01-W	5.22	15-75 x 5,484	Logging landing, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Rivers and Streams, Roads, Corridors	BLM, PV
TEWA 31.06-N	0.45	50 x 400	Logging landing, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 31.49-N	0.61	80 x 778 (Irregular)	Road crossing, waterbody crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 31.65-N	0.50	20-200 x 226 (Irregular)	PI, road crossings, side cut, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 31.77-N	0.32	30 x 514	PIs, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 32.46-W	0.38	50 x 400	Ingress/egress, road crossing, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 32.48-N	0.36	100 x 185	Ingress/egress, parking, staging, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 32.41-W	0.09	50 x 82	Waterbody crossing staging	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 32.41-N	0.11	50 x 91	Waterbody crossing staging	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 32.46-W	0.09	30 x 150	Waterbody crossing staging, PI/spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 32.62-N	0.20	65 x 300 (Irregular)	PI, side cut	Clearcut Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Rivers and Streams, Roads, Corridors	PV
TEWA 32.82-W	0.39	50 x 400	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 32.87-N	0.25	30 x 400	PI, spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
TEWA 32.97-N	0.11	50 x 100	Waterbody crossing	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 32.97-W	0.11	50 x 100	Waterbody crossing	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 33.01-N	0.11	50 x 100	Waterbody crossing	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 33.02-W	0.07	30 x 100	Waterbody crossing	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 33.20-W	1.21	30 x 1,750	Steep slope staging	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 33.34-N	0.25	30 x 400	Logging landing, steep slope staging	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 33.56-N	0.22	50 x 250	Logging landing, steep slope staging, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 33.77-N	0.29	50 x 305	PI, spoil storage, ingress/egress, parking, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 33.78-W	0.99	50 x 876	PI, spoil storage, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 34.00-N	0.06	30 x 111	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 34.00-N	0.06	30 x 109	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 34.03-N	0.06	30 x 99	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 34.03-W	0.06	30 x 101	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 34.26-W	2.07	300 x 300	Staging, parking, truck turnaround	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 34.41-W	0.18	50 x 197	Waterbody crossing and steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 34.47-W	0.17	50 x 200	Waterbody crossing and steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 34.53-W	2.58	30-165 x 2,517 (Irregular)	Log landing, ingress/egress, road crossing, steep slope	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 34.53-N	1.78	30-50 x 2,426	Log landing, ingress/egress, road crossing, steep slope	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 35.25-W	2.12	100 x 660 (Irregular)	Ingress/egress, road crossing, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 35.27-N	0.38	50 x 361	Log landing, Ingress/egress, road crossing, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 35.76-W	0.28	156 x 119 (Irregular)	Staging, parking	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 35.79-N	0.69	75 x 519	Ingress/egress, PI, spoil storage, staging, parking	Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Rivers and Streams, Roads, Corridors	BLM
TEWA 35.80-W	0.58	100 x 289	Ingress/egress, PI, spoil storage, staging, parking	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 36.11-N	0.51	80 x 425 (Irregular)	Ingress/egress, road crossing, spoil storage, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 36.11-W	1.00	15-50 x 1,925	Ingress/egress, road crossing, spoil storage, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 36.63-W	0.99	15-223 x 1,093 (Irregular)	Log landing, heliport, steep slope and inroad work staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 36.85-W	0.05	15 x 148	PIs, waterbody crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 36.97-W	0.90	15-30 x 1,678	Timber clearing/landing, heliport, PIs, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 37.15-N	0.80	50 x 766	Timber clearing/landing, heliport, Staging for in-road work, parking, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Rivers and Streams, Roads, Corridors	BLM
TEWA 37.15	0.06	78 x 78	Staging, parking, turn around	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 37.74-N	0.13	15 x 373	PI, log landing, steep slope staging, spoil storage	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 37.74-W	0.27	30 x 393	PI, log landing, steep slope staging, spoil storage	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 38.32-N	0.41	105 x 443 (Irregular)	Log landing, heliport, steep slope staging, spoil storage, parking	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 38.32-W	1.21	15-30 x 2,557	Log landing, heliport, steep slope staging, PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 38.90-W	5.56	361 x 988 (Irregular)	Log landing, heliport, Ingress/egress, rock source, staging, & spoil storage	Regenerating Evergreen Forest Land, Strip Mines, Quarries, and Gravel Pits, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Industrial, Roads, Corridors	BLM, PV
TEWA 38.92-N	1.98	318 x 374 (Irregular)	Staging, Ingress/egress, road crossing staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 39.18-N	0.88	86 x 449 (Irregular)	Log decking and storage, heliport, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 39.21-W	0.45	50 x 300 (Irregular)	PI, spoils storage, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 39.38-N	0.33	50 x 324 (Irregular)	Steep slope and in-road work staging, ingress/egress	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 39.49-W	2.33	30-228 x 2,144 (Irregular)	In-road work staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 39.76-N	0.61	30-100 x 591	In-road work staging, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 39.89-N	0.33	100 x 145	In-road work staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 39.95-W	0.50	30 x 758	In-road work staging, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 39.99-N	1.43	30-50 x 1,635	Steep slope staging, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, PV
TEWA 40.14-W	0.19	50 x 216	Log landing/steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, PV
TEWA 40.30-W	0.28	50 x 317	In road work staging, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 40.37-N	2.37	30-100 x 2,511	In road work staging, PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 40.45-W	0.89	15-50 x 2,277	Log landing, staging & parking	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 40.87-N	3.36	30-100 x 3,377	In road work staging, PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 41.61-W	0.28	50 x 312	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 41.83-N	0.12	50 x 100	Ingress/egress, road crossing, parking, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM
TEWA 41.82-W	0.36	15 x 1,051	PIs, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 42.03-N	0.38	104 x 335 (Irregular)	PI, spoil storage,	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 42.11-N	0.16	30 x 922	PIs, spoil storage, ingress/egress	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 42.48-W	2.24	30-50 x 2,751	PI, log/spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 43.03-N	1.49	30-117 x 1,341 (Irregular)	PI, road crossing, staging and spoil storage, parking	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 43.04-W	0.82	11-70 x 736 (Irregular)	Log decking/storage/loading, road crossings, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 43.50-W	0.52	30-80 x 652	Log landing/decking/storage/loading, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 43.72-W	0.08	30 x 146	Road crossing spoil storage, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 43.82-W	1.57	15-80 x 1,971	Log landing/decking/storage/loading, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 44.14-N	0.52	118 x 206 (Irregular)	Steep slope/waterbody crossing staging	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 44.26-W	2.57	100 x 1,749	Log landing, decking and storage, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar, Roads, Corridors	PV
TEWA 44.27-W	0.27	50 x 288	Steep slope/waterbody crossing staging	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	PV
TEWA 44.50-N	3.06	50-182 x 1,588 (Irregular)	Log landing, decking and storage, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Douglas Fir-W. Hemlock- W.Red Cedar, Roads, Corridors	BLM, PV
TEWA 44.69-W	2.79	30-100 x 3,405	PI, spoil storage, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Douglas Fir-W. Hemlock- W.Red Cedar, Roads, Corridors	BLM
TEWA 44.83-N	0.26	50 x 275	Ingress/egress, road crossing, log decking/storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 45.13-N	0.43	30 x 659	Ingress/egress, road crossing staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 45.52-W	0.19	50 x 250	PI, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 45.59-N	0.71	30 x 1,072	PI, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 45.60-W	0.09	30 x 150	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 45.70-W	0.08	30 x 150	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 45.77-W	0.09	30 x 150	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 45.84-W	1.41	15-130 x 2,061 (Irregular)	Parking & Staging - Existing Quarry Site	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 45.96-N	0.31	50 x 340	PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 46.10-N	0.26	50 x 300	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 46.27-N	0.24	25-100 x 218 (Irregular)	Staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 46.35-N	0.13	15 x 388	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 46.43-W	0.16	20 x 366	PI, Road crossing,	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 46.44-N	0.07	15 x 202	PI, Road crossing,	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 46.51-N	0.04	15 x 141	Wetland Crossing	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 46.58-N	0.15	50 x 118	Wetland Crossing	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 46.64-N	0.12	30 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 46.75-N	2.30	10-380 x 1,626 (Irregular)	Road Crossing, steep slope	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
TEWA 47.10-N	0.04	30 x 48	Road Crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 46.81	0.28	107 x 118	Staging, parking, turn around	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 47.11-N	0.04	30 x 59	Road Crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 47.18-N	0.11	30 x 201	PI, log/spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 47.19-W	0.13	30 x 200	PI, road crossing, log/spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 47.25-N	0.11	30 x 200	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 47.32-N	0.13	30 x 200	PI, road crossing, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 47.42-N	0.12	30 x 200	PI, inroad lay, spoil storage, staging	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 47.52-W	0.37	30 x 561	Log landing, heliport, PI, road crossing, spoil storage, sidehill	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 47.53-N	0.26	30 x 374	Log landing, heliport, PI, road crossing, spoil storage, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 47.71-N	0.29	30 x 439	PIs, road crossings, log landing, log/spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 47.73-W	0.12	30 x 202	PI, road crossings, log landing, log/spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 47.87-N	0.68	30-50 x 898	PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 47.94-W	0.55	30 x 841	PI, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 48.22-W	0.58	30-50 x 777	Ingress/egress, road and waterbody crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
TEWA 48.30-N	0.56	30-100 x 874	Staging/storage, log decking, hauling, pipe storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 48.45-W	0.94	30 x 150	PI, road crossing, side cut	Evergreen Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 48.64-W	0.14	30-80 x 633	Staging/storage, log decking/hauling, road crossing	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 49.00-W	0.46	30 x 707	PIs, road crossings, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 49.17-W	0.65	30 x 981	PI, side cut	Evergreen Forest Land, Mixed Forest Land	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 49.48-N	0.77	10-120 x 1,701	Ingress/egress, staging, parking, road crossing	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 49.74-W	0.11	20 x 250	Ingress/egress, staging, parking, road crossing	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 50.20	0.02		Water Source - Dust (Lang Creek Reservoir)	Beaches	Beaches	PV
TEWA 50.20	0.21		Water Source - Hydro (Kinnan Lake)	Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 49.77-W	0.59	15-110 x 536	Ingress/egress, staging, parking, road crossing	Cropland and Pasture	Agriculture	PV
TEWA 49.77-N	1.85	10-150 x 2,588	Ingress/egress, staging, parking, road crossing	Cropland and Pasture, Ditch, Mixed Forest Land	Agriculture, Ditch, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 50.21-W	0.18	30 x 268	Middle Fork Coquille River crossing staging	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 50.31-W	0.54	135 x 175	Middle Fork Coquille River crossing staging	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 50.35-N	0.11	10 x 489	Topsoil	Cropland and Pasture	Agriculture	PV
TEWA 50.45-N	0.11	10 x 489	Topsoil	Cropland and Pasture	Agriculture	PV
TEWA 50.62-W	0.17	50 x 204	Ingress/egress, PI, road crossing, spoil storage	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 50.68-W	0.08	50 x 67	PI, road crossing, waterbody crossing	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 50.71-W	0.07	50 x 96	Stream Crossing	Cropland and Pasture	Agriculture	PV
TEWA 50.78-N	0.44	80 x 210	PI, road crossing, top soil storage	Cropland and Pasture	Agriculture	PV
TEWA 51.30-W	0.09	15 x 297	PI, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 51.49-N	0.64	130 x 299 (Irregular)	PI, ingress/egress, road crossing	Cropland and Pasture, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 51.57-W	3.24	15-490 x 815 (Irregular)	PIs, ingress/egress, road crossing, staging	Mixed Rangeland, Streams and Canals	Grasslands (W. Cascades), Rivers and Streams	PV
TEWA 51.57-N	0.37	10-46 x 1,093	PI, ingress/egress, road crossing, staging	Mixed Rangeland	Grasslands (W. Cascades)	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 51.93-W	0.14	30 x 200	PI, Spoil Storage	Evergreen Forest Land, Mixed Rangeland	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	PV
TEWA 52.08-N	0.45	95 x 155 (Irregular)	Parking, staging	Industrial	Industrial	PV
TEWA 52.09-W	1.08	124 x 505 (Irregular)	Parking, staging	Evergreen Forest Land, Industrial, Mixed Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades), Industrial, Roads, Corridors	PV
TEWA 52.77-W	0.36	100 x 159	Road crossing, side cut, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 52.81-W	0.24	106 x 97	Road crossing, side cut, staging	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 53.12-W	1.06	30-150 x 507	PI, road crossing, side cut, top of hill	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 53.20-N	0.08	30 x 155	PI, road crossing, side cut, top of hill	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 53.07-N	0.18	30 x 294	PI, steep slope staging, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, PV
TEWA 53.08-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 53.21-N	0.11	50 x 100	Staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 53.44-N	0.37	50 x 395	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 53.62-W	0.82	50-80 x 704	PI, staging, parking, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 54.39-N	0.07	15 x 200	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, PV
TEWA 54.46-N	0.28	15-50 x 363	PIs, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 54.69-W	0.20	30 x 309	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 54.74-N	0.17	30 x 247	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 54.88-N	0.17	30 x 247	Ingress/egress, parking, staging, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 54.93-N	0.18	30 x 299	PIs, road crossings, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 55.49-N	1.38	30 x 1,719 (Irregular)	PI, spoil storage, ingress/egress, steep slope staging	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 55.30-W	2.87	20-30 x	Steep slope staging, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 55.37-N	1.11	20-30 x 3,487	PIs, side cut	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 55.76-N	0.75	150 x 251 (Irregular)	Ingress/egress, parking, road crossing, steep slope	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 55.90	0.06		Water Source - Hydro (Ben Irving Reservoir-2)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV
TEWA 55.90	0.07		Water Source - Hydro (Ben Irving Reservoir-1)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 55.82-N	0.25	30 x 380	Topsoil	Cropland and Pasture, Evergreen Forest Land, Mixed Forest Land, Residential	Agriculture, Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Urban	PV
TEWA 55.89-W	0.33	80 x 224	PI, spoil storage, waterbody crossing	Cropland and Pasture, Streams and Canals	Agriculture, Rivers and Streams	PV
TEWA 55.92-N	0.02	10 x 80	Topsoil, waterbody staging	Cropland and Pasture	Agriculture	PV
TEWA 55.95-N	0.40	10 x 1,736	Topsoil, waterbody staging	Cropland and Pasture, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 56.08-W	0.10	15-30 x 256	Road crossing	Cropland and Pasture, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 56.13-W	0.06	15 x 175	Road crossing	Cropland and Pasture	Agriculture	PV
TEWA 56.17-W	0.05	15 x 135	Road crossing	Cropland and Pasture	Agriculture	PV
TEWA 56.20-W	1.41	15-290 x 1,141 (Irregular)	Ingress/egress, road crossing, topsoil	Cropland and Pasture, Mixed Rangeland, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors	PV
TEWA 56.29-N	0.23	50 x 201	Ingress/egress, road crossing staging, spoil storage	Cropland and Pasture, Mixed Rangeland, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 56.35-N	0.35	10 x 1,503	Ingress/egress, road crossing staging, spoil storage	Mixed Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 56.69-W	0.19	50 x 206	Ingress/egress, road crossing, topsoil	Forested Wetland, Trans, Comm, Utilities Corridors	Palustrine Forest (PFO), Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 56.72-N	0.11	50 x 84	Ingress/egress, road crossing	Forested Wetland, Trans, Comm, Utilities Corridors	Palustrine Forest (PFO), Roads, Corridors	PV
TEWA 56.74-W	0.44	30-50 x 796	Ingress/egress, road crossing, wetland spoil / topsoil	Cropland and Pasture, Mixed Forest Land, Nonforested Wetlands, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 56.75-N	0.11	50 x 117	Road crossing,	Cropland and Pasture, Nonforested Wetlands, Trans, Comm, Utilities Corridors	Agriculture, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 56.78-N	0.41	10-30 x 1,818	Topsoil, PI, wetland, ingress/egress road crossings	Cropland and Pasture, Mixed Forest Land, Residential, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM), Roads, Corridors, Urban	PV
TEWA 57.10-W	0.03	30 x 50	Road crossing, waterbody crossing	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 57.11-N	0.30	10-50 x 720	PI, spoil storage, topsoil	Cropland and Pasture, Mixed Forest Land, Streams and Canals	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM), Rivers and Streams	PV
TEWA 57.12-W	0.09	30 x 150	PI, waterbody crossings	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 57.25-W	0.06	10 x 261	Topsoil	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 57.31-N	0.45	10-50 x 1,500	Topsoil, ingress/egress, road crossing	Cropland and Pasture, Mixed Forest Land, Residential, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors, Urban	PV
TEWA 57.57-W	0.14	50 x 121	Ingress/egress, road crossing	Cropland and Pasture	Agriculture	PV
TEWA 57.60-N	1.02	30-100 x 1,032	Ingress/egress, road crossing, topsoil, waterbody	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 57.81-N	0.09	50 x 88	Waterbody crossing	Cropland and Pasture	Agriculture	PV
TEWA 57.81-W	0.13	50 x 112	Waterbody crossing	Cropland and Pasture	Agriculture	PV
TEWA 57.86-N	0.33	100 x 166	PI, waterbody crossing	Cropland and Pasture	Agriculture	PV
TEWA 57.86-W	0.11	50 x 95	PI, waterbody crossing	Cropland and Pasture	Agriculture	PV
TEWA 57.89-W	0.02	15 x 70	PI, spoil storage	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 57.91-N	0.37	10 x 1,609	Topsoil	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 58.21-N	0.82	10-135 x 1,706	Waterbody crossing, topsoil	Cropland and Pasture, Ditch	Agriculture, Ditch, Palustrine Emergent (PEM)	PV
TEWA 58.56-N	1.23	10-135 x 931	Waterbody crossing, topsoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 58.65-W	0.44	55 x 391	Staging	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 58.79-W	0.62	100 x 289	Olalla Creek crossing	Cropland and Pasture	Agriculture	PV
TEWA 58.79-N	1.49	10-107 x 2,604	Olalla Creek crossing, wetland/ag topsoil	Cropland and Pasture, Ditch, Mixed Forest Land	Agriculture, Ditch, Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM)	PV
TEWA 59.30-N	1.45	10-170 x 1,662	Waterbody crossing, topsoil, ingress/egress road crossing	Cropland and Pasture, Mixed Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 59.31-W	0.03	30 x 50	Waterbody crossing	Cropland and Pasture	Agriculture	PV
TEWA 59.33-W	0.09	30 x 150	PI, road crossing, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 59.62-W	0.06	30 x 69	PI, road crossing, spoil storage	Cropland and Pasture, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 59.66-N	0.42	10 x 1,817	Hydro Discharge/topsoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM)	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 60.01-N	0.35	10-50 x 576	Trib to McNabb Creek spoil/topsoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.05-W	0.29	15-50 x 298	Trib to McNabb Creek spoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.14-N	0.29	25-50 x 395	Trib to McNabb Creek spoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.14-W	0.14	50 x 123	Trib to McNabb Creek spoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.25-W	0.08	30 x 150	PI, side cut	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.35-W	0.62	30-50 x 744	PI, spoil storage	Cropland and Pasture, Herbaceous Rangeland, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 60.44-N	0.04	10 x 195	Topsoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.52-N	0.74	10-210 x 359 (Irregular)	Log landing, heliport, Staging/topsoil, ingress/egress	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 60.54-W	0.58	50-182 x 360	Log landing, heliport, Ingress/egress, waterbody and road crossing staging	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 60.59-N	0.35	30-50 x 429	Log landing, heliport, Ingress/egress, road crossing staging	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.71-W	0.08	30 x 147	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 60.82-W	0.08	30 x 146	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 60.87-W	0.42	50 x 399	Log landing, steep slope staging, spoil storage, hydrostatic discharge	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 60.88-N	0.53	115 x 211	PI, spoils storage, log landing, hydrostatic discharge	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 60.98-W	0.03	15 x 119	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 61.02-W	0.03	15 x 105	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.07-W	0.03	15 x 105	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.15-W	0.17	50 x 200	Log landing, steep slope staging	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.19-N	0.10	50 x 236	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.19-W	0.10	50 x 236	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.29-W	0.10	30 x 163	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.35-W	0.37	15-30 x 719	Log landing, PI, steep slope staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.43-N	1.04	135 x 532 (Irregular)	Log landing, steep slope staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.72-N	0.11	30 x 200	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 61.72-W	0.13	30 x 200	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 61.92-W	0.12	30 x 210	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 61.99-N	0.29	60 x 210	Staging, PI, log/spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.02-N	0.28	30 x 429	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.03-W	0.12	15 x 334	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.16-W	0.09	30 x 150	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.20-W	0.07	30 x 150	PI, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.20-W	0.19	40 x 250	Log landing, steep slope staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.44-W	0.52	15-50 x 525	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 62.56-W	0.14	30 x 248	PI, Spoil Storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.69-W	0.16	30 x 201	PI, log/Spoil Storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 62.92-W	0.41	15-30 x 840	PIs, road crossings, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 63.19-W	0.03	15 x 100	PI, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 63.31-W	0.12	64 x 251 (Irregular)	Log landing, steep slope staging, PI, spoil storage	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 63.31-N	0.46	50 x 363	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 63.61-N	0.11	30 x 175	PI, log/Spoil Storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 63.62-W	0.09	20 x 180	PI, log/Spoil Storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 63.77-N	0.22	20 x 478	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 63.77-W	0.20	20 x 447	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 63.88-N	0.20	50 x 195	Ingress/egress, road crossing	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 63.90-W	0.21	50 x 149	Ingress/egress, road crossing	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 63.93-W	0.21	95 x 189	Ingress/egress, parking, road and waterbody crossing	Herbaceous Rangeland, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 63.93-N	0.12	50 x 126	PI, ingress/egress, road crossing, waterbody crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 63.99-N	0.24	25-50 x 303	Log landing, waterbody crossing/steep slope staging	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 63.99-W	0.24	50 x 268	Log landing, waterbody crossing/steep slope staging	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 64.13-N	0.27	50 x 283	Log land, steep slope staging, spoil storage	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 64.15-W	0.17	50 x 202	Log land, steep slope staging, spoil storage	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 64.34-N	0.23	30 x 342	Log land, PI, spoil storage, steep slope staging	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 64.38-W	0.03	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 64.55-W	0.48	15-50 x 450	Log landing, PI, spoil storage, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 64.69-W	0.29	15-50 x 409	Log landing, PI, spoil storage, steep slope staging	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 64.71-N	0.31	50 x 260	Log landing, PI, spoil storage, steep slope staging	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 64.80-W	0.10	15 x 301	Side cut	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 64.88-N	0.19	15 x 544	PIs, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	BLM, PV
TEWA 64.92-W	0.12	15 x 336	PI, side cut	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 65.06-W	0.03	15 x 100	PI, side cut	Shrub and Brush Rangeland	Shrublands	PV
TEWA 65.11-W	0.03	15 x 100	PI, side cut	Shrub and Brush Rangeland	Shrublands	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 65.21-W	0.26	15-50 x 297	Steep slope staging, PI, spoil storage	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 65.27-W	0.04	15 x 100	PI, side cut	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 65.33-W	0.03	20 x 100	PI, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 65.47-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 65.58-W	0.17	50 x 200	Log landing, steep slope staging, hydrostatic discharge	Cropland and Pasture, Regenerating Evergreen Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 65.58-N	0.82	10-150 x 868	Log landing, steep slope staging, Rice Creek crossing	Cropland and Pasture, Mixed Forest Land, Regenerating Evergreen Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 65.76-W	0.28	50 x 228 (Irregular)	Ingress/egress, Rice Creek and Road crossing staging	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 65.82-W	0.24	15-50 x 393	Ingress/egress, parking	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 65.92-W	0.06	15 x 204	PI, spoil storage, side slopes, residential avoidance	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 66.03-W	0.04	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 66.06-W	0.75	30 x 1,139	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 66.19-N	0.21	15 x 600	PI, road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 66.34-W	0.05	30 x 75	Road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 66.36-W	0.04	30 x 32 (Irregular)	Road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 66.37-W	0.04	30 x 75	Road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 66.40-N	0.21	30 x 350	PI, spoil storage, side slope	Mixed Forest Land, Residential, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors, Shrublands, Urban	PV
TEWA 66.43-W	0.07	30 x 97	PI, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 66.62-W	0.38	50 x 400	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 66.68-N	0.62	15-50 x 1,010	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 66.76-W	0.12	30 x 200	PI, side cut	Shrub and Brush Rangeland	Shrublands	PV
TEWA 66.85-W	0.18	50 x 143	Ingress/egress, road crossing	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 66.89-W	0.57	145 x 176	Ingress/egress, Road and waterbody (Willis Creek)	Herbaceous Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors	PV
TEWA 66.89-N	0.45	73 x 307	Ingress/egress, Road and waterbody (Willis Creek)	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 66.97-W	0.32	50 x 257	Waterbody crossing (Willis Creek) staging	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 67.02-N	0.59	80 x 301	Staging, parking	Herbaceous Rangeland	Grasslands (W. Cascades)	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 67.03-W	0.15	50 x 169	PI, waterbody crossing, side cut	Herbaceous Rangeland	Grasslands (W. Cascades)	PV
TEWA 67.17-W	0.47	30 x 718	Log landing, steep slope staging, road crossing	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors, Shrublands	PV
TEWA 67.26-N	0.12	30 x 202	Log landing, steep slope staging, road crossing	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 67.46-W	1.56	30-178 x 1,089 (Irregular)	Log landing, steep slope staging, spoil storage	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 67.49-N	0.13	30 x 197	Log landing, steep slope staging, PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 68.25-W	0.26	50 x 200	PI, road crossing log/spoil storage, staging	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 68.43-W	0.11	30 x 200	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 68.58-W	0.11	30 x 200	PI, road crossing, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 68.73-N	0.23	100 x 100	PI, road crossing, log/spoil storage, staging	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 68.73-W	0.49	50 x 377	PI, road crossing, log/spoil storage, staging	Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 68.93-W	0.19	30 x 306	PIs, spoil storage	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 69.54-W	0.11	30 x 200	PI, spoil storage	Mixed Forest Land, Mixed Rangeland, Streams and Canals	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams	PV
TEWA 69.85-W	0.11	30 x 200	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 70.02-W	0.13	30 x 200	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 70.08-W	0.11	30 x 200	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 70.17-W	0.11	30 x 200	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 70.33-N	0.23	100 x 100	PI, log/spoil storage, staging	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 70.33-W	0.45	50 x 347	PI, log/spoil storage, staging	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 70.45-N	0.05	20 x 100	Road Crossing, Ingress / Egress	Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 70.45-W	0.26	50 x 233	Road Crossing	Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 70.72-W	0.60	20-50 x 839	PI, Side Hill	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 71.01-N	8.37	534 x 824 (Irregular)	Direct Pipe Pull-Back and Staging	Herbaceous Rangeland, Mixed Forest Land, Mixed Rangeland, Nonforested Wetlands, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM), Rivers and Streams, Roads, Corridors	PV
TEWA 71.06-W	2.12	178 x 674 (Irregular)	Direct Pipe, Staging and PI	Herbaceous Rangeland, Nonforested Wetlands	Grasslands (W. Cascades), Palustrine Emergent (PEM)	PV
TEWA 71.24	0.25	80 x 152 (Irregular)	Water Source - Hydro (South Umpqua River-1)	Beaches, Streams and Canals, Trans, Comm, Utilities Corridors	Beaches, Rivers and Streams, Roads, Corridors	PV
TEWA 71.33-N	2.18	40-190 x 1,448 (Irregular)	Direct Pipe Laydown	Herbaceous Rangeland, Streams and Canals	Grasslands (W. Cascades), Rivers and Streams	PV
TEWA 71.31	0.28	82 x 105 (Irregular)	Water Source - Hydro (South Umpqua River-2)	Herbaceous Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors	PV
TEWA 71.36-W	1.42	10x x 317 (Irregular)	Direct Pipe staging	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 71.53-N	0.30	35 x 398	PI, spoil storage, AGF #7 fabrication	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 71.71-W	0.11	30 x 200	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 71.81-N	0.12	30 x 213	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 71.95-W	0.11	30 x 200	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 72.01-N	0.10	30 x 200	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 72.25-W	0.10	30 x 200	PI, road crossing, log/spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 72.65	0.51	149 x 163	Water withdrawal for dust control	Herbaceous Rangeland	Grasslands (W. Cascades)	PV
TEWA 72.76-N	0.11	30 x 200	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 72.90-N	0.11	30 x 200	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 72.95-W	0.13	30 x 209	PI, spoil storage, sidehill	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 72.95-N	0.25	30 x 387	PI, side hill construction, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 73.23-W	0.10	30 x 200	PI, spoil storage	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 73.34-N	0.12	30 x 200	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 73.53-W	0.12	30 x 200	PI, spoil storage	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 73.68-W	7.32	20-50 x 13,693	Side Hill Construction, spoil storage, PIs,	Mixed Forest Land, Mixed Rangeland, Nonforested Wetlands, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM), Roads, Corridors, Shrublands	BLM, PV
TEWA 74.33-N	0.14	20 x 337	PI, spoil storage	Shrub and Brush Rangeland	Shrublands	BLM
TEWA 75.32-N	0.28	20 x 638	Ingress/egress, road and stream crossing staging, PI	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 75.56-N	0.19	20 x 438	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 75.91-N	0.16	30 x 260	Side slope, storage, steep slope staging	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 76.05-W	0.15	50 x 130	PI, side cut, top of hill	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	BLM
TEWA 76.05-N	0.10	50 x 90	PI, side cut, top of hill	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 76.18-N	1.43	250 x 250	Steep slope staging, hydro discharge location	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 76.31-N	0.29	50 x 246	Ingress/egress, road crossing, staging, parking	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 76.31-W	0.67	135 x 227	Ingress/egress, road crossing, staging, parking	Mixed Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 76.36-W	1.09	57 x 354 (Irregular)	Road and waterbody crossing staging	Cropland and Pasture	Agriculture	PV
TEWA 76.36-N	0.06	42 x 60	Road and waterbody crossing staging	Cropland and Pasture	Agriculture	PV
TEWA 76.41-W	0.93	135 x 300	Waterbody crossing/steep slope staging, log landing	Cropland and Pasture	Agriculture	PV
TEWA 76.41-N	0.42	60 x 303	Waterbody crossing/steep slope staging, log landing	Cropland and Pasture	Agriculture	PV
TEWA 76.54-W	0.38	15-50 x 374	Log landing, steep slope staging, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 76.66-N	0.27	30 x 427	Log landing, steep slope staging, PI spoil storage	Mixed Forest Land, Nonforested Wetlands	Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM)	PV
TEWA 76.66-W	0.10	50 x 98	PI, top soil storage, top of hill	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 76.70-W	0.03	15 x 77	PI, top soil storage, top of hill	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 76.75-W	0.03	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 76.81-W	0.07	15-30 x 155	PI, road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 76.85-W	0.03	30 x 50	PI, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 76.99-W	1.17	15-50 x 1,298	Log landing, steep slope staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 77.05-N	0.32	50 x 324	Log landing, steep slope staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 77.28-W	0.39	30-50 x 520	Ingress/egress, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 77.31-N	0.11	50 x 100	Ingress/egress, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 77.37-N	0.28	15 x 810	PI, side cut, top of hill	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 77.42-W	0.19	15 x 550	Side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 77.56-W	0.08	15-30 x 165	PI, road crossing, side cut, top soil storage	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 77.65-W	0.04	15 x 100	PI, side cut, top soil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 77.68-N	0.11	50 x 100	Waterbody crossing, side cut	Mixed Forest Land, Streams and Canals	Douglas-Fir-Mixed Deciduous Forest, Rivers and Streams	PV
TEWA 77.72-N	2.86	25-183 x 1,593 (Irregular)	Staging, pipe storage, log landing, heliport	Mixed Forest Land, Mixed Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 77.95-W	3.51	480 x 512 (Irregular)	Staging, spoil storage, pipe storage, Log landing, heliport, hydrostatic test discharge	Mixed Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors	PV
TEWA 78.12-W	0.73	30 x 1,097	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 78.45-N	0.38	158 x 177 (Irregular)	Log landing, steep slope	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 78.47-W	0.09	30 x 160	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 78.65-W	0.18	15-30 x 461	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 78.70-N	0.33	15 x 973	PIs, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 78.87-W	0.09	30 x 150	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 78.94-W	0.25	50 x 214	Ingress/egress, road crossing	Mixed Forest Land, Residential, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors, Urban	PV
TEWA 78.99-W	1.20	50-100 x 641 (Irregular)	Ingress/egress, road and waterbody (Myrtle Creek), log landing, heliport	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 79.00	0.09	56 x 118 (Irregular)	Water Source - Dust (Big Lick Reservoir)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV
TEWA 79.00-N	0.48	230 x 112 (Irregular)	Staging, hydrostatic discharge	Cropland and Pasture	Agriculture	PV
TEWA 79.13-N	0.55	10-30 x 1,886	Waterbody (Myrtle Creek) crossing, steep slope staging	Mixed Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Rivers and Streams	PV
TEWA 79.14-W	0.65	20-50 x 1,261	Waterbody (Myrtle Creek) crossing, steep slope staging	Mixed Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Rivers and Streams	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 79.54-N	0.62	30 x 907	PIs, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 79.63-W	0.73	15-50 x 1,858	PIs, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 79.85-N	3.61	702 x 322 (Irregular)	Disposal, PI, spoil storage, log landing, heliport, steep slope	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 80.04-W	0.05	30 x 84	Road crossing, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 80.09-N	0.80	30 x 1,201	PIs, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 80.18-W	0.08	30 x 150	PI, road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 80.23-W	0.08	30 x 150	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 80.30-W	0.09	30 x 153	PI, road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 80.33-W	1.12	15-30 x 1,716	PIs, road crossings, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 80.63-N	2.29	10-284 x 1,471	Ingress/egress, staging, parking, hydrostatic discharge	Herbaceous Rangeland, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 81.06-W	1.02	373 x 270 (Irregular)	Ingress/egress, road crossing, staging, parking	Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 81.16-N	0.17	77 x 78	Ingress/egress, road and waterbody (South Myrtle Creek)	Deciduous Forest Land, Herbaceous Rangeland	Alder-Cottonwood, Grasslands (W. Cascades)	PV
TEWA 81.21-W	1.64	100 x 793	Waterbody (South Fork Myrtle Creek), steep slope staging	Cropland and Pasture	Agriculture	PV
TEWA 81.39-W	0.19	15 x 552	Topsoil storage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 81.53-W	0.32	30 x 200	PI, spoil storage	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 81.81-W	0.25	81 x 269 (Irregular)	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 81.86-N	0.17	50 x 145	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 81.94-W	0.17	30 x 257	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 82.26-W	0.13	30 x 200	Road crossing, PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 82.30-N	0.17	50 x 150	Staging, log landing	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 82.42-N	0.21	50-193 x 75 (Irregular)	Staging, log landing	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 82.47-W	0.12	30 x 208	Ingress/egress, PI, log/spoil storage, staging	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 82.54-W	0.99	15-100 x 1,243 (Irregular)	PIs, road crossing, side cut, staging	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 82.63-N	0.17	50 x 149	Staging, log landing	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 82.88-W	0.29	15 x 869	PIs, road crossings, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 82.92-N	1.28	199 x 425 (Irregular)	Log land, steep slope staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 83.25-W	0.03	15 x 100	PI, road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 83.27-N	1.02	75 x 531	Log land, steep slope staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 83.34-W	0.11	15 x 321	PIs, road crossings, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 83.47-W	0.03	15 x 100	PI, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 83.54-N	0.39	30 x 565	PI, road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 83.62-W	0.03	15 x 100	PI, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 83.75-W	1.71	15-250 x 413 (Irregular)	Log land, steep slope staging, PI, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 83.90-W	0.03	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 83.96-W	0.08	15 x 237	PIs, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 83.97-N	0.08	15 x 235	PIs, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 84.02-W	0.48	30-50 x 633	Waterbody crossing (Woods Creek)	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 84.13-N	0.11	50 x 100	Waterbody crossing (Woods Creek)	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 84.18-W	5.67	754 x 446 (Irregular)	Staging, spoil storage, waterbody crossing	Clearcut Forest Land, Herbaceous Rangeland, Mixed Forest Land, Nonforested Wetlands, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 84.18-N	0.81	100 x 350	Waterbody crossing (Woods Creek), steep slope staging	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 84.33-W	0.04	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 84.40-W	0.04	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 84.50-W	0.73	15-50 x 1,064	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 84.50-N	0.11	50 x 100	PI, side cut staging	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 84.61-N	0.50	50 x 453	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 84.74-W	0.03	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 84.80-W	0.03	15 x 100	PI, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 84.87-W	0.04	15 x 100	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 84.93-W	0.50	30 x 785	PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 85.15-W	1.95	30-50 x 2,604	PI, sideslopes, road crossing, spoil storage	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 85.68-W	0.25	30 x 400	Ingress/egress, road and stream crossing staging, spoil storage	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 85.76-W	0.19	30 x 300	PI, spoil storage, side slopes	Clearcut Forest Land, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 86.49-W	0.85	30-50 x 1,703	PI, road crossing, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 86.85-W	0.77	20 x 1,662	Log landing, staging pipe storage, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 86.98-N	0.11	20 x 236	Log landing, staging pipe storage	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 87.15-N	0.80	30 x 1,187	In-road construction, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 87.32-W	0.03	15 x 100	PI, road crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 87.45-W	0.38	50 x 361	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 87.47-N	0.19	30 x 230	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 87.53-W	0.09	37 x 196 (Irregular)	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 87.58-N	0.14	20 x 334	PIs, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 87.65-N	0.29	15 x 660	PIs, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 87.67-W	0.26	20-30 x 626	PIs, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 87.82-N	0.11	15 x 315	Side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEW 87.83-W	0.05	15-19 x 150	Steep slope and parcel neck down staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 87.89-W	0.54	15-30 x 1,075	PIs, road crossing, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 88.01-N	0.09	15 x 263	PIs, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 88.07-N	1.63	70-100 x 747 (Irregular)	Ingress/egress, road crossing construction staging	Cropland and Pasture, Mixed Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Rivers and Streams, Roads, Corridors	PV
TEWA 88.26-W	1.45	30-100 x 1,182	Ingress/egress, road crossing, waterbody crossing	Cropland and Pasture, Mixed Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 88.29-N	0.20	10 x 882	Topsoil	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 88.49-N	0.89	150 x 160 (Irregular)	Ingress/egress, road/waterbody (Fate Creek) crossing	Cropland and Pasture, Residential, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Urban	PV
TEWA 88.49-W	0.06	80 x 45 (Irregular)	Ingress/egress, road/waterbody (Fate Creek) crossing	Cropland and Pasture	Agriculture	PV
TEWA 88.52-W	0.86	135 x 275	Ingress/egress, road/waterbody (Days Creek) crossing	Cropland and Pasture	Agriculture	PV
TEWA 88.53-N	0.41	173 x 214 (Irregular)	Ingress/egress, road/waterbody (Days Creek) crossing	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 88.61-W	1.56	15-150 x 1,188 (Irregular)	Waterbody (Days Creek) crossing/steep slope staging	Cropland and Pasture, Mixed Forest Land, Regenerating Evergreen Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 88.62-N	0.33	67 x 502 (Irregular)	Waterbody (Days Creek) crossing/steep slope staging	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 88.80-N	0.11	30 x 210	PI, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 88.91-W	0.03	15 x 100	PI, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 89.06-W	0.03	25 x 91 (Irregular)	Ingress/egress, road crossing staging/spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 89.06-N	0.06	35 x 83 (Irregular)	Ingress/egress, road crossing staging/spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 89.11-W	0.20	30 x 305	Log landing, steep slope staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 89.21-W	0.28	20-40 x 505 (Irregular)	Sidehill, inroad lay spoil storage, ingress/egress	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 89.43-W	0.20	42 x 350 (Irregular)	PI, ingress/egress/in-road lay, staging/spoil storage,	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 89.50-W	0.05	7-15 x 171	Road crossing, side cut	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 89.63-W	0.10	30 x 159	Steep slope staging	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 89.86-W	0.02	15 x 55	PI, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 89.85-W	0.08	15-30 x 168	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 89.88-W	0.06	15-30 x 136	PI, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 89.95-W	0.03	30 x 45	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 89.96-W	0.04	30 x 55	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 89.98-W	0.76	30 x 1,113	Log landing, steep slope staging, ingress/egress	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 90.20-N	1.39	88 x 1,060 (Irregular)	Steep slope staging, PI/in-road work spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 90.25-W	0.43	50 x 384	Steep slope staging, PI/in-road work spoil storage	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 90.39-W	0.03	15 x 100	PI, road crossings, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 90.48-N	1.66	25-157 x 1,007 (Irregular)	Ingress/egress, PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 90.50-W	0.03	15 x 100	PI, road crossings, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
TEWA 90.53-W	0.40	50 x 415	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 90.74-W	0.05	15 x 150	PI, road crossings, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 90.79-W	0.88	50 x 794	Ingress/egress, PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 90.80-N	0.69	50 x 678	PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 90.96-W	2.40	30 x 3,509	Steep slope staging, in-road work, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 91.02-N	5.19	50-285 x 3,939 (Irregular)	Steep slope staging, in-road work, spoil storage	Clearcut Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 91.66-W	2.52	15-275 x 1,882 (Irregular)	Steep slope staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 91.93-N	0.63	100 x 387 (Irregular)	PI, steep slope staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.07-N	0.22	30 x 347	Log landing, steep slope staging, spoil storage	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 92.07-W	0.29	30 x 451	Log landing, steep slope staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.22-N	0.58	75 x 398	Ingress/egress, log landing/hauling, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 92.23-W	0.42	50 x 399	Ingress/egress, log landing/hauling, steep slope staging	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.33-N	0.41	50 x 400	Ingress/egress, log landing/hauling, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.33-W	0.39	50 x 400	Ingress/egress, log landing/hauling, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.51-W	0.17	50 x 203	Log landing, steep slope staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 92.51-N	0.18	50 x 200	Log landing, steep slope staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 92.57-N	0.32	50-100 x 250	Steep slope/waterbody crossing (St. Johns Creek) staging	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 92.57-W	0.32	50-100 x 250	Steep slope/waterbody crossing (St. Johns Creek) staging	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 92.62-N	0.52	106 x 224 (Irregular)	Ingress/egress, steep slope/waterbody crossing (St Johns Creek), log landing, heliport	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.62	0.62	28-53 x 716 (Irregular)	Parking, staging, turn-around, log landing, heliport	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.63-W	0.52	76 x 289	Ingress/egress, steep slope/waterbody crossing (St Johns Creek), log landing, heliport	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.69-N	0.12	30 x 202	Steep slope staging	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 92.69-W	0.17	50 x 197	Steep slope staging	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 92.76-W	1.25	30-150 x 966	Log landing, steep slope staging, spoil storage	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 92.78-N	0.12	30 x 200	Log landing, steep slope staging, spoil storage	Clearcut Forest Land, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 92.90-N	0.09	30 x 145	Log landing, steep slope staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 93.00-W	0.17	15 x 498	PIs, side cut	Clearcut Forest Land, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 93.01-N	1.37	167 x 386 (Irregular)	Log landing, heliport, steep slope staging, PI, spoil storage	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 93.01	0.55	27-163 x 270 (Irregular)	Log landing, heliport	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 93.31-W	0.09	15 x 260	PIs, side cut	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 93.44-N	1.09	30 x 1,648	Ingress/egress, PI, steep slope staging, spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
TEWA 93.48-W	0.04	15 x 100	PI, side cut	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 93.65-W	1.05	145 x 318 (Irregular)	Parking, staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 93.69-W	0.04	15 x 100	PI, side cut	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 93.73-W	0.85	50-248 x 317 (Irregular)	Parking, staging, PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
TEWA 93.80-N	0.13	30 x 200	Log landing, steep slope staging, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 93.90-W	0.27	30 x 400	Log landing, steep slope staging, spoil storage, hydrostatic test discharge	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 94.00-N	0.81	30 x 1,215	Log landing, steep slope staging, PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 94.02-W	0.54	15-30 x 1,116	PIs, side cut	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 94.35-W	0.23	15 x 659	Top soil storage	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 94.52-W	0.17	15-30 x 373	PI, spoil storage, topsoil storage	Mixed Rangeland, Nonforested Wetlands	Grasslands (W. Cascades), Palustrine Emergent (PEM)	PV
TEWA 94.52-N	0.46	199 x 201 (Irregular)	PI, spoil storage	Mixed Forest Land, Mixed Rangeland, Nonforested Wetlands	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM)	PV
TEWA 94.56-W	10.28	1,645 x 796 (Irregular)	Milo Pipe Yard (pipe/contractor yard), stage, log landing, heliport (Heliport between MP 95.10 - 97.05)	Mixed Rangeland, Nonforested Wetlands	Grasslands (W. Cascades), Palustrine Emergent (PEM), Palustrine Unconsolidated Bottom (PUB)	PV
TEWA 94.64-N	0.64	50-173 x 349 (Irregular)	Ingress/egress, staging, parking, Hwy 227 crossing	Mixed Rangeland, Nonforested Wetlands, Residential	Grasslands (W. Cascades), Palustrine Emergent (PEM), Urban	PV
TEWA 94.69-N	1.93	10-225 x 819 (Irregular)	Hwy 227 and S. Umpqua River crossing staging, spoil storage	Beaches, Herbaceous Rangeland, Mixed Forest Land, Mixed Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Beaches, Douglas- Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors	PV
TEWA 94.69-W	0.98	205 x 220	Hwy 227 and S. Umpqua River crossing staging, spoil storage	Beaches, Mixed Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Beaches, Douglas- Fir-Mixed Deciduous Forest, Rivers and Streams, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 94.73-W	0.41	50 x 345	S. Umpqua River crossing staging	Beaches, Mixed Forest Land, Mixed Rangeland, Streams and Canals	Beaches, Douglas- Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams	PV
TEWA 94.85-W	0.10	50 x 75	Waterbody crossing	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 94.86-N	0.18	10 x 821	Topsoil	Mixed Forest Land, Mixed Rangeland, Nonforested Wetlands	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM)	PV
TEWA 94.99-W	0.04	15 x 100	PI, spoil storage	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 95.04-N	0.07	10 x 299	Topsoil	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 95.49-N	0.26	75 x 150	Log landing, Ingress/egress, steep slope staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 95.39	1.25	150 x 300	Staging, log decking/hauling, heliport	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 95.95	1.03	248 x 290 (Irregular)	Turn-around, parking, staging	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 95.92-N	0.82	7-75 x 1,004	Log landing, steep slope staging, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 95.94-W	0.57	15-30 x 1,080	Log landing, steep slope staging, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 96.13-N	0.29	50 x 215	PI, spoil storage, staging	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 96.22-N	0.81	10-50 x 1,495	Log landing, heliport, Ingress/egress, road crossing, PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 96.23-W	0.94	30 x 1,376	Log landing, heliport, Ingress/egress, road crossing, PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant – Mixed Conifer, Roads, Corridors	PV
TEWA 96.53-W	0.12	30 x 186	Log landing, Ingress/egress, road crossing, PI, spoil storage	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 96.67-W	0.24	25 x 438	Log landing, steep slope staging, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 96.78-N	0.09	25 x 183	PI spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 96.90-N	0.47	30-75 x 476	Log landing, steep slope staging, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 96.91-W	0.08	25 x 178	Log landing, PI, spoil storage	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 97.02-N	0.35	75 x 247	Log landing, heliport, staging spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 97.04-W	0.22	75 x 150	Log landing, heliport, staging spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 97.18-W	0.25	25 x 460	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.38-N	0.22	30 x 361	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.41-W	0.03	15 x 94	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.61-W	0.33	15-30 x 825	PI spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 97.63-N	0.87	150 x 327 (Irregular)	Log landing/hauling, heliport, ingress/egress, staging, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 97.79-N	0.58	25 x 853	Log landing, heliport, PI, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 97.82-W	0.03	15 x 92	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.91-W	0.57	15-260 x 482 (Irregular)	Log landing, heliport, Ingress/egress, road crossing, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 98.04-W	1.19	15-50 x 1,911	Spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 98.07-N	0.28	10 x 1,243	Spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 98.55-W	0.13	15 x 390	PIs, road crossings, side cut	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 98.57-N	0.13	15 x 396	Log landing, steep slope staging, PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 98.67-N	0.14	15 x 408	Log landing, steep slope staging, PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 98.69-W	0.06	15 x 183	PIs, side cut	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 98.73-W	3.35	15-30 x 4,091	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV, FS
TEWA 98.86-N	1.38	279 x 417 (Irregular)	Log landing, steep slope staging, PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 98.93-N	0.89	30-50 x 1,180	PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 98.93-N	0.15	30-50 x 1,180	PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 99.57-W	0.04	15 x 127	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 100.18-W	0.11	15-30 x 277	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 100.55-W	0.03	15 x 102	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 100.66-W	0.04	15 x 99	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, FS
TEWA 100.75-N	0.10	54 x 82 (Irregular)	Ingress/egress, staging, log storage, road crossing	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 100.88-W	0.04	15 x 100	PI, side cut	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 100.96-W	0.04	15 x 100	PI, side cut	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 101.02-W	1.28	50 x 1,002 (Irregular)	PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 101.02-N	0.22	10 x 960	PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 101.19-N	1.15	30 x 1,663	Side cut	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV, FS
TEWA 101.62-N	0.17	40 x 227	Log landing, steep slope staging, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 101.63-W	0.48	15-30 x 975	Log landing, steep slope staging, PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 101.75-N	0.37	30-50 x 426	Log landing, steep slope staging, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 101.98-W	0.69	30 x 1,011	Log landing, steep slope staging, PI, spoil storage	Evergreen Forest Land, Herbaceous Rangeland	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades)	BLM
TEWA 102.19-N	2.72	263 x 599 (Irregular)	Ingress/egress, log landing/hauling, heliport, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 102.32-W	0.02	15 x 80	Ingress/egress, road crossing	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, FS
TEWA 102.35-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 102.40-W	0.03	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 102.62-W	0.09	15 x 250	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 102.63-N	0.24	30-45 x 307 (Irregular)	Ingress/egress, PI, spoil storage, staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 102.69-N	0.22	15 x 664	Spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 102.72-W	0.28	15 x 823	PI, road crossing, side cut	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV, FS
TEWA 102.93-W	0.12	15 x 340	PI, side cut	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 103.09-W	0.17	15 x 485	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 103.20-W	0.96	30 x 1,429	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 103.58-N	0.26	50 x 200	PI, spoil storage, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 103.66-W	0.12	30 x 183	PI, spoil storage, steep slope staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 103.76-N	0.68	50 x 651	Road/wetland crossing staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 103.77-W	0.17	50 x 150	Road crossing spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 103.84-W	0.04	15 x 100	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 103.92-N	0.81	150 x 234	Staging, log decking/hauling, parking, hydrostatic test discharge	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 103.92-W	0.80	150 x 233	Ingress/egress, staging, log decking/hauling, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 104.03-W	0.37	30 x 546	Ingress/egress, road crossing	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV, FS
TEWA 104.17	0.62	170 x 193 (Irregular)	Parking	Trans, Comm, Utilities Corridors	Roads, Corridors	FS
TEWA 104.23-W	0.13	25 x 247	Ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 104.23-N	0.10	25 x 193	Ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 104.49-W	0.27	50 x 292	Log landing, steep slope staging, PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 104.49-N	0.17	30 x 263	Log landing, steep slope staging, PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 104.71-W	0.85	30-50 x 957	Ingress/egress, road crossing, staging, parking	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 104.79-N	0.21	30 x 300	Ingress/egress, road crossing, staging, parking	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 104.95-W	0.10	25 x 200	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 104.95-N	0.07	25 x 150	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 105.04-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 105.20-N	0.15	30 x 200	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 105.20-W	0.23	25 x 347	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 105.31-N	0.21	20-77 x 213	Ingress/egress, road crossing, PI, log/spoils storage staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 105.32-W	0.09	25 x 176	Ingress/egress, road crossing, PI, log/spoils storage	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 105.52-N	0.21	30 x 300	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 105.54-W	0.30	15 x 876	Ingress/egress, staging, parking	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 105.65-N	0.05	15 x 150	Steep slope staging, PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 105.80-N	0.31	30 x 490	Side cut, spoil storage PI	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 105.80-W	0.34	30 x 518	Ingress/egress, side cut, spoil storage PI	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 105.92-W	0.03	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 106.03-W	0.22	75 x 164	Ingress/egress, road crossing, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 106.12-W	0.26	30 x 417	PIs, road crossing, side cut	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 106.13-N	0.17	50 x 184	Spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 106.31-N	0.10	15 x 316	Ingress/egress, staging, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 106.33-W	0.14	15 x 412	Ingress/egress, road crossing, PI, spoils storage, sidehill	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 106.38	0.62	171 x 188 (Irregular)	Staging/parking	Trans, Comm, Utilities Corridors	Roads, Corridors	FS
TEWA 106.43-W	0.04	15 x 98	PI, Spoil Storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 106.55-W	0.04	15 x 116	PI, Spoil Storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 106.63-W	0.08	15 x 249	PIs, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 106.77-W	0.41	30 x 634	PIs, road crossings, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 106.88-N	0.09	20 x 206	Ingress/egress, in-road construction, staging, parking	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 107.05-N	1.02	30 x 1,493	Hydro Test Discharge, PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 107.09-W	0.03	15 x 100	PI, side cut	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 107.13-W	0.03	15 x 100	PI, side cut	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 107.20-W	0.03	15 x 100	PI, side cut	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 107.29-W	0.31	15-50 x 422	Log landing, Steep slope staging, spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 107.45-W	0.05	15 x 160	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 107.56-W	0.05	15 x 150	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 107.90-N	0.05	15 x 150	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 108.07-N	0.95	30-50 x 1,267	Ingress/egress, road crossing, PI, spoil storage	Clearcut Forest Land, Ditch, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ditch, Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 108.07-W	0.36	30-50 x 427	Ingress/egress, road crossing, PI, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant – Mixed Conifer, Roads, Corridors	FS
TEWA 108.32-N	0.45	30-50 x 527	Ingress/egress, road crossing, PI, spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 108.38-W	0.18	15-50 x 187	PI, road crossing, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 108.42-W	0.35	15-50 x 497	Ingress/egress, road crossing, PI, spoil storage	Clearcut Forest Land, Ditch, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ditch, Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 108.47-N	0.41	50 x 425	PI, spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 108.56-W	0.09	30 x 150	PI, side cut, top of hill	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 108.84-W	0.11	15 x 325	PI, road crossing, side cut	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 108.91-W	0.16	25 x 306	Ingress/egress, PI, road crossing, log/spoil storage, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 109.10-W	0.43	50 x 448	PI, road crossing, log landing, side cut	Ditch, Evergreen Forest Land, Nonforested Wetlands, Trans, Comm, Utilities Corridors	Ditch, Douglas Fir Dominant - Mixed Conifer, Palustrine Shrub (PSS), Roads, Corridors	FS
TEWA 109.12-N	0.06	30 x 89	Waterbody crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 109.19-N	0.47	30 x 682	Waterbody crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 109.34-N	0.30	30 x 438	PI, road crossings, log landing, side cut, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 109.58-W	0.17	50 x 138	Road crossing, log landing, side cut, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 109.59-N	0.22	20 x 436 (Irregular)	Road crossings, parking, staging, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 109.68-N	0.09	59 x 130 (Irregular)	Road crossing, waterbody crossing, spoil storage	Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Rivers and Streams, Roads, Corridors	FS
TEWA 109.71-W	0.04	30 x 131 (Irregular)	PI, waterbody crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 109.73-N	0.08	60 x 106 (Irregular)	PI, waterbody crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 109.83-W	0.23	50 x 255	PIs, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 109.90-W	0.09	15 x 248	PIs, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 109.99-W	0.03	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 110.01-N	0.24	30 x 315	PIs, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 110.06-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 110.12-W	0.23	50 x 250	Ingress/egress, road crossing, side cut, log landing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 110.19-N	0.10	25 x 215	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 110.21-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 110.27-W	0.34	75 x 200	Staging, parking, truck turnaround	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 110.34-W	0.66	30-50 x 787	PIs, road crossings, side cut, Log landing, heliport	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 110.73 Peavine Quarry	15.87	Irregular	Staging, parking, disposal, log decking/hauling, heliport	Evergreen Forest Land, Nonforested Wetlands, Streams and Canals, Strip Mines, Quarries, and Gravel Pits, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Industrial, Palustrine Unconsolidated Bottom (PUB), Rivers and Streams, Roads, Corridors	FS
TEWA 110.55-W	0.10	30 x 150	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 110.96-N	0.15	35 x 174	Ingress/egress, staging, PI, spoil storage, waterbody crossing,	Evergreen Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Rivers and Streams, Roads, Corridors	FS
TEWA 111.10-W	0.67	15-100 x 321	Staging, parking, truck turn around, top of hill	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 111.21-W	0.11	15 x 341	Log landing, steep slope staging, PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 111.22-N	0.26	50 x 259	Log landing, steep slope staging, PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 111.80-W	0.09	30 x 123	Road crossing, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 111.83-W	0.07	30 x 124	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 111.93-W	1.56	100 x 744	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 112.01-N	0.17	15-50 x 264	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 112.07-N	0.34	15-50 x 776	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 112.17-W	0.09	30 x 150	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 112.53-N	0.34	100 x 150	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 112.54-W	0.59	50 x 561	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 113.05-N	3.55	15-150 x 4,693	Log landing/hauling, ingress/egress, staging, parking	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV, FS
TEWA 113.08-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 113.62-W	0.26	15 x 415	PI, road crossing, side cut	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 114.11-W	0.39	50 x 400	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 114.12-N	0.42	50 x 400	PI, spoil storage	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 114.26-W	0.13	15 x 401	PI, steep slope staging, spoil storage	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 114.28-N	0.27	50 x 249	PI, side cut, top of hill	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 114.43-W	0.17	15 x 502	PIs, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 114.55-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 114.55-N	0.14	30 x 200	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 114.68-W	0.27	15 x 770	Side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 114.99-N	0.77	30-50 x 865	Log landing/hauling, ingress/egress, road crossing,	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
TEWA 115.11-W	0.43	100 x 181	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 115.23-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 115.32-N	0.69	50 x 558	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
TEWA 115.33-W	0.37	50 x 365	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 115.40-W	0.54	50 x 531	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 115.81-N	0.56	100 x 295	Log landing/hauling, Ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 115.83-W	0.50	100 x 246	Log landing/hauling, Ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 115.95-W	0.93	30-50 x 1,249	Log landing/hauling, Ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 116.06-N	0.13	50 x 100	Log landing/hauling, Ingress/egress, road crossing	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 116.08-N	0.10	50 x 100	Log landing/hauling, Ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 116.30-W	0.20	30 x 305	PI, road crossing, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
TEWA 116.43-W	0.03	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 116.56-N	0.14	15 x 416	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 116.59-W	4.17	15-100 x 7,411	PI, spoil storage, log landing, heliport	Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Douglas Fir Dominant - Mixed Conifer, Shrublands	BLM, PV
TEWA 117.13-N	0.14	15 x 431	PI, side slopes, spoil storage	Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Shrublands	BLM
TEWA 117.26-N	0.15	15 x 465	PI, side slopes, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 117.67-N	2.07	15-30 x 1,872	Ingress/egress, road crossing, PI, spoil storage, log landing, heliport	Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shrublands	BLM, PV
TEWA 118.14-W	0.03	15 x 100	PI, side cut	Mixed Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	PV
TEWA 118.23-N	0.23	50 x 250	Ingress/egress, road crossing, spoil storage, parking	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Roads, Corridors, Shrublands	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 118.26-W	0.42	50 x 439	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Shrublands	PV
TEWA 118.38-W	0.20	35 x 300	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Shrublands	PV
TEWA 118.45-N	0.29	30 x 440	PIs, side cut	Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Shrublands	PV
TEWA 118.70-N	0.34	15 x 986	PIs, road crossing, waterbody crossing, side cut	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors, Shrublands	PV
TEWA 118.83-W	0.25	50 x 251	PI, waterbody crossing	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Grasslands (W. Cascades), Shrublands	PV
TEWA 118.89-W	0.22	50 x 186	Ingress/egress, road crossing, waterbody crossing	Herbaceous Rangeland, Shrub and Brush Rangeland	Grasslands (W. Cascades), Shrublands	BLM, PV
TEWA 118.93-N	0.13	50 x 107	Ingress/egress, road crossing	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Roads, Corridors	BLM
TEWA 118.94-W	0.11	50 x 97	Ingress/egress, road crossing	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Roads, Corridors	BLM
TEWA 119.01-W	0.05	30 x 75	Road crossing	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Roads, Corridors	BLM
TEWA 119.03-W	0.67	50 x 615	PIs, road crossing, side cut, steep slope, top of hill	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Roads, Corridors	BLM
TEWA 119.03-N	0.57	50 x 541	PIs, road crossing, side cut, steep slope, top of hill	Mixed Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 119.26-W	0.03	15 x 100	PI, side cut	Mixed Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	BLM
TEWA 119.38-W	0.13	25 x 250	PI, spoil storage	Mixed Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	BLM
TEWA 119.47-N	0.13	15 x 390	PI, steep slope staging, spoils storage	Mixed Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	BLM
TEWA 119.50-W	0.29	30 x 439	PI, steep slope staging, spoils storage	Deciduous Forest Land, Mixed Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Oregon White Oak Forest	BLM
TEWA 119.64-W	0.12	30 x 200	PI, Spoil Storage	Deciduous Forest Land	Oregon White Oak Forest	BLM
TEWA 119.69-N	0.11	25 x 218	Ingress/egress, PI/road crossing, spoil storage,	Deciduous Forest Land, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors	BLM
TEWA 119.69-W	0.11	30 x 200	Ingress/egress, PI/road crossing, spoil storage,	Deciduous Forest Land, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors	BLM
TEWA 119.92-W	0.20	30 x 300	PI, Road crossing, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	BLM, PV
TEWA 119.97-W	0.08	20 x 200	Ingress/egress, road crossing, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Roads, Corridors	PV
TEWA 120.03-W	0.08	20 x 200	PI, road crossing, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	PV
TEWA 120.11-W	0.13	20 x 295	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	PV
TEWA 120.29-W	1.00	30-50 x 1,242	Ingress/egress, road crossing, spoil storage, parking	Deciduous Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Oregon White Oak Forest, Roads, Corridors	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 120.26-N	0.29	50 x 300	Ingress/egress, road crossing, spoil storage, parking	Deciduous Forest Land, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors	BLM, PV
TEWA 120.48-W	0.10	50 x 100	Waterbody crossing	Mixed Forest Land	Douglas Fir -White Fir//Tanoak- Madrone Mixed	PV
TEWA 120.53-W	0.37	25-50 x 501	Ingress/egress, road crossing, spoil storage, parking	Mixed Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 120.53-N	0.13	25 x 250	Ingress/egress, road crossing, spoil storage, parking	Mixed Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak- Madrone Mixed, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 120.73-N	0.17	15 x 505	PI, wetland crossing, staging	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 120.84-N	0.18	20-30 x 333	Wetland crossing staging, ingress/egress	Mixed Forest Land, Residential, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors, Urban	PV
TEWA 120.93-N	0.06	15-21 x 157	PI, waterbody crossing	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 121.03-N	0.52	15 x 1,514	PI, side slopes, spoil storage	Deciduous Forest Land, Mixed Forest Land, Mixed Rangeland, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Oregon White Oak Forest, Shrublands	BLM, PV
TEWA 121.19-W	0.36	50 x 332	PI, side slopes, spoil storage	Deciduous Forest Land, Mixed Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 121.82-N	0.67	10-40 x 2,147	PI, spoil storage	Deciduous Forest Land, Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 121.86-W	0.04	15 x 100	PI, side cut	Deciduous Forest Land	Oregon White Oak Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 121.95-W	11.78	387 x 1,572 (Irregular)	HDD (Rogue River) staging/pull-back	Deciduous Forest Land, Mixed Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Oregon White Oak Forest, Rivers and Streams, Roads, Corridors	PV
TEWA 122.62-W	0.98	204 x 624 (Irregular)	Rogue River HDD	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV, ST
TEWA 122.78-N	0.19	45 x 254 (200 x 250)	HDD (Rogue River) staging	Mixed Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 122.78-W	0.40	60 x 254 (200 x 250)	HDD (Rogue River) staging	Mixed Forest Land	Ponderosa Pine/White Oak	PV
TEWA 122.96-W	0.34	50 x 365	Ingress/egress, PI, road crossing, spoil storage	Evergreen Forest Land, Mixed Forest Land	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak	PV
TEWA 123.02-N	0.29	50 x 300	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 123.07-W	0.03	30 x 50	Road crossing	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 123.08	0.18	80 x 100	Staging	Deciduous Forest Land	Oregon White Oak Forest	BLM
TEWA 123.08-W	0.03	30 x 50	Road crossing	Deciduous Forest Land, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors	PV
TEWA 123.09-N	0.52	25 x 698	PI, side cut, top of hill	Deciduous Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Oregon White Oak Forest	PV
TEWA 123.17-W	1.09	30 x 1,606	PIs, side cut, top of hill	Deciduous Forest Land, Evergreen Forest Land, Mixed Rangeland	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades), Oregon White Oak Forest	BLM, PV
TEWA 123.50-N	0.10	30 x 175	PI, side cut	Deciduous Forest Land	Oregon White Oak Forest	BLM
TEWA 123.53-W	2.85	30-100 x 3,223	PIs, side cut staging, parking, truck turn around, top of hill	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 123.60-N	0.26	30 x 413	Steep slope staging	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM
TEWA 123.71-N	0.26	75 x 150	Hydrostatic Test Water Discharge	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM
TEWA 123.93-N	0.26	30 x 412	PI, spoil storage	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM
TEWA 124.06-N	0.66	30 x 1,005	Log landing, steep slope staging, spoil storage	Deciduous Forest Land, Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Oregon White Oak Forest, Shrublands	BLM, STF
TEWA 124.19-W	0.59	30 x 899	Log landing, steep slope staging, spoil storage	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM, STF
TEWA 124.30-N	0.46	80 x 200	Log landing, steep slope staging, spoil storage	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	STF
TEWA 124.54-W	1.01	100 x 501	Log landing, steep slope staging, spoil storage	Deciduous Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Oregon White Oak Forest	BLM
TEWA 124.56-N	0.21	30 x 340	Log landing, steep slope staging, spoil storage	Deciduous Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Oregon White Oak Forest	BLM
TEWA 124.71-W	1.90	15-30 x 3,225	Log landing, heliport, steep slope staging, spoil storage	Evergreen Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors	BLM
TEWA 124.96-N	1.94	50 x 1,738	Log landing, heliport, ingress/egress, road crossing, steep slope	Evergreen Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors	BLM
TEWA 125.34-W	2.49	30-50 x 3,041	Log landing, ingress/egress, steep slope staging	Evergreen Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 125.36-N	1.49	20-50 x 2,543	Log landing, ingress/egress, steep slope staging	Evergreen Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors	BLM, PV
TEWA 125.87-N	0.16	30 x 273	Ingress/egress, road crossing, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 125.94-N	0.10	25 x 201	Waterbody crossing staging	Mixed Forest Land	Ponderosa Pine/White Oak	PV
TEWA 125.95-W	0.14	25 x 263	Waterbody crossing staging	Mixed Forest Land	Ponderosa Pine/White Oak	PV
TEWA 125.99-N	0.10	25 x 200	Waterbody crossing staging	Mixed Forest Land	Ponderosa Pine/White Oak	PV
TEWA 125.99-W	1.82	25-75 x 2,509	Ingress/egress, steep slope staging, PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM, PV
TEWA 126.09-N	0.16	25 x 300	Staging waterbody crossing	Shrub and Brush Rangeland	Shrublands	PV
TEWA 126.26-N	0.74	75 x 413	Ingress/egress, steep slope staging, PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM, PV
TEWA 126.49-W	0.12	30 x 209	Waterbody crossing, staging/spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 126.57-W	0.11	30 x 193	Ingress/egress, road/waterbody crossing staging/spoil storage	Mixed Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	BLM, PV
TEWA 126.72-W	0.27	50 x 294	Steep slope staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
TEWA 126.73-N	0.28	50 x 283	Steep slope staging, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 127.24-N	0.92	30-100 x 772	Ingress/egress, road crossing, staging, PI, spoil storage	Ditch, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ditch, Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	PV
TEWA 127.25-W	0.25	30 x 327 (Irregular)	PI, ingress/egress, road crossing, spoil storage	Ditch, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ditch, Roads, Corridors, Shrublands	PV
TEWA 127.30A	0.58	65 x 331 (Irregular)	Water Source - Dust (Indian Lake Reservoir -1)	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 127.30B	0.06	35 x 113 (Irregular)	Road intersection widening	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 127.33-W	0.04	30 x 75	Waterbody crossing	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	PV
TEWA 127.49-N	0.16	15 x 477	PI, side cut	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 127.62-W	1.17	30 x 1,726	PIs, side cut	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 127.65-N	0.66	30 x 977	PIs, side cut	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 127.86-N	0.14	30 x 250	PI, side cut	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 128.01-N	0.28	30 x 427	PI, road crossing, side cut	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM
TEWA 128.01-W	0.77	30 x 1,158	PIs, road crossing, side cut	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 128.15-N	0.25	30 x 400	PI, road crossing, side cut	Mixed Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	BLM
TEWA 128.31-W	0.07	15 x 200	PI, side cut	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 128.44-W	0.06	15 x 200	PI, waterbody crossing, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 128.55-W	0.15	50 x 175	Wetland crossing staging	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 128.55-N	0.30	10-50 x 676	Wetland crossing staging	Mixed Rangeland, Nonforested Wetlands, Streams and Canals	Grasslands (W. Cascades), Palustrine Emergent (PEM), Rivers and Streams	PV
TEWA 128.63-W	0.29	50 x 275	Wetland crossing staging	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 128.68-W	0.06	30 x 100	Waterbody crossing	Mixed Forest Land, Mixed Rangeland, Streams and Canals	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams	PV
TEWA 128.79-N	0.46	100 x 200	Steep slope staging	Shrub and Brush Rangeland	Shrublands	BLM
TEWA 128.83-W	0.15	50 x 160	Wetland crossing staging	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	BLM
TEWA 128.89-W	0.20	15-50 x 261	Wetland crossing staging	Evergreen Forest Land, Mixed Forest Land	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 128.92-N	0.30	15 x 891	Steep slope staging, spoil storage	Deciduous Forest Land, Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Oregon White Oak Forest, Shrublands	BLM
TEWA 128.96-W	0.96	15 x 2,783	PIs, road crossing, side cut	Deciduous Forest Land, Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Oregon White Oak Forest, Ponderosa Pine/White Oak, Shrublands	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 129.57-W	0.17	30 x 270	PI, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 129.65-W	0.24	30 x 400	PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 129.84-W	0.13	30 x 218	Ingress/egress, PI, spoil storage	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 129.92-W	0.20	30 x 319	Powerline/road crossing, PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 130.06-W	0.34	30 x 530	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 130.48-W	0.20	30 x 329	PIs, side cut	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
TEWA 130.75-W	0.34	75 x 259	Ingress/egress, road crossing, spoil storage	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 130.78-N	0.14	50 x 126	Ingress/egress, road crossing, spoil storage	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 130.81-W	0.29	75 x 191	Ingress/egress, road crossing, spoil storage	Mixed Rangeland, Nonforested Wetlands, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Palustrine Shrub (PSS), Rivers and Streams, Roads, Corridors, Shrublands	PV
TEWA 130.86-W	0.07	30 x 100	Waterbody crossing	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 131.03-N	0.41	15-25 x 1,174	Wetland crossing staging	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 131.18-W	0.45	25-50 x 500	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 131.34-W	2.42	30 x 3,551	PI, spoil storage	Cropland and Pasture, Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland, Streams and Canals	Agriculture, Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Rivers and Streams, Shrublands	BLM, PV
TEWA 131.36-N	0.06	15 x 200	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM, PV
TEWA 131.45-N	0.15	15 x 457	PI, spoil storage, sidehill	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 131.60-N	0.07	15 x 207	PI, spoil storage	Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 131.73-N	0.06	15 x 200	PI, spoil storage	Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 131.88-N	0.42	15 x 1,231	Sidehill spoil storage, topsoil salvage, waterbody crossing/staging	Cropland and Pasture, Ditch, Mixed Forest Land, Shrub and Brush Rangeland	Agriculture, Ditch, Palustrine Emergent (PEM), Ponderosa Pine/White Oak, Shrublands	BLM, PV
TEWA 132.18-W	0.18	15-30 x 417	PI, top soil storage	Ditch, Mixed Forest Land, Nonforested Wetlands, Residential	Ditch, Palustrine Emergent (PEM), Ponderosa Pine/White Oak, Urban	PV
TEWA 132.26-W	0.38	15-30 x 865	PI, top soil storage	Mixed Forest Land, Mixed Rangeland, Nonforested Wetlands	Grasslands (W. Cascades), Palustrine Emergent (PEM), Ponderosa Pine/White Oak	PV
TEWA 132.45-W	3.29	412 x 435 (Irregular)	Ingress/egress, Butte Falls Hwy crossing	Cropland and Pasture, Mixed Rangeland, Nonforested Wetlands, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 132.46-N	0.24	50 x 213	Ingress/egress, Butte Falls Hwy crossing	Cropland and Pasture, Mixed Rangeland, Nonforested Wetlands	Grasslands (W. Cascades), Palustrine Emergent (PEM)	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 132.52-N	0.22	50 x 194	Ingress/egress, Butte Falls Hwy crossing	Cropland and Pasture, Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 132.52-W	0.17	16-70 x 193	Ingress/egress, Butte Falls Hwy crossing	Cropland and Pasture, Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 132.68-N	0.06	30 x 150	Wetland crossing/staging and PI	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 132.69-W	0.05	30 x 100	Wetland/PI, spoil storage	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 132.72-W	0.08	30 x 154	Waterbody crossing (Quartz Creek) staging	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 132.79-W	0.15	30 x 250	Waterbody crossing (Quartz Creek) staging	Evergreen Forest Land, Herbaceous Rangeland	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	PV
TEWA 132.89-W	0.53	30 x 794	PI, spoil storage	Deciduous Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Ponderosa Pine/White Oak, Shrublands	PV
TEWA 133.14-W	0.06	30 x 100	PI, side cut	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 133.24-N	0.54	50 x 524	Medford Aqueduct (bore pit)	Evergreen Forest Land, Streams and Canals	Douglas Fir Dominant - Mixed Conifer, Rivers and Streams	BLM
TEWA 133.28-W	1.02	50-308 x 386 (Irregular)	Medford Aqueduct (bored pit), ingress/egress, staging	Evergreen Forest Land, Mixed Forest Land, Residential, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors, Urban	BLM, PV
TEWA 133.39-N	0.26	75 x 150	Medford Aqueduct (bore pit)	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 133.41-W	2.01	30-50 x 2,737	Medford Aqueduct (bore pit)	Evergreen Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 133.44-N	1.18	30-50 x 1,452 (Irregular)	Staging, spoil storage	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM, PV
TEWA 133.72-N	0.80	30-50 x 869	Staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 133.98-N	0.13	15 x 400	Road crossings, side cut, top of hill	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 133.98-W	0.25	30 x 400	Road crossings, side cut, top of hill	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 134.08-W	0.18	30 x 276	PI, spoil storage	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
TEWA 134.26-W	0.11	30 x 200	PI, road crossing, side cut	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 134.26-N	0.28	15 x 824	PIs, road crossing, side cut, top of hill	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 134.39-W	0.34	105 x 366 (Irregular)	PI, spoil storage	Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	PV
TEWA 134.58-W	1.38	150 x 400	Log landing/hauling, ingress/egress, road crossing	Mixed Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 134.78-W	0.12	30 x 200	PI, road crossing, spoil storage	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 134.88-W	0.40	15 x 1,168	Road crossing, side cut	Clearcut Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
TEWA 135.27-W	0.12	30 x 200	PI, spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
TEWA 135.38-W	0.25	30 x 400	PI, spoil storage	Clearcut Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
TEWA 135.52-W	0.11	50 x 100	Log landing/hauling, Ingress/egress, road crossing	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 135.52-N	0.23	100 x 100	Log landing/hauling, Ingress/egress, road crossing	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shrublands	PV
TEWA 135.63-W	0.13	30 x 200	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 135.79-W	1.26	30-213 x 1,066 (Irregular)	PI, staging, spoil storage	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 135.81-N	0.14	15 x 413	PI, side cut	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 135.94-N	0.13	15 x 400	PI, spoil storage	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
TEWA 136.11-N	0.39	15-50 x 586	Log landing/hauling, ingress/egress, road crossing	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 136.11-W	0.28	50 x 300	Log landing/hauling, ingress/egress, road crossing	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 136.28-W	0.17	50 x 200	Ingress/egress, staging	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 136.28-N	0.17	50 x 200	Ingress/egress, staging	Clearcut Forest Land, Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shrublands	PV
TEWA 136.44-W	0.17	50 x 200	Ingress/egress, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 136.44-N	0.17	50 x 200	Ingress/egress, staging	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 136.80-N	0.65	175 x 141	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, PV
TEWA 136.80-W	0.39	50 x 400	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
TEWA 136.89-N	0.39	50 x 400	Log landing/hauling, ingress/egress, road crossing	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 137.03-W	0.07	25 x 150	Spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 137.03-N	0.07	25 x 150	Spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 137.13-N	0.17	50 x 200	Ingress/egress, road crossing, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors	BLM, PV
TEWA 137.22-W	0.37	50 x 349	Log landing/hauling, Ingress/egress, road crossing	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 137.26-N	0.19	122 x 117 (Irregular)	Log landing/hauling, Ingress/egress, road crossing	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 137.30-N	0.10	50 x 100	Ingress/egress, road crossing, spoil storage	Herbaceous Rangeland, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 137.31-W	0.11	50 x 103	Ingress/egress, road crossing, spoil storage	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 137.39-W	0.31	30 x 465	Waterbody crossing (Whiskey Creek)	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 137.50-W	0.18	50 x 186	Waterbody crossing (Whiskey Creek)	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 137.50-N	0.06	15 x 172	Waterbody crossing (Whiskey Creek)	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 137.70-W	0.12	30 x 200	PI, spoil storage	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 137.80-W	0.41	50 x 400	PI, spoil storage	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
TEWA 137.98-W	0.42	30 x 640	Log landing/hauling, Ingress/egress, road crossing	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 138.03-N	0.41	50 x 400	Log landing/hauling, Ingress/egress, road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 138.24-W	0.08	50 x 85	PI, spoil storage	Regenerating Evergreen Forest Land, Streams and Canals	Ponderosa Pine/White Oak, Rivers and Streams	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 138.26-W	0.27	50 x 283	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	PV
TEWA 138.39-W	0.25	50 x 241	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	PV
TEWA 138.40-N	0.22	50 x 226	PI, spoil storage	Mixed Forest Land	Ponderosa Pine/White Oak	PV
TEWA 138.47-W	0.15	50 x 128	Waterbody crossing staging	Shrub and Brush Rangeland	Shrublands	PV
TEWA 138.52-W	0.15	50 x 128	Waterbody crossing staging	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 138.56-W	0.24	50 x 250	Log landing/hauling, Ingress/egress, road crossing	Mixed Forest Land	Ponderosa Pine/White Oak	PV
TEWA 138.57-N	0.58	50-100 x 380	PI, spoil storage	Mixed Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 138.90-W	0.03	15 x 100	PI, side cut	Mixed Forest Land, Mixed Rangeland	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 139.01-W	0.27	50 x 300	Ingress/egress, road crossing, spoil storage	Mixed Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 139.01-N	0.30	50 x 300	Ingress/egress, road crossing, spoil storage	Mixed Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 139.08-N	0.29	50 x 300	Wetland and waterbody crossing, side cut	Mixed Rangeland	Grasslands (W. Cascades)	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 139.08-W	2.44	262 x 371 (Irregular)	Ingress/egress, staging	Mixed Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 139.39-W	0.05	30 x 100	PI, road crossing, side cut	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 139.41-W	0.04	30 x 37	PI, road crossing, side cut	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 139.46-W	0.04	25 x 100	Ingress/Egress	Mixed Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 139.52-W	0.05	20 x 128	Wetland staging	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 139.55-W	0.05	25 x 118	Wetland staging	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 139.57-N	0.06	25 x 114	Wetland staging	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 139.60-N	0.02	15 x 85	Wetland staging	Mixed Rangeland	Grasslands (W. Cascades)	PV
TEWA 139.68-W	0.19	30 x 319	PI, spoil storage	Mixed Rangeland, Nonforested Wetlands, Streams and Canals	Grasslands (W. Cascades), Palustrine Emergent (PEM), Rivers and Streams	PV
TEWA 140.27-N	0.11	25 x 196	Waterbody crossing staging, ingress/egress	Mixed Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	BLM
TEWA 139.82-W	1.07	15-50 x 2,294	Waterbody crossing staging, ingress/egress	Evergreen Forest Land, Mixed Forest Land, Mixed Rangeland, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades), Ponderosa Pine/White Oak, Rivers and Streams, Roads, Corridors, Shrublands	BLM, PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 140.28-W	0.27	50 x 228	PI, waterbody crossing, side cut, top of hill	Evergreen Forest Land, Mixed Forest Land, Mixed Rangeland, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades), Ponderosa Pine/White Oak, Rivers and Streams, Roads, Corridors, Shrublands	BLM, PV
TEWA 140.32-N	0.57	15-25 x 1,316	Spoil storage side slopes/PI	Herbaceous Rangeland, Mixed Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	BLM
TEWA 140.33-W	0.65	50 x 635	Spoil storage side slopes/PI	Herbaceous Rangeland, Mixed Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	BLM
TEWA 140.66-W	0.04	30 x 50	Road crossing	Herbaceous Rangeland, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors, Shrublands	PV
TEWA 140.68-W	0.45	30-50 x 483	PI, spoil storage	Mixed Rangeland, Shrub and Brush Rangeland	Grasslands (W. Cascades), Shrublands	PV
TEWA 140.85-W	1.36	15-243 x 1,523 (Irregular)	Staging, hydrostatic discharge	Ditch, Mixed Rangeland, Shrub and Brush Rangeland	Ditch, Grasslands (W. Cascades), Shrublands	BLM, PV
TEWA 140.98	2.06	295 x 382 (Irregular)	Water source	Ditch, Mixed Forest Land, Mixed Rangeland, Nonforested Wetlands	Ditch, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM), Palustrine Unconsolidated Bottom (PUB)	PV
TEWA 141.27-W	0.03	15 x 100	PI, spoil storage, side slope	Shrub and Brush Rangeland	Shrublands	BLM
TEWA 141.33-W	0.12	30 x 200	PI, spoil storage	Shrub and Brush Rangeland	Shrublands	BLM
TEWA 141.44-W	0.08	15 x 237	PI, side cut	Shrub and Brush Rangeland	Shrublands	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 141.52-W	0.27	15 x 773	PI, side cut	Deciduous Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors, Shrublands	BLM
TEWA 141.67-W	0.06	15 x 193	PI, side cut	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM
TEWA 141.77-N	0.31	50 x 313	Ingress/egress, road crossing, staging	Deciduous Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors, Shrublands	BLM
TEWA 141.78-W	0.27	50 x 293	Ingress/egress, road crossing, staging	Deciduous Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors, Shrublands	BLM
TEWA 141.88-W	0.03	15 x 100	PI, side cut	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM
TEWA 141.97-W	3.94	15-360 x 1,393 (Irregular)	Ingress/egress, staging, parking	Deciduous Forest Land, Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Oregon White Oak Forest, Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	PV
TEWA 142.07-N	0.64	215 x 316 (Irregular)	Ingress/egress, road crossing, spoil storage, staging	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	PV
TEWA 142.17-N	0.63	10-50 x 1,982	Waterbody (Salt Creek) crossing, PI, spoil storage	Deciduous Forest Land, Ditch, Herbaceous Rangeland, Nonforested Wetlands, Shrub and Brush Rangeland, Streams and Canals	Ditch, Grasslands (W. Cascades), Oregon White Oak Forest, Palustrine Emergent (PEM), Rivers and Streams, Shrublands	PV
TEWA 142.51-W	0.38	50 x 357	Waterbody (Salt Creek) crossing staging, PI, spoil storage	Nonforested Wetlands	Palustrine Emergent (PEM)	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 142.58-N	0.22	10-50 x 417	Waterbody (Salt Creek) crossing staging, topsoil storage	Ditch, Herbaceous Rangeland, Mixed Forest Land, Nonforested Wetlands	Ditch, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM)	PV
TEWA 142.58-W	0.13	50 x 163	Waterbody (Salt Creek) crossing staging, spoil storage	Nonforested Wetlands	Palustrine Emergent (PEM)	PV
TEWA 142.68-N	0.15	30 x 260	PIs, side cut	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
TEWA 142.80-N	0.41	30 x 619	PI, side cut	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	PV
TEWA 142.83-N	0.98	30 x 1,452	PIs, side cut	Deciduous Forest Land, Mixed Forest Land	Oregon White Oak Forest, Ponderosa Pine/White Oak	PV
TEWA 143.05-W	0.25	50 x 269	PI, spoil storage	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 143.11-W	0.09	50 x 102	PI, spoil storage	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 143.31-W	0.64	15-75 x 1,067	Log landing/staging	Deciduous Forest Land, Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Oregon White Oak Forest, Roads, Corridors	PV
TEWA 143.52-W	0.30	50 x 315	PI, spoil storage	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 143.69-W	0.59	15-50 x 616	PI, spoil storage	Deciduous Forest Land, Nonforested Wetlands, Shrub and Brush Rangeland, Streams and Canals	Oregon White Oak Forest, Palustrine Unconsolidated Bottom (PUB), Rivers and Streams, Shrublands	PV
TEWA 143.78-N	0.50	15 x 1,461	PI, road crossing, side cut	Deciduous Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors, Shrublands	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 144.00	1.46	242 x 312	Water Source - Dust (Unnamed Reservoir)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV
TEWA 144.12-W	0.09	30 x 150	PI, waterbody crossing, side cut	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 144.16-N	0.14	15 x 409	PI, side cut	Deciduous Forest Land, Herbaceous Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 144.17-W	0.23	30 x 350	PI, side cut	Deciduous Forest Land, Herbaceous Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 144.34-W	0.46	10-30 x 1,775	PIs, waterbody crossing, side cut	Deciduous Forest Land, Mixed Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 144.59-N	0.45	10-60 x 994 (Irregular)	PIs, road crossing, waterbody crossing, side cut	Deciduous Forest Land, Mixed Rangeland, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Oregon White Oak Forest, Rivers and Streams, Roads, Corridors, Shrublands	PV
TEWA 144.70-W	0.79	15-50 x 858	PIs, road crossing, waterbody crossing, side cut	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	PV
TEWA 144.80-N	1.04	10-30 x 1,818	PIs, side cut	Deciduous Forest Land, Mixed Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 145.07-W	0.03	15 x 100	PI, side cut	Deciduous Forest Land, Mixed Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 145.18-W	0.39	50 x 377	Road crossing, side cut	Deciduous Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Oregon White Oak Forest, Roads, Corridors	PV
TEWA 145.05	0.18	130 x 67 (Irregular)	Water Source - Dust (Gardener Reservoir-1)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV
TEWA 145.15	0.19	135 x 91 (Irregular)	Water Source - Dust (Gardener Reservoir-1)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 145.38-N	0.94	10-55 x 3,012	PIs, road crossings, waterbody crossings	Ditch, Mixed Forest Land, Mixed Rangeland, Nonforested Wetlands, Streams and Canals, Trans, Comm, Utilities Corridors	Ditch, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Palustrine Emergent (PEM), Rivers and Streams, Roads, Corridors	PV
TEWA 145.39-W	0.05	25 x 100	Road crossing	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 145.49-W	0.65	50 x 618	PIs, road crossings	Cropland and Pasture, Mixed Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Grasslands (W. Cascades), Roads, Corridors	PV
TEWA 145.53-W	0.20	50 x 183	Ingress/egress, road crossing, waterbody crossing	Ditch, Mixed Forest Land, Mixed Rangeland, Streams and Canals	Ditch, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams	PV
TEWA 145.58-N	0.48	50 x 443	PI, ingress/egress, road crossing, waterbody crossing, topsoil	Cropland and Pasture, Mixed Forest Land, Nonforested Wetlands, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 145.58-W	0.55	50 x 468	PI, ingress/egress, road crossing, waterbody crossing, topsoil	Cropland and Pasture, Mixed Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM), Rivers and Streams, Roads, Corridors	PV
TEWA 145.70-N	0.51	10-30 x 1,373	PIs, waterbody crossing, side cut	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
TEWA 145.70-W	0.57	30-150 x 225	PI, waterbody crossing	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 145.91-W	0.48	30 x 695	PI, road crossing, waterbody crossing, side cut	Cropland and Pasture, Mixed Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors	PV
TEWA 146.07-W	0.39	30-50 x 483	PI, waterbody crossing	Mixed Forest Land, Mixed Rangeland	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
TEWA 146.14-N	0.90	10-50 x 3,356	Topsoil	Mixed Forest Land, Mixed Rangeland, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Ponderosa Pine/White Oak, Rivers and Streams, Roads, Corridors, Shrublands	PV
TEWA 146.81-N	0.22	50 x 150	PI, waterbody crossing	Deciduous Forest Land, Herbaceous Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 146.82-W	0.10	50 x 101	PI, waterbody crossing	Deciduous Forest Land, Herbaceous Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 146.92-W	0.03	15 x 100	PI, side cut	Deciduous Forest Land	Oregon White Oak Forest	PV
TEWA 147.01-W	0.04	15 x 100	PI, side cut	Deciduous Forest Land, Herbaceous Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 147.08-N	0.98	15-50 x 1,545	Log landing/decking/hauling, steep slope staging	Deciduous Forest Land, Herbaceous Rangeland	Grasslands (W. Cascades), Oregon White Oak Forest	PV
TEWA 147.35-W	0.04	15 x 100	PI, spoil storage	Herbaceous Rangeland	Grasslands (W. Cascades)	PV
TEWA 147.47-W	0.03	15 x 100	PI, side cut	Herbaceous Rangeland	Grasslands (W. Cascades)	PV
TEWA 146.40	0.26	73 x 250 (Irregular)	Water Source - Hydro (N. Fork Little Butte Creek-2)	Cropland and Pasture, Mixed Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 146.70	0.10	48 x 156 (Irregular)	Water Source - Hydro (N. Fork Little Butte Creek-2)	Cropland and Pasture, Mixed Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
TEWA 147.68-N	0.68	50-130 x 413 (Irregular)	Ingress, egress, PI, spoil storage, staging, park	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	PV
TEWA 147.72-W	0.18	30 x 258	PI, road crossing, side cut	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland	Grasslands (W. Cascades), Ponderosa Pine/White Oak, Shrublands	PV
TEWA 147.75-W	0.04	30 x 75	Road crossing, side cut	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	PV
TEWA 147.93-W	2.26	30-50 x 2,804	PI, spoil storage	Deciduous Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Ponderosa Pine/White Oak, Shrublands	BLM, PV
TEWA 148.42-N	0.48	50 x 398	PI, side cut, top of hill	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 148.53-W	0.47	75 x 350	Log landing, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 148.67-N	0.59	50 x 544	PI, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 148.72-W	1.89	15-95 x 1,684	Log landing, PI, staging, spoil storage	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 148.95-N	0.16	20 x 354	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 149.64-W	3.64	30-105 x 3,054	Log landing, steep slope staging, PI, spoil storage	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM, PV
TEWA 149.72-N	0.74	35 x 943	Spoil storage - side slopes	Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Shrublands	BLM
TEWA 149.98-N	0.32	10-50 x 1,003	Ingress/egress and staging	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 150.20-N	0.89	50 x 827	Ingress/egress, staging, spoil storage, parking	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	PV
TEWA 150.31-W	6.16	30-285 x 2,221 (Irregular)	Staging, spoil storage, parking	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM, PV
TEWA 150.40-N	0.15	25 x 292	PI, road crossing, side cut	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 150.66-N	0.15	25 x 280	Road crossing, side cut	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 150.72-W	2.52	25-75 x 2,103	Log landing, staging, spoil storage	Evergreen Forest Land, Herbaceous Rangeland, Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM
TEWA 150.82-N	0.07	25 x 150	Log landing, staging spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 150.88-N	0.07	25 x 150	Log landing, staging spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 150.94-N	0.50	15-25 x 1,329	Log landing, staging spoil storage	Evergreen Forest Land, Herbaceous Rangeland, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades), Roads, Corridors, Shrublands	BLM
TEWA 151.15-W	0.39	50 x 400	PI, spoil storage	Herbaceous Rangeland	Grasslands (W. Cascades)	BLM
TEWA 151.35-N	0.18	25 x 339	Ingress/egress, PI, spoil storage	Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	BLM
TEWA 151.38-W	4.37	25-100 x 5,459	Ingress/egress, PI, spoil storage, side cut, hydrostatic discharge	Evergreen Forest Land, Herbaceous Rangeland, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades), Ponderosa Pine Forest and Woodland, Roads, Corridors, Shrublands	BLM, PV
TEWA 152.29-N	0.80	50-75 x 649	Ingress/egress, road crossing, staging, water source	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 152.54-W	0.43	75 x 250	Ingress/egress, road crossing, staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	BLM
TEWA 152.54-N	0.43	75 x 250	Ingress/egress, road crossing, staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	BLM
TEWA 152.86-W	2.00	50-125 x 1,280	PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	BLM
TEWA 153.24-W	0.34	50 x 337	PIs, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine Forest and Woodland	BLM
TEWA 153.41-W	1.21	50 x 1,126	Ingress/egress, PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	BLM
TEWA 153.76-W	1.78	314 x 510 (Irregular)	Log landing/decking/hauling, staging, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine Forest and Woodland, Roads, Corridors	BLM
TEWA 153.76-N	0.14	30 x 221	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 154.09-W	0.51	133 x 199	Log landing/decking/hauling, staging, spoil storage	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	FS
TEWA 154.10-N	0.43	75 x 256	Log landing/decking/hauling, staging, spoil storage	Evergreen Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	FS
TEWA 154.71-W	0.77	30-50 x 632 (Irregular)	Log landing/decking/hauling, staging, spoil storage	Evergreen Forest Land, Mixed Rangeland	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 154.91-W	0.11	30 x 200	PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV, FS
TEWA 154.94-N	0.85	50 x 678	Log landing, staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 155.02-W	0.16	30-50 x 203	PI, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 155.07-W	2.91	30-172 x 2,169 (Irregular)	Log landing/decking/hauling, ingress/egress, road crossing	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV, FS
TEWA 155.40-N	0.87	50-87 x 562 (Irregular)	Log landing/decking/hauling, ingress/egress, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV, FS
TEWA 155.62-N	0.82	50 x 772	Ingress/egress, road crossing, PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 155.71-W	0.06	30 x 82	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 155.78-W	0.76	15-212 x 1,110 (Irregular)	Log landing, decking/hauling, Ingress/egress, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 155.97-N	0.17	50 x 193	Log landing, decking/hauling, Ingress/egress, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 156.14-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 156.15-N	0.20	15 x 578	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant – Mixed Conifer	FS
TEWA 156.18-W	0.39	50 x 401	PI, spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 156.76-W	0.05	30 x 71	Road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 156.78-W	0.93	18-65 x 1,119 (Irregular)	Ingress/egress, road crossing, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 156.78-N	0.21	50 x 200	Ingress/egress, road crossing, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 157.32-W	0.19	30 x 303	PIs, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 157.39-W	0.05	30 x 75	Road crossing, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 157.44-N	0.40	50 x 400	Log landing, decking/hauling, ingress/egress, road crossing	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 157.45-W	1.17	75 x 885	Log landing, decking/hauling, ingress/egress, road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 157.96-N	0.21	25 x 401	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 157.96-W	0.22	25 x 401	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 158.08-W	0.08	20 x 200	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 158.13-W	0.09	20 x 201	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 158.19-W	0.08	20 x 201	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 158.27-W	0.08	20 x 200	PI, spoil storage	Evergreen Forest Land, Mixed Rangeland	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 158.47-W	0.89	15 x 2,609	PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 158.73-N	0.64	160 x 160 (Irregular)	Ingress/egress, spoil storage, staging, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 159.41-W	0.14	30 x 197	Ingress/egress, staging, spoil storage, parking	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 159.44-W	0.06	30 x 97	Ingress/egress, staging, spoil storage, parking	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 159.55-W	0.08	30 x 150	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 159.69-W	0.08	30 x 150	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 159.74-N	0.13	15 x 400	PIs/spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 159.77-W	0.09	30 x 150	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 159.85-N	0.65	30-50 x 878	Ingress/egress, PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 159.98-W	0.09	30 x 150	PI, road crossing, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 160.11-N	2.75	30-75 x 3,267 (Irregular)	Staging -in-road work, parking, spoil storage, hydro discharge	Evergreen Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades), Roads, Corridors, Shrublands	FS
TEWA 160.11-W	0.59	75 x 355	Staging -in-road work, parking, spoil storage, hydro discharge	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 160.54-W	15.27	920 x 1,096 (Irregular)	Log landing/decking/hauling, ingress/egress, staging	Evergreen Forest Land, Mixed Rangeland, Shrub and Brush Rangeland, Strip Mines, Quarries, and Gravel Pits, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades), Industrial, Roads, Corridors, Shrublands	FS
TEWA 161.24-N	1.60	228 x 537 (Irregular)	Staging, truck turn around	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 161.40	1.38	140 x 843 (Irregular)	Water Source - Hydro (Fish Lake-1)	Beaches	Beaches	FS
TEWA 161.40	0.21	90 x 155 (Irregular)	Water Source - Hydro (Fish Lake-2)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	FS
TEWA 161.53-W	0.41	50 x 382	PI, side cut	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 161.95-W	0.29	50 x 300	Log landing, staging spoil storage	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 162.16-W	0.08	25 x 177	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 162.37-W	0.25	50 x 266	S. Fork Little Butte Creek crossing staging	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 162.37-N	0.24	50 x 265	S. Fork Little Butte Creek crossing staging	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 162.47-N	0.26	50 x 275	S. Fork Little Butte Creek crossing staging	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 162.48-W	0.26	50 x 275	S. Fork Little Butte Creek crossing staging	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 163.11-N	0.08	15 x 244	Ingress/egress, road crossing, staging, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 163.11-W	0.09	15 x 262	Ingress/egress, road crossing, staging, spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 163.26-W	0.09	30 x 150	PIs/spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 163.43-W	0.22	50 x 256	PIs/spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 163.68-W	0.20	15-50 x 260	Log landing, staging, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 164.14-W	0.86	30-100 x 570	Log landing/decking/hauling, ingress/egress, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 164.15-N	0.47	50 x 392	Log landing/decking/hauling, ingress/egress, road crossing	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 164.29-W	0.05	30 x 75	PIs, road crossing, side cut	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 164.31-N	0.09	30 x 150	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 164.34-W	1.14	15-30 x 3,316	PIs, road crossing, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 164.99-W	9.52	674 x 841 (Irregular)	Log landing/decking/hauling, in-road construction	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 165.13-W	0.09	30 x 150	PI, road crossing, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 165.88-W	0.38	50 x 399	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 166.06-W	0.29	50 x 299	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 166.08-N	0.29	50 x 299	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 166.39-W	0.29	50 x 300	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 166.44-N	0.29	50 x 299	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 167.28-W	0.11	50 x 100	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 167.30-N	0.12	50 x 100	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 167.31-W	0.11	50 x 100	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 167.32-N	0.11	50 x 100	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.05-N	0.33	50 x 270	PI, side cut	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.23-W	0.43	30-50 x 348 (Irregular)	Log landing/decking, hauling, Ingress/egress, staging, parking	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 168.26-W	0.40	115 x 250 (Irregular)	Log landing/decking, hauling, Ingress/egress, staging, parking	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.55-W	2.33	44-210 x 800 (Irregular)	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.66-N	0.18	50 x 135	Ingress/egress, Log landing/decking, hauling, road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.69-N	0.07	50 x 86	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.79-W	0.13	50 x 145	Dead Indian Memorial Highway crossing, staging	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.79-N	0.16	50 x 163	Dead Indian Memorial Highway crossing, staging	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.85-N	0.16	50 x 142	Dead Indian Memorial Highway crossing, staging	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.85-W	0.08	50 x 95	Dead Indian Memorial Highway crossing, staging	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 168.85	0.49	185 x 230 (Irregular)	Water withdrawal/staging, parking	Trans, Comm, Utilities Corridors	Roads, Corridors	FS
TEWA 169.49-N	0.44	50 x 448	Log landing/decking/hauling, Ingress/egress, bloc	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	PV
TEWA 169.51-W	0.43	40-91 x 398	Log landing/decking/hauling, Ingress/egress	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 169.63-W	0.53	30 x 796	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	PV
TEWA 169.73-N	0.86	50 x 800	Ingress/egress, road crossing, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	PV
TEWA 170.26-N	0.17	50 x 200	Ingress/egress, staging, spoil storage, parking	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 170.26-W	0.17	30 x 280	Ingress/egress, staging, spoil storage, parking	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 170.59-W	0.34	50 x 350	Log landing/decking/hauling, Ingress/egress, staging	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
TEWA 170.83-W	0.40	30 x 607	Ingress/egress, PI	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 170.90-N	0.26	50 x 251	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 170.98-N	0.07	15 x 200	Ingress/egress, parking	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 171.01-W	0.20	50 x 176	Wetland crossing and staging	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 171.01-N	0.19	50 x 176	Wetland crossing and staging	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 171.08-W	0.26	50 x 265	Wetland crossing and staging, ingress/egress, park	Evergreen Forest Land, Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades), Roads, Corridors	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 171.08-N	1.85	15-30 x 4,750 (Irregular)	PIs, road crossings, wetland/waterbody crossing, top soil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Rivers and Streams, Roads, Corridors	PV, FS
TEWA 171.19-W	0.16	50 x 181	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 171.50	0.77	230 x 180 (Irregular)	Parking, staging	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 172.05-W	0.15	30 x 252	Ingress/egress, road crossing, staging/spoil storage	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 172.08-N	0.19	30 x 310	PI, road crossing, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 172.13-W	0.15	30 x 249	PI, road crossing staging/spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 172.62-N	0.29	50 x 274	PI, road crossing, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 172.62-W	0.11	30 x 200	PI, spoil storage	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 173.01-W	0.28	50 x 283	Road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
TEWA 173.45-N	0.53	15-30 x 1,404	PIs, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 173.91-W	0.18	25 x 352	PI, side cut	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades)	FS

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 173.91-N	0.12	15 x 352	PI, side cut	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades)	FS
TEWA 174.15-W	0.22	25 x 407	PI, road crossing, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 174.26-W	0.03	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 174.27-N	0.11	15 x 320	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 174.32-W	0.03	15 x 100	PI, side cut	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
TEWA 174.52-W	0.04	15 x 100	PI, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 174.66-N	0.25	50 x 244	PI, ingress/egress, road crossing, side cut	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
TEWA 174.66-W	0.07	30 x 106	Ingress/egress, road crossing, side cut	Trans, Comm, Utilities Corridors	Roads, Corridors	FS
TEWA 174.69-W	0.07	30 x 104	PI, ingress/egress, road crossing, side cut	Trans, Comm, Utilities Corridors	Roads, Corridors	FS
TEWA 175.13-N	4.86	30-50 x 6,540	PIs, road crossings, side cut	Evergreen Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades), Ponderosa Pine Forest and Woodland, Roads, Corridors	BLM, PV, FS
TEWA 176.31-W	0.08	15 x 283 (Irregular)	PIs, side cut	Evergreen Forest Land, Mixed Rangeland	Grasslands (E. Cascades), Ponderosa Pine Forest and Woodland	BLM
TEWA 176.42-W	0.03	15 x 100	PI, road crossing, side cut	Mixed Rangeland	Grasslands (E. Cascades)	BLM
TEWA 176.48-W	0.08	15 x 176 (Irregular)	PI, road crossing, side cut	Mixed Rangeland	Grasslands (E. Cascades)	BLM

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 176.49-N	1.53	25 x 2,680	PIs, road crossing, waterbody crossing, side cut	Evergreen Forest Land, Mixed Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Grasslands (E. Cascades), Ponderosa Pine Forest and Woodland, Rivers and Streams, Roads, Corridors	BLM
TEWA 176.76-W	0.07	15 x 220	PI, side cut	Trans, Comm, Utilities Corridors	Roads, Corridors	BLM
TEWA 176.86-W	0.09	15 x 255	PIs, side cut	Trans, Comm, Utilities Corridors	Roads, Corridors	BLM
TEWA 177.15-N	0.13	25 x 233	PI, ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 177.56-N	0.27	50 x 275	Road crossing	Evergreen Forest Land, Herbaceous Rangeland	Grasslands (E. Cascades), Ponderosa Pine Forest and Woodland	PV
TEWA 177.72-W	0.04	30 x 56	Wetland. Waterbody crossing, top soil storage	Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV
TEWA 177.81-W	0.06	15-30 x 156 (Irregular)	Wetland waterbody crossing, top soil storage	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV
TEWA 177.83-N	0.39	25 x 704	PIs, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 177.89-W	0.07	30 x 100	Road crossing, side cut	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV
TEWA 177.92-W	0.50	30-35 x 914 (Irregular)	PI, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.08-N	0.11	39 x 200	Parking	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 178.11-W	0.07	30 x 113	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.22-W	0.04	23 x 101	Road crossing, side cut	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 178.25-W	0.05	30 x 50	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.26-N	0.11	25 x 190	Parking	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 178.27-W	0.05	30 x 75	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.29-N	0.12	25 x 205	Parking	Herbaceous Rangeland, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Grasslands (E. Cascades), Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.29-W	0.05	30 x 66	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.70-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.71-N	0.39	50 x 374	PIs, side cut	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV
TEWA 178.74-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.78-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.82-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 178.85-N	0.13	25 x 240	Ingress/egress, road crossing, side cut	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors, Shrublands	PV
TEWA 178.86-W	0.03	15 x 77	Ingress/egress, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 178.88-W	0.03	15 x 77	Ingress/egress, road crossing, side cut	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 178.92-W	0.03	15 x 100	PI, side cut	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 179.00-W	0.03	15 x 100	PI, side cut	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 179.36-N	0.14	50 x 124	Ingress/egress, road crossing, staging	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 179.37-W	0.03	15 x 77	Ingress/egress, road crossing	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 179.39-W	0.03	15 x 77	Ingress/egress, road crossing	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 179.50-W	0.03	15 x 100	PI, wetland crossing, side cut, top soil storage	Shrub and Brush Rangeland	Shrublands	PV
TEWA 179.67-N	0.27	50 x 269	Staging, truck turn around	Evergreen Forest Land, Shrub and Brush Rangeland	Ponderosa Pine Forest and Woodland, Shrublands	BLM
TEWA 179.86-W	0.03	15 x 77	Ingress/egress, road crossing	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 179.87-N	0.13	25 x 239	Ingress/egress, road crossing	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors, Shrublands	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 179.88-W	0.03	15 x 77	Ingress/egress, road crossing	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 180.35-N	0.27	50 x 276	Ingress/egress, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 180.72-W	0.09	15 x 268	PIs, road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors	PV
TEWA 180.75-N	0.30	50 x 296	PIs, ingress/egress, road crossing	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors, Shrublands	PV
TEWA 180.80-W	0.04	15 x 111	PI, road crossing	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 180.99-N	0.11	50 x 100	Ingress/egress, road crossing, parking, staging	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 181.27-N	0.13	25 x 259	Ingres/egress, road crossing, side cut	Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV
TEWA 181.46-N	0.97	15-30 x 1,763	PIs, road crossing, side cut	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors, Shrublands	PV
TEWA 182.14-N	0.27	50 x 266	Ingress/egress, road crossing	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors, Shrublands	PV
TEWA 182.31-W	0.03	15 x 101	PI, spoil storage	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 182.48-N	0.13	25 x 244	PI, ingress/egress, road crossing	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland, Roads, Corridors, Shrublands	PV
TEWA 182.87-W	0.03	15 x 100	PI, spoil storage	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	PV
TEWA 182.96-W	0.10	15 x 293	PIs, road crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 183.57-N	0.13	25 x 249	PI, side cut	Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV
TEWA 183.65-W	0.10	15 x 303	PIs, ingress/egress, road crossings, side cut	Evergreen Forest Land, Shrub and Brush Rangeland	Ponderosa Pine - W. Juniper, Shrublands	PV
TEWA 183.76-W	0.09	15 x 259	PIs, ingress/egress, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 183.77-N	0.09	25 x 174	PIs, road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 184.02-W	0.03	15 x 100	PI, side cut	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV
TEWA 184.04-N	1.40	25 x 2,469	PIs, ingress/egress, road crossing, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 184.14-W	0.03	15 x 100	PI, road crossing, side cut	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 184.56-W	0.05	30 x 75	Road crossing, side cut	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 184.57-W	0.21	15-30 x 525	Road crossing, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 184.80-N	0.23	50 x 243	PI, ingress/egress, road crossing	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors, Shrublands	PV
TEWA 184.83-W	0.06	30 x 125	PI, ingress/egress, road crossing	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 184.30	1.76	282 x 550 (Irregular)	Water Source - Hydro (John C. Boyle Reservoir)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV, ST
TEWA 185.23-N	0.13	25 x 245	Ingress/egress, road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 185.67-N	0.20	50 x 209	Ingress/egress, road crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 185.90-N	0.13	25 x 244	Ingress/egress, road crossing, parking, staging, spoil storage	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 186.17-N	0.27	50 x 266	Ingress/egress, road crossing	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands	PV
TEWA 186.22-W	0.45	10 x 1,973	PI, wetland crossing, side cut, top soil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 186.65-W	0.54	10 x 2,337	PI, wetland crossing, side cut, top soil storage	Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Rivers and Streams, Roads, Corridors	PV
TEWA 186.76-N	0.23	100 x 100	Ingress/egress, road crossing, parking	Herbaceous Rangeland	Grasslands (E. Cascades)	PV
TEWA 187.12-W	0.13	10 x 591	Spoil storage	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 187.28-W	0.10	30 x 175	PI, side cut	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors, Shrublands	PV
TEWA 187.41-N	0.30	50 x 254	Block Valve installation, ingress/egress, PI	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Ponderosa Pine - W. Juniper, Shrublands	PV
TEWA 187.73-N	0.14	30 x 200	Ingress/egress, road/powerline crossing, PI, spoil storage, staging	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors, Shrublands	PV
TEWA 189.00	0.66	109 x 306 (Irregular)	Water Source - Hydro (Keno Reservoir)	Beaches, Trans, Comm, Utilities Corridors	Beaches, Roads, Corridors	PV
TEWA 187.80-W	0.15	30 x 200	Road/powerline crossing, PI, spoil storage	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV
TEWA 188.09-W	0.05	30 x 50	Road Crossing	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV
TEWA 188.11-W	0.05	30 x 81	Road Crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 188.20-W	0.08	30 x 50 (Irregular)	Road Crossing	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 188.23-W	0.08	30 x 169 (Irregular)	Road Crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 188.39-W	0.03	30 x 50	Road Crossing	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV
TEWA 188.41-W	0.03	30 x 50	Road Crossing	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors	PV
TEWA 188.42-N	0.77	15 x 2,257	PI, side cut	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Roads, Corridors, Shrublands	PV
TEWA 188.82-W	0.66	30 x 956	Ingress/egress, road/waterbody crossing, PI, sideslopes, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper, Rivers and Streams, Roads, Corridors	PV
TEWA 189.11-N	0.13	30 x 200	PI, spoil storage	Evergreen Forest Land	Ponderosa Pine - W. Juniper	PV
TEWA 189.28-W	0.30	30 x 481	PI, spoil storage	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (E. Cascades), Ponderosa Pine - W. Juniper, Shrublands	PV
TEWA 189.31-N	0.30	109 x 150	Ingress/egress, parking, staging, PI, spoil storage	Trans, Comm, Utilities Corridors	Grasslands (E. Cascades)	PV
TEWA 189.68-N	0.17	50 x 200	PI, spoil storage	Trans, Comm, Utilities Corridors	Grasslands (E. Cascades)	PV
TEWA 189.76-W	0.31	20 x 705	PI, spoil storage, side slopes	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Grasslands (E. Cascades), Ponderosa Pine - W. Juniper	PV
TEWA 190.00-W	0.18	30 x 300	PI, spoil storage	Evergreen Forest Land	Western Juniper Woodland	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 190.00-N	0.11	50 x 150	PI, spoil storage	Evergreen Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper, Western Juniper Woodland	PV
TEWA 190.24-N	0.10	30 x 190	PI, sidehill, spoil storage	Evergreen Forest Land, Shrub and Brush Rangeland	Shrublands, Western Juniper Woodland	PV
TEWA 190.24-W	1.42	15-30 x 3,631	Sidehill, PIs, spoil storage	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Shrublands, Western Juniper Woodland	PV
TEWA 190.82-W	0.73	10 x 3,190	Topsoil storage	Cropland and Pasture, Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Shrublands, Western Juniper Woodland	PV
TEWA 191.43-W	0.20	50 x 212	Road crossing staging/spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 191.48-N	0.21	50 x 205	Road crossing staging/spoil storage, topsoil salvage	Cropland and Pasture	Agriculture	PV
TEWA 191.48-W	0.22	50 x 226	Road crossing staging/spoil storage, topsoil salvage	Cropland and Pasture	Agriculture	PV
TEWA 191.52-N	0.94	10-29 x 3,999	Road/ditch crossing staging/spoil storage, topsoil salvage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 191.55-W	0.69	50 x 611	PIs, spoil storage, field road crossing, staging	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 192.23-W	0.30	0-55 x 471 (Irregular)	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 192.69-W	4.68	25-165 x 5,861	Canal/wetland crossing, PI, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 192.76-W	0.48	100 x 200	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 192.94-W	0.48	100 x 200	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 193.13-W	0.48	100 x 200	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 193.32-W	0.48	100 x 200	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 193.51-W	0.48	100 x 200	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 194.51-W	4.04	10-200 x 6,236	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 194.50	0.20	60 x 251 (Irregular)	Parking	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 194.51	0.23	75 x 264 (Irregular)	Parking	Trans, Comm, Utilities Corridors	Roads, Corridors	PV
TEWA 194.64-W	3.01	25 x 5,442	Spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 195.69-N	0.08	50 x 212	Topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 195.74-N	2.41	20 x 5,253	Topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 195.76-W	2.97	20-50 x 5,151	PIs, wetland/waterbody crossings, top soil storage	Cropland and Pasture, Ditch	Agriculture, Ditch, Palustrine Emergent (PEM)	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 196.65-W	0.06	20 x 144	Canal crossing staging	Cropland and Pasture	Agriculture	PV
TEWA 196.65-N	0.86	60 x 649	Canal crossing, staging, spoil storage	Cropland and Pasture, Ditch	Agriculture, Ditch	PV
TEWA 196.74-W	1.66	238 x 243 (Irregular)	Canal crossing, staging, spoil storage, Dewatering	Cropland and Pasture, Lakes	Agriculture, Open Water	PV
TEWA 196.79-N	0.73	30-60 x 913	Canal crossing, staging, spoil/topsoil storage	Cropland and Pasture, Ditch	Agriculture, Ditch, Palustrine Emergent (PEM)	PV
TEWA 196.87-W	0.26	69 x 321 (Irregular)	Wetland/waterbody crossings, top soil storage	Cropland and Pasture, Ditch	Agriculture, Ditch, Palustrine Emergent (PEM)	PV
	2.93	50 x 2,614	Canal crossing, staging, spoil/topsoil storage	Commercial and Services, Cropland and Pasture, Ditch, Orchards, Groves, Vineyards, Nurseries, Horticultural, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors, Urban	PV
TEWA 197.59-W	0.08	35 x 146 (Irregular)	Ingress/egress, PI, parking	Commercial and Services, Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Urban	PV
TEWA 197.66-W	0.57	895 x 239	Ingress/egress, staging	Other Urban or Built-up Land	Urban	PV
TEWA 197.66-N	0.60	130 x 232	Ingress/egress, staging	Other Urban or Built-up Land	Urban	PV
TEWA 197.74-N	1.05	20-85 x 1,633	Topsoil storage, canal crossing	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 198.06-N	2.92	45-135 x 1,815 (Irregular)	Ingress/egress, canal/road/wetland crossing staging	Cropland and Pasture, Herbaceous Rangeland, Other Urban or Built-up Land, Trans, Comm, Utilities Corridors	Agriculture, Grasslands (E. Cascades), Palustrine Emergent (PEM), Roads, Corridors, Urban	PV
TEWA 198.18-W	0.06	30 x 84	PI, ingress/egress	Cropland and Pasture	Agriculture	PV
TEWA 198.22-W	0.31	121 x 234	Collins Pacific Yard	Other Urban or Built-up Land	Urban	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 198.41-W	4.46	65-223 x 2,216 (Irregular)	Collins Pacific Yard	Other Urban or Built-up Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Urban	PV
TEWA 198.72-N	5.36	300 x 1,429 (Irregular)	Collins Pacific Yard	Industrial, Other Urban or Built-up Land, Trans, Comm, Utilities Corridors	Industrial, Roads, Corridors, Urban	PV
TEWA 198.92-W	0.04	15 x 100	PI, road crossing, spoil storage	Industrial	Industrial	PV
TEWA 199.01-W	0.87	25-45 x 1,247	Klamath River HDD staging and pull back	Other Urban or Built-up Land	Urban	PV, ST
TEWA 199.03-N	1.64	95 x 1,098 (Irregular)	Klamath River HDD staging and pull back	Other Urban or Built-up Land	Urban	PV
TEWA 199.60-N	5.73	197 x 1,786	Klamath River HDD staging and pull back	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 199.58-W	2.98	15-117 x 2,358 (Irregular)	Staging/spread move around, Klamath River HDD	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 199.97-N	0.27	25 x 489	Railroad crossing (bored), PI, spoil/topsoil storage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 200.09-N	0.39	10-25 x 1,368	Railroad crossing (bored), PI, wetland crossing, topsoil storage	Cropland and Pasture, Residential	Agriculture, Palustrine Emergent (PEM), Urban	PV
TEWA 200.09-W	0.09	50 x 75	Wetland crossing, top soil storage	Cropland and Pasture	Palustrine Emergent (PEM)	PV
TEWA 200.18-W	0.36	30 x 555	PI, spoil storage	Cropland and Pasture, Residential	Agriculture, Palustrine Emergent (PEM), Urban	PV
TEWA 200.31-N	0.13	30 x 194	Ingress/egress, road crossing, spoil storage, staging	Residential	Urban	PV
TEWA 200.37-N	1.53	425 x 456 (Irregular)	Ingress/egress, road crossing, spoil storage, staging	Cropland and Pasture	Agriculture	PV
TEWA 200.37-W	0.10	69 x 140 (Irregular)	Ingress/egress, road crossing, spoil storage, staging	Cropland and Pasture, Ditch	Agriculture, Ditch	PV
TEWA 200.46-N	0.31	50 x 316	Canal crossing, PI, spoil storage	Cropland and Pasture, Residential	Agriculture, Urban	BR, PV
TEWA 200.54-N	2.14	15-50 x 2,376	Canal/road crossing staging, PI, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 200.61-W	0.38	50 x 401	PI, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 200.98-W	0.23	50 x 194	Ingress/egress, road crossing, spoil storage	Cropland and Pasture	Agriculture	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 201.01-N	1.53	15-65 x 3,243	Ingress/egress, road/wetland crossing, spoil/topsoil	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors	PV
TEWA 201.02-W	1.14	329 x 459 (Irregular)	Ingress/egress, road crossing, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 201.48-W	0.23	50 x 254	Ingress/egress, road/canal crossing, spoil storage	Cropland and Pasture	Palustrine Emergent (PEM)	PV
TEWA 201.58-W	0.18	50 x 191	Canal crossing	Cropland and Pasture	Agriculture	PV
TEWA 201.63-W	0.16	50 x 159	Canal crossing	Cropland and Pasture	Agriculture	PV
TEWA 201.63-N	4.33	10-59 x 11,485	Canal crossing	Cropland and Pasture, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Sagebrush Steppe	BR, PV
TEWA 202.25-W	0.88	50 x 789	PI, side slope, spoil storage	Cropland and Pasture, Shrub and Brush Rangeland	Agriculture, Sagebrush Steppe	PV
TEWA 203.61-N	1.11	10-150 x 1,843	Topsoil storage, ingress/egress, road crossing staging	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 201.86-W	0.13	50 x 165 (Irregular)	Canal crossing	Cropland and Pasture, Ditch	Agriculture, Ditch	PV
TEWA 203.93-N	0.10	40 x 159	Ingress/egress, road crossing staging	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 203.97-W	0.23	50 x 225	Ingress/egress, road crossing, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 203.97-N	0.63	10-73 x 725	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture, Ditch	Agriculture, Ditch	PV
TEWA 204.09-W	0.08	30 x 126	Canal crossing staging	Cropland and Pasture	Agriculture	PV
TEWA 204.12-N	0.87	40 x 985	Canal crossing, PI, spoil/topsoil storage	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 204.34-W	0.14	50 x 150	Canal crossing	Cropland and Pasture	Agriculture	PV
TEWA 204.34-N	0.68	10-60 x 1,645	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture, Ditch	Agriculture, Ditch	PV
TEWA 204.62-W	0.17	50 x 175	Ingress/egress, road cross spoil storage	Cropland and Pasture	Agriculture	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 204.66-W	0.54	50 x 432	Ingress/egress, road/canal cross spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 204.66-N	0.51	60 x 386	Ingress/egress, road/canal cross spoil/topsoil storage	Cropland and Pasture, Ditch	Agriculture, Ditch	PV
TEWA 204.74-N	1.13	10-60 x 2,523	Canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch	Agriculture, Ditch, Palustrine Emergent (PEM)	PV
TEWA 204.76-W	0.43	50 x 462	Canal crossing	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 204.90-W	0.13	20 x 300	PI, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 205.02-W	0.20	10-20 x 594	Canal crossing	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 205.44-W	0.29	60 x 260	Canal crossing	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 205.15-W	0.74	10-50 x 2,747	Canal crossing, spoil/topsoil storage	Cropland and Pasture, Ditch, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors, Sagebrush Steppe	PV
TEWA 205.50-W	0.28	60 x 229	Canal crossing	Cropland and Pasture, Ditch, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Palustrine Emergent (PEM), Roads, Corridors, Sagebrush Steppe	PV
TEWA 205.61-W	0.82	10-60 x 864	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 205.72-W	0.03	15 x 98	PI, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 205.69-W	0.19	50 x 184	Ingress/egress, road crossing, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 205.73-W	0.21	50 x 217	Ingress/egress, road crossing, spoil storage, staging	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 205.73-N	0.73	10-60 x 1,157	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Roads, Corridors	PV
TEWA 205.92-W	0.23	50 x 200	Canal crossing	Cropland and Pasture, Ditch	Agriculture, Ditch	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 205.98-N	0.94	10-60 x 2,728	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 205.98-W	1.07	195 x 423 (Irregular)	Canal crossing, staging spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 206.43-W	0.19	50 x 209	Ingress/egress, road crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 206.50-W	0.08	50 x 106	Ingress/egress, road/canal crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 206.50-N	1.08	10-60 x 3,213	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 207.05-W	0.28	50 x 284	Canal crossing	Cropland and Pasture	Agriculture	PV
TEWA 207.12-W	0.24	50 x 216	Canal crossing	Cropland and Pasture	Agriculture	PV
TEWA 207.12-N	0.78	60 x 632	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 207.24-W	0.15	50 x 125	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 207.28-N	0.38	10-60 x 678	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 207.30-W	0.30	50 x 320	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture, Residential	Agriculture, Urban	PV
TEWA 207.37-W	0.10	50 x 133	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 207.42-W	0.28	30 x 411	Ingress/egress, road/canal crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 207.43-N	0.69	40 x 800	Ingress/egress, road/canal crossing, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 207.57-W	0.66	100 x 200	Ingress/egress, canal crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 207.62-N	0.78	10-70 x 1,969	Ingress/egress, canal crossing, staging, topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 207.63-W	0.70	100 x 392	Ingress, egress, canal crossing, staging, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 207.85-W	0.91	15-127 x 649 (Irregular)	Canal crossing, PI, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 207.99-N	0.35	60 x 310	Canal crossing, PI, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 208.01-W	0.88	75 x 438	Canal crossing, PI, spoil/topsoil storage	Cropland and Pasture, Ditch	Agriculture, Ditch	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 208.07-N	0.46	35 x 547	Ingress/egress, canal crossing, staging, spoil/topsoil	Cropland and Pasture, Residential	Agriculture, Urban	PV
TEWA 208.09-W	0.97	100 x 454	Ingress/egress, canal crossing, staging, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 208.19-W	0.64	100 x 324	Ingress/egress, canal crossing, staging, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Roads, Corridors	PV
TEWA 208.19-N	2.20	10-92 x 3,044 (Irregular)	Ingress/egress, Railroad/Hwy 39/canal crossing, staging	Cropland and Pasture, Ditch	Agriculture, Ditch	PV
TEWA 208.67-W	1.69	100 x 652	Railroad/Hwy 39/powerline/canal crossing (bored),	Cropland and Pasture	Agriculture	PV
TEWA 208.80-N	1.78	60-110 x 1,083	Ingress/egress, Railroad/Hwy 39/canal crossing, staging	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Roads, Corridors	PV
TEWA 208.81-W	1.12	100-175 x 443	Ingress/egress, Railroad/Hwy 39/canal crossing, staging	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 208.99-W	0.19	25-50 x 193	Road/canal crossing,	Cropland and Pasture, Ditch, Residential	Agriculture, Ditch, Urban	PV
TEWA 209.04-N	0.79	60 x 511	Ingress/egress, road crossing, staging, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 209.07-W	0.49	125 x 302 (Irregular)	Ingress/egress, road crossing, staging, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 209.16-W	0.53	100 x 191	Ingress/egress, road/canal crossing, staging, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 209.16-N	0.87	10-60 x 1,396	Ingress/egress, road/canal crossing, staging, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 209.25-W	0.40	20 x 873	Canal crossing	Cropland and Pasture	Agriculture	PV
TEWA 209.42-W	0.07	25 x 151	Canal crossing	Cropland and Pasture	Agriculture	PV
TEWA 209.44-N	1.95	10-85 x 4,091	Ingress/egress, road/canal/powerline crossing, staging	Cropland and Pasture	Agriculture	PV
TEWA 210.06-W	0.18	20 x 398	PI, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 210.13-W	0.22	75 x 212	Ingress/egress, road crossing, staging, spoil/topsoil storage	Cropland and Pasture, Other Urban or Built-up Land	Agriculture, Urban	PV
TEWA 210.17-N	0.75	60 x 494	Ingress/egress, road/canal crossing, staging, spoil storage	Cropland and Pasture	Agriculture	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 210.17-W	0.61	202 x 321 (Irregular)	Ingress/egress, road/canal crossing, staging, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 210.26-W	0.82	75 x 453	Ingress/egress, road/canal crossing, staging, spoil storage	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 210.27-N	1.74	10-85 x 2,988	PI, ingress/egress, road crossing, waterbody crossings, topsoil	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 210.86-N	0.49	10-50 x 1,726	Road crossings, waterbody crossings, top soil storage	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 211.20-N	0.53	50 x 516	Road crossing, waterbody crossing	Other Urban or Built-up Land	Urban	PV
TEWA 211.34-N	0.44	10-50 x 958	PI, waterbody crossings, top soil storage	Cropland and Pasture	Agriculture	PV
TEWA 211.54-W	0.03	4-8 x 317	PI, waterbody crossings	Cropland and Pasture	Agriculture	PV
TEWA 211.53-N	1.25	10-110 x 2,751	Lost River, PI, spoil/topsoil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Roads, Corridors	PV
TEWA 211.98-W	0.90	90 x 426	Lost River, crossing, spoil/topsoil storage	Cropland and Pasture, Streams and Canals	Agriculture, Palustrine Emergent (PEM), Rivers and Streams	PV
TEWA 212.08-N	1.24	10-100 x 2,242	Lost River/railroad, crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV, UND
TEWA 212.08-W	0.49	100 x 232	Lost River, crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV, UND
TEWA 212.36-W	0.04	15 x 100	PI, spoil storage	Cropland and Pasture	Agriculture	PV
TEWA 212.49-W	0.26	100 x 102	Railroad crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 212.53-W	0.26	10-100 x 321	Railroad crossing, PI, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 212.53-N	1.27	100 x 408 (Irregular)	Railroad crossing, PI, spoil/topsoil storage	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	PV
TEWA 212.67-N	0.94	10-50 x 2,883	Ingress/egress, road/canal crossing, PI, spoil/topsoil	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 212.69-W	1.87	10-50 x 6,316	PIs, wetland crossing, top soil storage	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 213.22-N	1.62	10-120 x 1,472 (Irregular)	Canal crossing, PI, spoil/topsoil storage, staging	Cropland and Pasture, Ditch, Trans, Comm, Utilities Corridors	Agriculture, Ditch, Roads, Corridors	PV
TEWA 213.88-W	0.66	150 x 298	Canal crossing, spoil/topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 213.88-W	0.47	89 x 275	Canal/egress, PI, spoil/topsoil storage	Cropland and Pasture, Nonforested Wetlands	Agriculture, Palustrine Unconsolidated Bottom (PUB)	PV
TEWA 214.03-N	0.17	75-150 x 683	Ingress/egress, canal crossing, PI, spoil/topsoil	Cropland and Pasture	Agriculture	PV
TEWA 214.08-N	1.59	10-132 x 1,802	Ingress/egress, road crossing, PI, spoil/topsoil storage	Cropland and Pasture, Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 214.08-W	5.47	15-120 x 7,908 (Irregular)	Ingress/egress, road crossing, PI, spoil/topsoil storage	Cropland and Pasture, Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 215.93-N	0.09	50 x 100	Rock storage	Trans, Comm, Utilities Corridors	Sagebrush Steppe	PV
TEWA 216.10-W	0.68	30 x 1,020	PI, spoil storage, (rock), ingress/egress	Evergreen Forest Land	Western Juniper Woodland	PV
TEWA 216.31-W	0.42	30 x 638	PI, spoil storage, (rock), ingress/egress	Evergreen Forest Land	Western Juniper Woodland	PV
TEWA 216.44-W	2.41	15-75 x 5,622 (Irregular)	PI, spoil storage, (rock), ingress/egress	Evergreen Forest Land, Herbaceous Rangeland, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (E. Cascades), Roads, Corridors, Sagebrush Steppe, Western Juniper Woodland	BLM, PV
TEWA 216.46-N	0.07	50 x 100	Spoil storage (Rock)	Trans, Comm, Utilities Corridors	Sagebrush Steppe	PV
TEWA 217.46-N	0.10	10-30 x 260	PI, road crossings	Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Grasslands (E. Cascades), Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 217.54-W	0.44	40 x 529	Ingress/egress, road crossing, staging, parking	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV
TEWA 217.55-N	1.42	10-60 x 2,733	Powerline/waterbody crossing	Cropland and Pasture, Herbaceous Rangeland, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Grasslands (E. Cascades), Roads, Corridors, Sagebrush Steppe	PV
TEWA 217.80-W	0.49	50 x 440	Ingress/egress, road crossing, PI, spoil/topsoil	Herbaceous Rangeland	Grasslands (E. Cascades)	PV
TEWA 218.03-W	0.09	30 x 150	Waterbody crossing	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 218.08-W	0.09	30 x 150	Waterbody crossing	Herbaceous Rangeland	Grasslands (E. Cascades)	PV
TEWA 218.30-N	0.29	50 x 300	Ingress/egress, road crossing, spoil storage	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Sagebrush Steppe	PV
TEWA 218.32-W	0.29	50 x 300	Ingress/egress, road crossing, spoil storage	Cropland and Pasture, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Sagebrush Steppe	PV
TEWA 218.40-N	0.16	30 x 250	PI, spoil storage	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 218.80-N	0.35	50 x 352	Ingress/egress, road crossing, spoil storage, hydrostatic test discharge	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Western Juniper Woodland	PV
TEWA 218.84-N	1.92	20-50 x 4,451	Ingress/egress, road crossing, spoil storage (rock)	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Sagebrush Steppe	PV
TEWA 219.21-W	0.29	50 x 300	Spoil storage	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Sagebrush Steppe, Western Juniper Woodland	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 219.58-W	0.17	50 x 150	Road crossing	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 219.69	1.10	99 x 304 (Irregular)	Water Source / Dust Control	Evergreen Forest Land, Lakes	Open Water, Western Juniper Woodland	PV
TEWA 219.70-N	1.21	15-20 x 2,669	Spoil storage (Rock), PI, ingress/egress, staging	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 219.98-W	0.73	30-100 x 571	Spoil storage	Evergreen Forest Land, Shrub and Brush Rangeland	Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 220.33-W	0.16	30 x 270	PI, spoil storage	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 220.49-W	0.23	30 x 379	PI, spoil storage	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 220.60-W	0.26	15-50 x 432	PI, spoil storage, power line crossing	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 220.62-N	0.09	30 x 187	PI, spoil storage, powerline crossing	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 220.71-W	0.30	35-50 x 353	PI, spoil storage, power line crossing	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 220.88-N	0.12	15 x 363	PI, spoil storage	Evergreen Forest Land, Shrub and Brush Rangeland	Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 220.88-W	0.20	30 x 329	PI, spoil storage	Evergreen Forest Land, Shrub and Brush Rangeland	Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 220.98-W	0.34	15-30 x 876	PI, sideslopes, spoil storage	Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Roads, Corridors, Sagebrush Steppe	PV
TEWA 221.17-W	0.79	15-50 x 1,626	PI, spoil/topsoil storage	Herbaceous Rangeland, Shrub and Brush Rangeland	Grasslands (E. Cascades), Sagebrush Steppe	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 221.54-W	0.52	15-50 x 650	PI, spoil/topsoil storage	Herbaceous Rangeland	Grasslands (E. Cascades)	PV
TEWA 221.88-W	0.24	50 x 193	Ingress/egress, road crossing staging	Herbaceous Rangeland, Shrub and Brush Rangeland	Grasslands (E. Cascades), Sagebrush Steppe	PV
TEWA 221.95-W	0.78	15-50 x 1,711	Ingress/egress, road crossing staging, topsoil and PI	Cropland and Pasture, Evergreen Forest Land, Herbaceous Rangeland, Shrub and Brush Rangeland	Agriculture, Grasslands (E. Cascades), Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 222.63-W	0.28	15-50 x 418	PI, spoil storage, drainage crossing	Cropland and Pasture	Agriculture	PV
TEWA 222.72-W	0.27	15-50 x 419	PI, spoil storage, drainage crossing	Cropland and Pasture	Agriculture	PV
TEWA 223.07-W	0.07	15 x 230	Ingress/egress, road crossing staging/spoil storage	Cropland and Pasture, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Sagebrush Steppe	PV
TEWA 223.33-W	0.44	15-45 x 1,039	PI, spoil storage, topsoil storage, drainage crossing	Cropland and Pasture, Evergreen Forest Land, Shrub and Brush Rangeland	Agriculture, Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 223.54-W	0.73	15-45 x 1,791	PI, spoil storage, drainage crossing, side slopes	Evergreen Forest Land, Shrub and Brush Rangeland	Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 223.88-N	0.17	47 x 232	Ingress/egress, neck down, side slopes staging, spoil storage	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 223.82-W	0.18	15-30 x 423	PI, neck down, side slopes staging, spoil storage	Herbaceous Rangeland, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (E. Cascades), Roads, Corridors, Sagebrush Steppe	PV
TEWA 224.07-W	0.16	15 x 475	PI, sideslope, spoil storage	Evergreen Forest Land, Herbaceous Rangeland, Shrub and Brush Rangeland	Grasslands (E. Cascades), Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 224.38-W	0.18	15 x 534	PI, spoil storage	Cropland and Pasture, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 224.44-N	0.63	10-14 x 2.441	Topsoil storage	Cropland and Pasture, Residential, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Roads, Corridors, Sagebrush Steppe, Urban	PV
TEWA 224.87-W	1.17	15-30 x 3,014	Topsoil storage, PI, spoil storage, ingress/egress, road crossing staging	Cropland and Pasture, Herbaceous Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Grasslands (E. Cascades), Roads, Corridors	PV
TEWA 225.50-W	0.34	15-50 x 648	PI, side slopes, spoil storage, ingress/egress, road crossing staging	Herbaceous Rangeland, Shrub and Brush Rangeland	Grasslands (E. Cascades), Sagebrush Steppe	PV
TEWA 225.65-W	0.83	15-50 x 1,908	PI, side slope, spoil storage, drainage crossing	Shrub and Brush Rangeland	Sagebrush Steppe	PV
TEWA 225.99-W	0.13	50 x 149	Ingress/egress, road crossing staging	Evergreen Forest Land	Western Juniper Woodland	PV
TEWA 226.03-W	0.88	15-100 x 843	Ingress/egress, road crossing staging, topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 226.04-N	0.39	10 x 1,1714	Topsoil storage	Cropland and Pasture	Agriculture	PV
TEWA 226.20-W	1.21	15-30 x 3,447	Topsoil storage, PI spoil storage, ingress/egress, road crossing staging	Cropland and Pasture, Herbaceous Rangeland, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Grasslands (E. Cascades), Roads, Corridors, Sagebrush Steppe	PV
TEWA 226.67-W	0.47	15 x 1,385	Topsoil storage, PI spoil storage	Cropland and Pasture, Herbaceous Rangeland, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Agriculture, Grasslands (E. Cascades), Roads, Corridors, Sagebrush Steppe	PV
TEWA 228.15-W	0.31	15 x 943	PI, spoil storage	Evergreen Forest Land, Herbaceous Rangeland, Shrub and Brush Rangeland	Grasslands (E. Cascades), Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 228-81	19.95	1,303 x 2,628 (Irregular)	Klamath CS	Other Urban or Built-up Land, Shrub and Brush Rangeland	Sagebrush Steppe, Urban	PV

TABLE G-1 (continued)

Temporary Extra Work Areas Necessary for Construction of the Pipeline

Temporary Extra Work Areas (TEWAs) (MP-Working [W] or Non- Working [N] side)	Size (acres)	Dimension	Purpose	Land Use	Vegetation	Jurisdiction
TEWA 228.29-N	1.23	20 x 2,683	Topsoil storage, PI spoil storage, ingress/egress, road crossing staging	Evergreen Forest Land, Herbaceous Rangeland, Shrub and Brush Rangeland	Grasslands (E. Cascades), Sagebrush Steppe, Western Juniper Woodland	PV
TEWA 229.20	0.74	140 x 947 (Irregular)	Water Source - Hydro & Dust (High Line Canal & Capek Reservoir)	Cropland and Pasture	Agriculture	PV
TEWA 229.29	1.05	60 x 725 (Irregular)	Water Source - Dust (Low Line Canal)	Cropland and Pasture, Lakes, Trans, Comm, Utilities Corridors	Agriculture, Open Water, Roads, Corridors	PV

BLM – Bureau of Land Management; BR – Bureau of Reclamation; FS – U.S. Department of Agriculture Forest Service; PV – private; ST – State; UND – undetermined

TABLE G-2

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 12-21.N	1.74	30 x 2,508	Cropland and Pasture; Clearcut Forest Land; Regenerating Evergreen Forest Land	Agriculture; Mixed Conifer/Mixed Dec	PV; BLM
UCSA 12.63-N	3.350127	30 x 4,854	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 12.79-W	0.101453	35 x 126	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM
UCSA 12.83-W	4.145521	35-50 x 5,194	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
UCSA 13.59-N	2.467355	10-30 x 3,815	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
UCSA 13.84-W	1.086279	20-50 x 1,830	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM, PV
TEWA 14.24-W	0.641089	20-50 x 646	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 14.39-W	0.104013	20 x 200	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 14.58-W	0.283337	50 x 247	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 15.37-W	0.948375	20-50 x 1,749	Mixed Forest Land, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 15.40-N	5.760456	15-30 x 8,565	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
UCSA 15.96-W	0.098436	20 x 200	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 16.50-W	0.087891	20 x 200	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 16.60-W	0.173659	20 x 415	Mixed Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 16.77-W	0.609715	30 x 886	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 17.16-W	0.082005	20 x 167	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 17.21-W	0.177345	20-30 x 380	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 17.45-N	6.769428	30 x 9,820	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
UCSA 17.54-W	1.995573	20-50 x 3,185	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
UCSA 18.35-W	0.21025	20 x 454	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 18.58-W	0.080361	20 x 175	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM
UCSA 18.67-W	0.090032	20 x 210	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM
UCSA 18.75-W	0.36927	20 x 804	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 18.98-W	0.415354	20 x 906	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 19.33-N	1.628524	20-50 x 1,808	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 19.39-W	0.249503	30 x 349	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 19.50-W	0.496968	30 x 700	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 19.89-W	0.409883	20 x 900	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 19.94-N	0.123813	30 x 190	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
UCSA 20.58-W	0.491689	20-50 x 746	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 20.97-W	0.855091	50 x 755	Clearcut Forest Land, Mixed Forest Land, Nonforested Wetlands, Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec, Palustrine Emergent (PEM)	BLM
UCSA 21.95-N	0.355887	30 x 522	Mixed Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 22.45-N	0.300829	30 x 429	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	PV
UCSA 22.46-W	3.509437	20-50 x 3,646	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
UCSA 22.62-N	2.661002	30 x 3,889	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM, PV
TEWA 23.27-W	0.216944	30 x 295	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	PV
UCSA 23.42-N	0.14452	30 x 200	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 23.46-W	0.75683	30 x 1,074	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 23.67-N	0.111748	30 x 172	Mixed Forest Land, Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec, Roads, Corridors	BLM
UCSA 24.58-W	0.563694	30 x 818	Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 24.73-N	0.132213	30 x 192	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 25.13-W	0.566295	30 x 807	Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	BLM
UCSA 27.68-W	4.314399	100 x 1, 924	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 27.69-N	4.46171	100 x 2,027	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 31.06-W	0.782731	25 x 1,321	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar, Mixed Conifer/Mixed Dec	PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 31.06-N	2.097798	100 x 1,217	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W. Red Cedar, Mixed Conifer/Mixed Dec, Roads, Corridors	PV
UCSA 34.53-N	7.169613	70 x 3,935	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W. Red Cedar, Roads, Corridors	BLM, PV
UCSA 34.53-W	1.324026	70 x 827	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 34.73-W	5.418796	70-100 x 2,795	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	BLM, PV
UCSA 37.36-W	1.393836	30 x 2,013	Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	BLM
UCSA 37.37-N	1.329649	30 x 1,939	Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	BLM
UCSA 37.82-N	1.857458	30 x 2,692	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W. Red Cedar, Roads, Corridors	BLM
UCSA 37.82-W	1.819582	30 x 2,649	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W. Red Cedar, Roads, Corridors	BLM, PV
UCSA 38.41-N	1.929289	30 x 2,734	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W. Red Cedar, Roads, Corridors	BLM, PV
UCSA 40.17-N	0.423518	20-50 x 799	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W. Red Cedar, Roads, Corridors	BLM, PV
UCSA 40.18-W	0.752094	50 x 639	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	BLM, PV
UCSA 40.35-W	0.671416	50 x 595	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 43.22-W	0.992457	30 x 1,464	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W. Red Cedar, Roads, Corridors	BLM, PV
UCSA 43.92-N	2.607184	100 x 1,164	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 43.95-W	2.104741	85 x 1,066	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 44.28-N	2.38398	100 x 1,149	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 44.28-W	1.481704	100 x 1,096	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W. Red Cedar	PV
UCSA 45.26-N	1.229806	30 x 1,754	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
UCSA 45.34-W	0.727073	30 x 1,032	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
UCSA 45.59-W	0.083052	30 x 91	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 45.62-W	0.272095	30 x 365	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 45.72-W	0.179697	30 x 230	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, PV
UCSA 45.78-W	0.078481	30 x 99	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 48.04-N	0.905271	30 x 1,651	Ditch, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ditch, Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 53.22-W	4.011309	30-100 x 3,692	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
UCSA 53.23-N	1.69835	100 x 732	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 54.21-N	4.563272	100 x 2,142	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 54.39-W	2.814539	100 x 1,210	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
UCSA 55.09-N	2.342427	20-50 x 3,316	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 55.11-W	2.100479	20-35 x 3,704	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 60.65-W	0.206857	30 x 289	Cropland and Pasture, Mixed Forest Land	Agriculture, Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 60.67-N	0.773315	30 x 1,114	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 60.74-W	0.3123	30 x 424	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 60.86-W	0.078926	30 x 87	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 60.92-N	1.196548	30 x 1,887	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 60.94-W	0.654508	30 x 1,069	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.18-W	0.308238	30 x 573	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.32-N	0.442475	30 x 627	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.33-W	0.186632	15-30 x 430	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.49-W	0.848713	30 x 1,226	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 61.54-N	0.693206	30 x 984	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 62.50-N	16.010229	100 x 7,281	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 62.53-W	15.044121	80 x 7,177	Clearcut Forest Land, Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
UCSA 64.04-N	0.343358	30 x 466	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 64.05-W	0.385602	30 x 533	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 64.18-N	0.56901	30 x 821	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 64.19-W	1.297725	30 x 1,936	Herbaceous Rangeland, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	BLM, PV
UCSA 64.40-N	1.12901	30 x 1,664	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 64.62-W	0.28343	30 x 465	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 64.76-W	1.369183	15-30 x 2,464	Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	BLM, PV
UCSA 64.76-N	2.819267	30 x 4,340	Clearcut Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	BLM, PV
UCSA 65.26-W	1.033032	30 x 1,629	Clearcut Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
UCSA 65.83-N	1.646934	6-30 x 3,075	Herbaceous Rangeland, Mixed Forest Land, Residential, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors, Urban	PV
UCSA 65.85-W	0.619938	15-30 x 1,88	Mixed Forest Land, Residential	Douglas-Fir-Mixed Deciduous Forest, Urban	PV
UCSA 66.29-W	0.182971	30 x 251	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 66.44-W	0.641431	30 x 930	Mixed Forest Land, Residential, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors, Shrublands, Urban	PV
UCSA 66.48-N	0.884846	15-30 x 1,410	Mixed Forest Land, Residential, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands, Urban	PV
UCSA 66.70-W	0.228889	30 x 303	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	PV
UCSA 66.79-W	0.241479	30 x 336	Mixed Forest Land, Shrub and Brush Rangeland, Streams and Canals	Douglas-Fir-Mixed Deciduous Forest, Rivers and Streams, Shrublands	PV
UCSA 67.07-W	0.398928	30 x 564	Herbaceous Rangeland, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Shrublands	PV
UCSA 67.07-N	0.714416	30 x 1,018	Herbaceous Rangeland, Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Shrublands	PV
UCSA 67.30-N	0.714013	30 x 1,006	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 67.31-W	0.576801	30 x 806	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 75.18-N	5.73033	100 x 5,261	Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors, Shrublands	BLM, PV
UCSA 75.31-W	5.147859	50-70 x 5,151	Mixed Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors, Shrublands	BLM, PV
UCSA 76.22-N	1.023342	100 x 445	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
UCSA 76.61-W	9.708722	50-100 x 5,191	Mixed Forest Land, Nonforested Wetlands, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM), Roads, Corridors	PV
UCSA 76.61-N	11.234432	50-100 x 5,300	Mixed Forest Land, Nonforested Wetlands, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Palustrine Emergent (PEM), Roads, Corridors	PV
UCSA 77.62-W	1.363055	100 x 559	Clearcut Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 77.62-N	0.670682	100 x 410	Mixed Forest Land, Regenerating Evergreen Forest Land, Streams and Canals	Douglas-Fir-Mixed Deciduous Forest, Rivers and Streams	PV
UCSA 77.71-N	1.557077	50-100 x 910	Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
UCSA 78.05-W	13.339454	100-130 x 4,862	Mixed Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	BLM, PV
UCSA 78.48-N	5.869535	85-100 x 2,705	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 79.45-W	12.894593	50-100 x 6,597	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 79.55-N	3.45251	15-100 x 1,706	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 79.91-N	8.383521	70-100 x 4,121	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 81.88-N	12.553781	100 x 5,693	Clearcut Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 81.88-W	10.112336	100 x 4,730	Clearcut Forest Land, Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
UCSA 82.72-W	11.581835	70-100 x 5,340	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 82.97-N	12.519353	25-100 x 6,269	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 83.79-W	3.801745	15-100 x 1,910	Herbaceous Rangeland, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
UCSA 84.25-N	27.047127	50-100 x 7,432	Clearcut Forest Land, Herbaceous Rangeland, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	BLM, PV
UCSA 84.25-W	21.008898	15-100 x 16,685	Clearcut Forest Land, Herbaceous Rangeland, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	BLM, PV
UCSA 87.17-W	7.562237	50-100 x 3,733	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 87.38-N	7.565436	70-100 x 3,649	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 87.87-W	2.097712	70-100 x 1,187	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 88.72-N	13.90943	50-100 x 6,933	Clearcut Forest Land, Cropland and Pasture, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 88.73-W	3.65606	85-100 x 1,675	Cropland and Pasture, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Agriculture, Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 89.08-W	14.53423	50-100 x 6,451	Clearcut Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 90.20-N	2.601728	15-100 x 2,008(Irregular)	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 90.31-W	7.154088	50-100 x 3,795	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 90.66-N	3.580192	100 x 2,112	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 91.77-N	0.666113	30 x 923	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 91.99-W	0.303512	30 x 411	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.00-N	0.248621	30 x 340	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 92.13-N	0.333749	30 x 474	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 92.15-W	0.293124	30 x 398	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 92.29-W	0.13979	30 x 173	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 92.30-N	0.118161	30 x 150	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 92.40-W	0.402386	30 x 552	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.40-N	0.406378	30 x 562	Mixed Forest Land, Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.55-N	0.09223	30 x 104	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.55-W	0.077049	30 x 82	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.64-W	0.168118	30 x 236	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.66-N	0.11582	30 x 155	Mixed Forest Land	Douglas-Fir-Mixed DeciduousForest	PV
UCSA 92.73-W	0.105765	30 x 124	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.73-N	0.198854	30 x 255	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 92.82-N	0.305979	30 x 431	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 92.93-N	0.330781	30 x 451	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, PV
UCSA 92.95-W	2.224928	15-30 x 3,650	Clearcut Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 93.08-N	1.341348	30 x 1,925	Clearcut Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 93.77-N	0.162065	30 x 173	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
UCSA 93.80-W	0.333579	30 x 486	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM
UCSA 93.84-N	0.608734	30 x 860	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	BLM, PV
UCSA 93.98-W	0.164462	30 x 226	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 94.04-W	0.209856	15 x 593	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Roads, Corridors	PV
UCSA 94.23-W	0.455017	30 x 646	Herbaceous Rangeland, Mixed Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Roads, Corridors	PV
UCSA 94.23-N	0.450411	30 x 639	Herbaceous Rangeland, Mixed Forest Land, Mixed Rangeland, Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Roads, Corridors	PV
UCSA 98.30-W	1.135745	50-100 x 728	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM
UCSA 98.31-N	1.929518	100 x 796	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 98.46-N	4.381894	85-100 x 2,023	Clearcut Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
UCSA 98.46-W	30.546143	25-100 x 18,697	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV, FS

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 98.46-W	6.913974	25-100 x 18,697	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
UCSA 98.93-N	34.440361	50-100 x 16,159	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV, FS
UCSA 111.14-W	2.241785	30 x 3,431	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 111.27-N	2.812753	30 x 4,142	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 111.86-W	0.262534	30 x 379	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 112.07-W	0.387931	30 x 532	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 112.20-W	1.267075	30 x 1,810	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 112.64-W	3.576999	30 x 5,208	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV, FS
UCSA 113.71-W	1.515665	30 x 2,173	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 114.20-W	9.220184	15-100 x 4,787	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	BLM, PV
UCSA 114.33-N	8.634528	70-100 x 3,970	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 115.47-N	1.228518	30 x 1,783	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 115.52-W	1.171673	30 x 1,678	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 115.86-N	0.721931	30 x 1,033	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 115.88-W	0.24779	30 x 360	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 116.28-N	4.889644	15-30 x 8,123	Evergreen Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shrublands	BLM, PV
UCSA 116.35-W	0.855145	15-30 x 1,264	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 116.74-W	0.623726	15 x 1,798	Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Shrublands	BLM, PV
UCSA 117.10-W	0.116401	15 x 321	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 117.42-W	0.414151	15 x 1,187	Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Shrublands	BLM
UCSA 118.00-W	0.941266	30 x 1,385	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Roads, Corridors, Shrublands	PV
UCSA 118.03-N	0.776348	30 x 1,099	Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Shrublands	PV
UCSA 118.28-N	1.934234	30-50 x 2,233	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Roads, Corridors, Shrublands	PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 118.43-W	1.430639	30 x 2,068	Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Grasslands (W. Cascades), Rivers and Streams, Roads, Corridors, Shrublands	PV
UCSA 118.95-N	0.262497	30 x 381	Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Roads, Corridors	BLM
UCSA 118.95-W	0.216051	30 x 314	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
USCA 119.20-N	6.87647	30-100 x 6,000	Deciduous Forest Land, Mixed Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Oregon White Oak Forest, Rivers and Streams, Roads, Corridors	BLM, PV
UCSA 119.21-W	0.863083	5-30 x 1,464	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
USCA 119.57-W	0.289678	30 x 391	Deciduous Forest Land	Oregon White Oak Forest	BLM
USCA 119.67-W	0.072752	30 x 76	Deciduous Forest Land	Oregon White Oak Forest	BLM
USCA 119.73-W	0.709023	30 x 1000	Deciduous Forest Land, Mixed Forest Land, Streams and Canals	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Oregon White Oak Forest, Rivers and Streams	BLM
USCA 120.15-W	0.55032	30 x 769	Deciduous Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Oregon White Oak Forest, Roads, Corridors	BLM, PV
UCSA 120.32-N	0.361306	30 x 527	Deciduous Forest Land	Oregon White Oak Forest	BLM, PV
UCSA 120.43-N	0.075774	30 x 126	Deciduous Forest Land, Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Oregon White Oak Forest	BLM, PV
UCSA 120.46-N	0.139797	30 x 200	Mixed Forest Land, Mixed Rangeland	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Grasslands (W. Cascades)	PV
UCSA 120.50-W	0.107182	30 x 140	Mixed Forest Land, Mixed Rangeland	Douglas Fir -White Fir//Tanoak-Madrone Mixed, Grasslands (W. Cascades)	PV
UCSA 121.67-N	0.659156	15-30 x 1,128	Deciduous Forest Land, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Oregon White Oak Forest	PV
UCSA 121.67-W	0.812694	15-30 x 1,222	Deciduous Forest Land, Mixed Forest Land, Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Oregon White Oak Forest	PV
UCSA 124.38-N	0.6512	30 x 931	Deciduous Forest Land, Evergreen Forest Land	Douglas Fir Dominant – Mixed Conifer, Oregon White Oak Forest	BLM
UCSA 124.42-W	0.458854	30 x 652	Deciduous Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Oregon White Oak Forest	BLM

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 124.63-W	0.833052	15-30 x 1,920	Deciduous Forest Land, Evergreen Forest Land, Mixed Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Oregon White Oak Forest, Ponderosa Pine/White Oak, Roads, Corridors	BLM
UCSA 124.63-N	1.246239	30 x 1,788	Deciduous Forest Land, Evergreen Forest Land	Douglas Fir Dominant – Mixed Conifer, Oregon White Oak Forest	BLM
UCSA 125.31-N	0.191632	25 x 308	Evergreen Forest Land, Mixed Forest Land	Douglas Fir Dominant – Mixed Conifer, Ponderosa Pine/White Oak	BLM
UCSA 125.31-W	0.145352	30 x 181	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
UCSA 125.84-N	0.108473	30 x 145	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
UCSA 126.58-N	0.536464	30 x 771	Mixed Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors	PV
UCSA 126.60-W	0.474078	30 x 651	Mixed Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
UCSA 126.78-N	0.145916	30 x 197	Mixed Forest Land	Ponderosa Pine/White Oak	PV
UCSA 126.79-W	0.13476	30 x 181	Mixed Forest Land	Ponderosa Pine/White Oak	PV
UCSA 128.68-N	0.306488	30 x 446	Mixed Forest Land, Mixed Rangeland, Shrub and Brush Rangeland, Streams and Canals	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Rivers and Streams, Shrublands	BLM, PV
UCSA 128.70-W	0.442116	30 x 613	Mixed Forest Land, Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest, Shrublands	BLM, PV
UCSA 128.82-N	0.089977	30 x 131	Shrub and Brush Rangeland	Shrublands	BLM
UCSA 129.02-W	1.269652	15-30 x 3,067	Deciduous Forest Land, Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Oregon White Oak Forest, Shrublands	BLM, PV
UCSA 129.10-N	2.72961	30 x 3,973	Deciduous Forest Land, Evergreen Forest Land, Herbaceous Rangeland, Mixed Forest Land, Shrub and Brush Rangeland, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades), Oregon White Oak Forest, Rivers and Streams, Roads, Corridors, Shrublands	BLM, PV
UCSA 129.62-W	0.137082	30 x 169	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	PV
UCSA 129.74-W	0.390052	30 x 536	Herbaceous Rangeland, Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest, Grasslands (W. Cascades)	PV
UCSA 134.65-N	2.944039	30 x 4,290	Clearcut Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Grasslands (W. Cascades), Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	PV
UCSA 134.65-W	0.496437	30 x 706	Mixed Rangeland, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
UCSA 134.88-W	1.043001	15-30 x 2,092	Clearcut Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 135.30-W	0.294826	30 x 398	Clearcut Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
UCSA 135.46-W	0.221195	30 x 306	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	PV
UCSA 135.53-N	1.817656	15-30 x 3,026	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 135.53-W	0.366656	30 x 520	Clearcut Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 135.66-W	0.466585	30 x 670	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 135.99-W	0.456896	30 x 633	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 136.17-N	0.335862	15-30 x 614	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 136.17-W	0.417194	30 x 578	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 136.32-W	0.479476	30 x 666	Clearcut Forest Land, Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 136.32-N	0.481185	30 x 669	Clearcut Forest Land, Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Shrublands	PV
UCSA 136.48-W	1.183158	30 x 1,686	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 136.48-N	1.184376	30 x 1,705	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 136.88-W	1.212182	30 x 1,827	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Roads, Corridors	BLM, PV
UCSA 136.97-N	0.512843	30 x 819	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 137.16-N	0.38431	30 x 535	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
UCSA 137.71-N	1.151279	30 x 1,651	Herbaceous Rangeland, Mixed Forest Land, Regenerating Evergreen Forest Land	Grasslands (W. Cascades), Ponderosa Pine/White Oak	PV
UCSA 137.87-W	0.4159	30 x 574	Mixed Forest Land, Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	PV
UCSA 139.84-W	0.517042	15 x 1,496	Mixed Forest Land, Mixed Rangeland	Grasslands (W. Cascades), Ponderosa Pine/White Oak	BLM, PV
UCSA 141.68-N	0.362223	30 x 485	Deciduous Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Shrublands	BLM
UCSA 141.68-W	0.325561	15-30 x 542	Deciduous Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Oregon White Oak Forest, Roads, Corridors, Shrublands	BLM
UCSA 143.11-N	1.261868	30 x 1,828	Deciduous Forest Land, Herbaceous Rangeland, Streams and Canals	Grasslands (W. Cascades), Oregon White Oak Forest, Rivers and Streams	PV
UCSA 147.78-W	0.560287	30 x 799	Deciduous Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Oregon White Oak Forest, Ponderosa Pine/White Oak, Shrublands	PV

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 147.93-N	1.783057	30 x 2,602	Deciduous Forest Land, Evergreen Forest Land, Mixed Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Douglas-Fir-Mixed Deciduous Forest, Oregon White Oak Forest, Ponderosa Pine/White Oak, Shrublands	BLM, PV
UCSA 148.48-W	0.220442	30 x 290	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
UCSA 148.49-N	0.686027	30 x 973	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
UCSA 148.60-W	0.444087	30 x 623	Mixed Forest Land, Shrub and Brush Rangeland	Ponderosa Pine/White Oak, Shrublands	BLM
UCSA 148.78-N	3.811036	10-100 x 2,148	Mixed Forest Land, Regenerating Evergreen Forest Land, Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine/White Oak, Shrublands	BLM
UCSA 150.49-N	0.512491	25 x 874	Mixed Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak, Roads, Corridors, Shrublands	BLM, PV
UCSA 151.85-N	0.907235	30 x 1,349	Evergreen Forest Land, Shrub and Brush Rangeland, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shrublands	PV
UCSA 152.48-N	0.214333	30 x 327	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	BLM
UCSA 152.48-W	0.206631	30 x 314	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	BLM
UCSA 153.10-W	0.860996	50 x 726	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine Forestand Woodland	BLM
UCSA 153.81-W	1.004408	30 x 1,461	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Ponderosa Pine Forestand Woodland	BLM, FS
UCSA 153.81-N	1.066207	30 x 1,548	Evergreen Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	BLM, FS
UCSA 154.13-W	2.105809	30 x 3,042	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 154.15-N	2.277619	30 x 3,302	Evergreen Forest Land, Mixed Rangeland	Douglas Fir Dominant – Mixed Conifer, Grasslands (W. Cascades)	FS
UCSA 154.82-W	0.370733	30 x 507	Evergreen Forest Land, Mixed Rangeland	Douglas Fir Dominant – Mixed Conifer, Grasslands (W. Cascades)	FS
UCSA 154.83-N	0.400051	30 x 596	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV, FS
UCSA 154.96-N	0.209553	30 x 289	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	PV
UCSA 155.26-N	0.481603	30 x 708	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV
UCSA 155.49-W	0.872518	30 x 1,249	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 155.72-W	0.548076	15-30 x 1,252	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 155.77-N	0.729312	30 x 1,044	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 156.00-W	0.58486	15-30 x 885	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 156.00-N	2.67737	15-30 x 4,145	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 156.26-W	1.827393	30 x 2,636	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 156.82-N	2.280213	30 x 3,286	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 156.98-W	1.228135	30 x 1,776	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 157.37-W	0.05905	30 x 71	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 157.40-W	0.194572	30 x 256	Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 157.52-N	2.004459	5-30 x 3,208	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 157.63-W	5.08019	5-30 x 9,421	Evergreen Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	FS
UCSA 158.23-N	1.874781	30 x 2,719	Evergreen Forest Land, Mixed Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (W. Cascades)	FS
UCSA 158.79-N	3.745788	30 x 5,613	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 159.46-W	0.335129	30 x 472	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 159.58-W	0.436075	30 x 603	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 159.73-W	0.180033	30 x 231	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 159.79-W	0.708708	30 x 998	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 160.00-W	0.403583	30 x 556	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 160.02-N	0.327211	30 x 461	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 160.18-W	1.343276	30 x 1,955	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 161.32-W	0.225682	30 x 328	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 161.32-N	0.222036	30 x 317	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 161.52-N	3.14142	30 x 4,549	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 162.01-W	1.186803	30 x 1,827	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 162.52-N	2.157246	30 x 3,102	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 162.53-W	2.119167	30 x 3,055	Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 163.16-N	3.595921	30 x 5,213	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 163.48-W	0.735992	30 x 1,036	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 163.71-W	1.534264	30 x 2,260	Evergreen Forest Land, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 164.23-W	0.231479	30 x 306	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 164.34-N	6.416573	30 x 9,284	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 165.16-W	2.668861	30 x 3,845	Clearcut Forest Land, Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 165.95-W	0.404447	30 x 557	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 166.12-W	1.009273	30 x 1,435	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Streams and Canals	Rivers and Streams, Shasta Red Fir-Mountain Hemlock Forest, Shrublands	FS
UCSA 166.14-N	1.119124	30 x 1,596	Regenerating Evergreen Forest Land, Shrub and Brush Rangeland, Streams and Canals	Rivers and Streams, Shasta Red Fir-Mountain Hemlock Forest, Shrublands	FS
UCSA 166.44-W	3.054812	30 x 4,432	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 166.49-N	2.930971	30 x 4,233	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 167.34-N	1.493602	30 x 2,196	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 167.90-W	1.112707	30 x 1,633	Evergreen Forest Land, Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 167.90-N	0.508248	30 x 755	Evergreen Forest Land, Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 168.09-N	2.306335	30 x 3,346	Evergreen Forest Land, Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 168.77-W	0.128897	30 x 164	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS
UCSA 168.78-N	0.049872	30 x 88	Evergreen Forest Land, Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	FS

TABLE G-2 (continued)

Uncleared Storage Areas Necessary for Construction of the Pipeline

Name	Area	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 168.87-W	2.409101	30 x 3,485	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	PV, FS
UCSA 168.87-N	2.296945	30 x 3,327	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Roads, Corridors, Shasta Red Fir-Mountain Hemlock Forest	PV, FS
UCSA 170.95-N	0.080185	25 x 142	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 170.98-N	0.087088	25 x 151	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 171.14-W	0.185521	25 x 298	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 171.26-N	1.684344	15-30 x 4,341	Evergreen Forest Land, Regenerating Evergreen Forest Land, Streams and Canals, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Rivers and Streams, Roads, Corridors	PV, FS
UCSA 172.14-N	1.762373	30 x 2,534	Clearcut Forest Land, Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	FS
UCSA 172.67-N	1.388465	30 x 2,011	Evergreen Forest Land, Regenerating Evergreen Forest Land, Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer, Roads, Corridors	PV, FS
UCSA 173.77-W	0.430144	25 x 737	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	FS
UCSA 173.98-W	0.527889	25 x 892	Herbaceous Rangeland, Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer, Grasslands (E. Cascades)	FS

BLM – Bureau of Land Management; FS – U.S. Department of Agriculture Forest Service; PV –private

TABLE G-3

Rock Source and Permanent Disposal Sites Identified for Construction of the Pipeline

Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Vegetation
Coos County						
TEWA 38.90-W	4.5	38.90	Rock source and disposal, staging, ingress/egress, spoil storage	Private	Strip mines, quarries, and gravel pits, clearcut forest land, regenerating evergreen forest land, transportation, communication, utilities corridors	Douglas fir-W. Hemlock-W. red cedar, roads, corridors, urban. industrial
Douglas County						
Signal Tree Road Quarry – Sec. 3	1.22	45.86	Rock source and disposal; spoil storage, staging	BLM-Roseburg District	Quarries	Industrial
Signal Tree Road Quarry – Sec. 35	1.09	47	Rock source and disposal	BLM-Coos Bay District	Quarries	Industrial
Weaver Road Quarry Site 1	1.62	47	Rock source and disposal	BLM-Coos Bay District	Quarries	Industrial
Weaver Road Quarry Site 2	1.30	47	Rock source and disposal	BLM-Coos Bay District	Quarries	Industrial
Signal Tree Quarry Site – Sec. 15	1.75	47	Rock source and disposal	BLM-Roseburg District	Quarries	Industrial
Private Quarry Benedict Rd.	1.49	56.75	Rock source	Private	Quarries	Industrial
Roth 1 – Existing Quarry #1	0.77	72.61	Rock source and disposal	Private	Quarries	Industrial
Roth 2– Existing Quarry #2	0.34	72.76	Rock source and disposal	Private	Quarries	Industrial
TEWA 79.85-N (BLM Quarry Site)	3.61	79.85	Rock source and disposal, PI, spoil storage, log landing, steep slope staging	BLM-Roseburg District	Quarries, transportation, communication, utilities corridors, mixed forest land, regenerating evergreen forest land	Roads, corridors, Douglas fir dominant - mixed conifer
Hatchet Quarry MP 102.30	2.00	102.3	Log Storage (Mitigation)	FS-Umpqua	Strip mines, quarries, gravel pit, transportation, communication, utilities corridors	Industrial, roads and corridors
Rock Disposal MP 104.12 (C&D Pit)	3.36	104.12	Disposal	FS-Umpqua/ Private	Strip mines, quarries, and gravel pits, transportation, communication, utilities corridors, regenerating forest land	Industrial, roads and corridors, Douglas fir dominant – mixed conifer
Jackson County						
TEWA 110.73 (Peavine Quarry)	15.87	110.54	Staging, Parking, Disposal, hydrostatic discharge	FS-Umpqua	Strip mines, quarries, gravel pit and evergreen forest	Industrial and Douglas fir dominant - mixed conifer

TABLE G-3

Rock Source and Permanent Disposal Sites Identified for Construction of the Pipeline

Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Vegetation
TEWA 150.31-W (Heppsie Mountain Quarry)	5.56	150.31	Ingress/egress, staging, spoil storage, parking, rock source and disposal	Private and BLM-Medford District	Strip mines, quarries, and gravel pits, mixed rangeland, evergreen forest land, mixed forest land, transportation, communication, utilities corridors, regenerating evergreen forest land, clearcut forest land, herbaceous rangeland	Grasslands (W. Cascades), industrial, Ponderosa Pine/white oak, roads, corridors, grass- shrub-sapling or regenerating young forest
Rum Rye MP 160.41	4.91	160.41	Log Storage (Mitigation)	FS-Rogue River-Siskiyou	Strip mines, quarries, and gravel pits,	Industrial
TEWA 160.54-W (Big Elk Cinder Pit) (Ichabod Rock Quarry)	15.26	160.54	Log landing/decking/ hauling, ingress/egress, staging, rock source and disposal	FS-Rogue River-Siskiyou	Strip mines, quarries, and gravel pits, transportation, communication, utilities corridors, evergreen forestland,	Industrial, grasslands (W. Cascades), roads, corridors, true-fir hemlock montane, Douglas fir dominant – mixed conifer
Klamath County						
Rock Source and Disposal MP 180.56	7.76	180.56	Rock source and disposal	Private	Strip mines, quarries, gravel pit, transportation communication and utilities corridors, and regenerating forest land	Industrial, roads and corridors, and ponderosa pine/white oak
Rock Source and Disposal MP 180.71	2.95	180.71	Rock source and disposal	Private	Strip mines, quarries, gravel pits, clearcut forest land	Industrial, roads and corridors, and ponderosa pine/white oak
Rock Source and Disposal MP 182.40	5.66	182.40	Rock source and disposal	Private	Quarries, gravel pits	Industrial
Rock Source and Disposal MP 201.61	4.96	201.61	Disposal	Private	Quarries, gravel pits, transitional areas, communication and utilities corridors	Industrial, roads corridors, and grasslands (E. Cascades)
TEWA (5) (associated with existing quarries) Total	**44.80 a/**					
Existing Quarries and Rock Source and Disposal Sites (15) Total	**41.18**					
Grand Total	**85.98**					

a/ The 44.80 acres are included in the total TEWA acreage in Table D-5.

APPENDIX H

Pacific Connector's Proposed Modifications to FERC's Plan and Procedures

TABLE H-1

Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
Modifications Requested for Temporary Extra Work Areas (TEWAs) Located within or within 50 feet of Wetlands or Waterbodies and Areas Where the Construction Right-of-Way is Greater than 75 feet Wide					
0.00	Alt_Wetl_N H (West) Alt_Wetl_N E Alt_Wetl_N A	E2EM/E2USN PABH/PUBH PFOC	TEWA 0.10 TEWA 0.01	1	TEWA 0.10 is located within these wetlands because it is required to facilitate the Coos Bay Estuary HDD, which has been incorporated to avoid effects to the estuary. TEWA 0.10 is required to fabricate and stage the HDD pipe string and cannot be shortened or realigned to avoid these wetlands based on engineering requirements and constraints. PCGP will operate equipment off of mats to minimize potential rutting or compaction impacts as specified in FERC's Wetland and Waterbody Procedures. Appropriate BMPs will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. Impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
0.14	Wetland J	PEMA	TEWA 0.01	1	**Previously Disturbed Area – Industrial Site** TEWA 0.01 encroaches into Wetland J, near MP 0.14 at the exit point of the HDD. The TEWA is required to stage the Coos Bay Estuary HDD and cannot be modified to avoid or be set back 50 feet from this wetland. Appropriate BMPs will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. Impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
1.16	APC-C2	PSS1R	TEWA 1.09 TEWA 1.17-N TEWA 1.17-W Construction ROW > 75 feet	2	**Previously Disturbed Area – Industrial Site** TEWA 1.09, TEWA 1.17-N, and TEWA 1.17-W are required to stage the HDD for the Coos Bay Estuary. Although within 50 feet of the wetland, the TEWAs are located within a previously disturbed industrial site and would not affect native or woody riparian vegetation. The construction right-of-way through Wetland APC-C2 is greater than 75-feet in width and is required for ingress/egress to support the Coos Bay Estuary HDD. The wetland will be matted to minimize potential compaction and construction related impacts. Appropriate BMPs and restoration measures will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts to the wetland.
1.20 1.41	EE-WW-9902	PSSC/PEM1A	TEWA 1.17-N TEWA 1.17-W Construction ROW > 75 feet	2	**Previously Disturbed Area – Industrial Site** This wetland is an interpreted wetland from NWI sources and was incorporated because surveys have not been completed in this area. The wetland is located in a previously disturbed industrial site and is not expected to be present and will be verified during future survey efforts. The TEWAs and full 95-foot wide construction right-of-way are required to stage construction activities on North Point. Once wetland surveys have confirmed the presence/absence or extent of the wetlands in this area, appropriate BMPs will be implemented, as specified in the ECRP, to minimize potential sedimentation impacts. Potential impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.

TABLE H-1

Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
1.20 1.41	EE-WW-9902	PCCS/PEM1A	TEWA 1.36-N TEWA 1.36-W Construction ROW > 75 feet	2	**Previously Disturbed Area – Industrial Site** This wetland is an interpreted wetland from NWI sources and was incorporated because surveys have not been completed in this area. The wetland is located in a previously disturbed industrial site and will be verified during future survey efforts. The TEWAs and full 95-foot wide construction right-of-way are required to stage the Coos Bay Estuary HDD. The TEWAs and the construction right-of-way cannot be modified to avoid this interpreted wetland because of the engineering and construction constraints required for the HDD. Once wetland surveys have confirmed the presence/absence or extent of the wetlands in this area, appropriate BMPs will be implemented, as specified in the ECRP, to minimize potential sedimentation impacts. Potential impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
3.25	Ken-A1 (NW-117/EE-6A)	PEM1Ad	TEWA 3.07N TEWA 3.07W TEWA 3.09 TEWA 3.55 Construction ROW > 75 feet	4	**Previously Disturbed Area – Disturbed Emergent Pasture** These TEWAs and full construction right-of-way width are required to stage the Coos Bay Estuary HDD. The TEWAs are necessary to complete the HDD, conventionally lay the pipeline, and fabricate the HDD pipe string. In this area the pipeline is within the JCLNG Kentuck Golf Course Mitigation Site and will be buried to a depth to ensure the pipeline does not encumber mitigation activities. The right-of-way width cannot be narrowed and the TEWAs cannot be eliminated within these wetland pastures because the trench width may become excessively wide due to the high groundwater table and the unconsolidated and saturated soils. The trench will also be wider in the wetland due to concrete coating of the pipeline. The pipeline will be coated with several inches of concrete to compensate for pipeline buoyancy which increases the overall pipe diameter. It will be difficult to contain/confine saturated trench spoil materials within the wetland because these materials typically lack sufficient strength for stacking or piling. TEWAs 3.09 and 3.55 are required to fabricate and stage the HDD pipe string and cannot be shortened or realigned to avoid the wetlands based on HDD engineering requirements and constraints and site conditions. PCGP will utilize appropriate low-ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts as specified in FERC's Wetland and Waterbody Procedures. Appropriate BMPs will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. The affected wetlands are disturbed emergent pasture wetlands and impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
8.27R & 8.33R	S1-04 (EE-7) W1-04	R2 PEM	TEWA 8.35-W TEWA 8.27-N Construction ROW >75 feet	6	**Previously Disturbed Area – Agricultural Pasture** TEWA 8.27-N is required for topsoil salvage within the upland pasture and for the county road crossing. The landowner (Sweet) allowed survey access to the property to accommodate his requested alignment change, which identified wetland W1-04 and allowed survey of the Willanch Slough channel. TEWA 8.27-N would extend up to Willanch Slough (EE-7) without affecting riparian vegetation. The 95-foot construction right-of-way was maintained and TEWA 8.27-N placed through disturbed emergent pasture wetland (W1-04) so that additional TEWA was not necessary to accommodate the crossing of Willanch Slough and to salvage topsoil within Wetland W1-04. The EI would also ensure that appropriate erosion control, temporary construction mats, and restoration measures are utilized, as outlined in the ECRP, to ensure potential effects to Wetland W1-04 are minimized.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
8.46R	S-T01-002 Ditch GDX-30	R4	TEWA 8.46-N TEWA 8.44-W	6	The alignment in this area traverses an upland pasture entering a powerline corridor along a side hill on the ridgeline opposite the pasture. TEWA 8.44-N is within 50 feet of ditch GDX030, but would not affect any woody vegetation adjacent to the ditch. TEWA 8.46-W is within 50 feet of GDX030 and is designed to accommodate the additional spoil storage associated with side hill construction requirements and the PI at MP 8.45. Appropriate erosion control and restoration measures, as outlined in the ECRP, would be utilized to minimize potential sedimentation to the ditched tributary (GDX-30).
11.01R	WW-100-001	PEMA	TEWA 10.96W TEWA 10.71W Construction ROW >75 feet	8	**Agricultural Wetland - Disturbed Emergent Pasture** The construction right-of-way is greater than 75 feet and TEWAs 10.96W and 10.71W are required within this disturbed, emergent wetland pasture/hayfield interpreted from (NWI) to complete the Coos River HDD installation. Additionally they are required for conventional pipeline installation to ascend/descend the slope to the west. The 2009 FEIS Route was realigned to the Proposed Route in this area to incorporate the Brunschmid WRP2 Avoidance alternative.
11.26R – 11.74BR	WW-222-002 WW-222-002 WW-500-001 SS-100-005 (BR-S-02) BR-W-03	PEM PEMd PEMA R2UBHx PEMA	TEWA 11.27-W TEWA 11.33-N TEWA 11.53-N Construction ROW >75 feet	9	**Agricultural Wetland - Disturbed Emergent Pasture** These TEWAs and the full 95-foot construction right-of-way are required for staging of the Coos River HDD. The. They cannot be modified to avoid impacting the wetlands because of engineering requirements in the area of the Coos River HDD (i.e., HDD pull-back string, conventional pipeline installation across the floodplain, topsoil salvaging/storage within the agricultural wetland pasture, and spoil storage/containment requirements). PCGP will utilize appropriate low-ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts in the pasture wetland as specified in FERC's Wetland and Waterbody Procedures. Wetlands WW-222-002 and WW-500-001 are disturbed emergent pasture wetlands and, therefore, impacts are expected to be temporary and short-term, with implementation of the erosion control and restoration BMPs outlined in the ECRP.
11.55BR – 12.12BR	SS-100-005 (BR-S-02) BR-W-03 BR-S-4 BR-S-06 EE-WW-9927	R2UBHx PEMA R2UBHx R2UBHx PEM/PSS	TEWA 11.27-W TEWA 11.33-N TEWA 12.12-W Construction ROW >75 feet	9	**Agricultural Wetland - Disturbed Emergent Pasture** Survey access in these areas was denied and the wetland/waterbody delineation is preliminary. The 95-foot construction right-of-way and the TEWAs are required for conventional pipeline installation across the floodplain, topsoil salvage/storage within the agricultural wetland pastures, and spoil storage/containment. The construction right-of-way cannot be narrowed and the TEWAs cannot be eliminated because the trench width may become excessively wide within the wetland pastures. This is due to the high groundwater table and unconsolidated and saturated soils in the wetlands. The trench width will be wider in the wetlands because the pipeline will be weight-coated with several inches of concrete to compensate for
15.01BR – 15.1BR	BR-W-04A BR-W-04B BR-S-30	PEMA PEMS R4SBC	TEWA 14.73-N Construction ROW >75 feet	12	

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
15.11BR – 15.32BR	BR-S-36 BR-W-05 EE-SS-9068	R2UBHx PEMS R4SBC	TEWA 15.12-W TEWA 15.12-N TEWA 15.26-W	12	pipeline buoyancy in the wetlands. This increases the overall pipe diameter. The burial depth of the pipeline in the pastures will provide for 5 feet of cover over the top of the pipe compared to the standard 3 feet of cover in non-agricultural uplands. It may be difficult to contain/confine the saturated trench spoil materials because these materials typically spread out when stacked due to insufficient strength. Wetland BR-W-03 is an extensive (~2,700 feet) disturbed emergent wetland floodplain pasture that cannot be avoided. PCGP will utilize appropriate low- ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts in the pasture wetlands as specified in FERC's Wetland and Waterbody Procedures. Through these disturbed emergent pasture wetlands impacts are expected to be temporary and short-term, with implementation of the erosion control and restoration BMPs outlined in the ECRP.
24.32BR	BR-S-63	R3UBH	TEWA 24.32-W	21	Survey access to this area was denied and the waterbody delineation is preliminary. The TEWA is necessary for the county road (Coos Wagon Road) crossing, ingress/egress, and construction staging for the crossing of Steinnon Creek; therefore, the TEWA cannot be set back 50 feet from the waterbody. PCGP will utilize appropriate BMPs and restoration measures as outlined in the ECRP to minimize the potential for sedimentation and to restore forested riparian areas.
22.72 22.78	DA-10x NW-40	R4SBx PEMC	TEWA 22.59-N Construction ROW >75 feet	24	**Agricultural Wetland - Disturbed Emergent Pasture** This TEWA is necessary to segregate and store topsoil within the agricultural hayfield/pasture. The affected ditch (DA-10X) and disturbed emergent wetland (NW-40) are excavated drainage ditches within the pasture and therefore impacts to these features will be negligible.
23.38	WW-222-009 (CW-10)	PFOC	TEWA 23.09-W Construction ROW >75 feet	25	The construction right-of-way could not be necked down through this wetland because the side hill alignment requires the full 95-foot construction right-of- way, Although TEWAs were removed from the wetland, TEWAs 23.09-W could not set back 50 feet from the wetland to accommodate the necessary cut and fills and contain all trench/right-of-way spoil. Disturbed areas in this forested wetland would be replanted as described in the ECRP, which includes reestablishment with tree and shrub species, and appropriate BMPs would be installed to minimize potential sedimentation.
28.86	BSP-77	R3SB1F	TEWA 28.5-W	30	TEWA 28.50-W was not located 50 feet back from BSP-77 but was located back from the thin mature riparian forested buffer vegetation in the young regenerating forested area. The alignment at this crossing descends and ascends steep and side sloping terrain, and the drainage crossing is incised requiring the TEWAs for cut and fill and spoil storage. During construction staking, the EIs will ensure the TEWA is appropriately set back to minimize mature riparian tree clearing at the crossing. Appropriate erosion control and restoration BMPs, as outlined in the ECRP, will be implemented to minimize potential sedimentation and to restore habitats.
29.47	BSI-76	R4SB1C	TEWA 29.43-W	30	TEWA 29.43-W was not located 50 feet back from BSI-76 but was setback from the mature riparian forest in the younger regenerating forested area. The drainage crossing is incised requiring the TEWA for construction staging and for cut and fill and spoil storage. During construction staking, the EIs will ensure the TEWA is set back to the maximum extent practical based on site- specific conditions at the crossing. Appropriate erosion control and restoration BMPs, as outlined in the ECRP, will be implemented to minimize potential sedimentation and to restore habitats.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
29.52	BW-72	PEMC	Construction ROW >75 feet	30	**Agricultural Wetland - Disturbed Emergent Pasture** The full 95-foot construction right-of-way is maintained through this wetland to provide adequate space for topsoil segregation/storage and to deeper pipeline burial depths (5-foot) across this pasture/hayfield. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
29.85	BSP-71	R3OWH	TEWA 29.61-N TEWA 29.78-W TEWA 29.87-W Construction ROW >75 feet	30	**Previously Disturbed Area – Pasture** The alignment across the East Fork Coquille River was adjusted to provide a perpendicular crossing to minimize the crossing length of the river, avoid Wetland BW-250, and to avoid two potential MAMU stands along the river. The TEWAs were positioned to abut the existing riparian vegetation along the river banks within the pasture and hayfield but are located within 50 feet of the river. The drainage crossing is incised requiring the TEWAs for construction staging and for cut and fill and spoil storage. PCGP will utilize appropriate BMPs and restoration measures as outlined in the ECRP to minimize the potential for sedimentation and to restore forested riparian areas within the construction right-of-way.
31.64	BSI-70	R4UB1C	TEWA 31.01-W	32	The TEWA was not set back from this incised 1' wide intermittent headwater stream because the alignment traverses side slopes requiring additional grading and spoil storage requirements. The alignment is also co-located with a road with the spoil storage (non-working) side of the construction right-of-way paralleling and overlapping the road in some areas, which restricts the area for spoil storage. During construction staking, the EI will determine if the TEWA can be removed from the drainage crossing to minimize tree clearing based on the site-specific topographic conditions. The EI will also implement appropriate, erosion control and restoration BMPs, as outlined in the ECRP, to minimize potential project effects.
32.40	BSP-57	R3RB2H	TEWA 32.46-W	33	This TEWA is required for the crossing of waterbody BSP-57, a road crossing, and a PI. The TEWA was tapered to the extent feasible and avoids older riparian vegetation, but a small area extends to within 50 feet of BSP-57. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
32.40 32.48	BSI-58 BSI-59	R4UB4C R3RB2H	TEWA 32.48-N	33	This TEWA is needed for ingress/egress, staging, and spoil storage associated with the road crossing and PI. Due to site-specific topographic conditions, it is not feasible to provide a 50-foot setback from the waterbodies, although the TEWA will be offset at least 10 feet from the intermittent drainage which should be dry at the time of construction. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
33.02	BSP-50	R3SB1C	TEWA 33.02-W	34	**Previously Disturbed Area – Forest Clear-cut** Although this TEWA has been located 20 feet from the waterbody, maintaining a 50-foot setback is not feasible due to the location of Waterbody BSP-49. This TEWA is required during the crossing of Waterbody BSP-49 and therefore additional setbacks to maintain a 50-foot setback from Waterbody BSP-50 would make this TEWA impractical during the crossing of Waterbody BSP-49. During construction staking, PCGP's EI will ensure the extent of the TEWA remains only within the recent clear-cut area and does not affect riparian vegetation. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
34.45 34.46	CW-6 CSP-5	PEMC R3SB1H	TEWA 34.41-W TEWA 34.47-W	35	Due to the steep incised topographic conditions at this stream crossing, these TEWAs cannot be located 50 feet or more from the wetland/waterbody. These TEWAs will be set back a minimum of 10 feet from the waterbody. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
35.87	BLM 35-87 (CSP-2)	R4SB	TEWA 35.79-N	36	To minimize effects to an Occupied MAMU stand, the alignment is co-located with a road, traversing sidesloping topography. TEWA 35.79-N was extended across the intermittent drainage to accommodate staging for the in-road lay construction area between MPs 35.34 and 36.12, and to replace/repair the existing culverted crossing of the drainage. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
37.32	ESP-19	R4UB1J	TEWA 37.15-N	37	The alignment in this area follows a narrow ridge line to the crossing of ESI-19. Although TEWA 37.15-N was set back 50 feet from ESI-19 at the crossing, the upstream channel alignment of ESI-19 meanders to the west and flows parallel through regenerating forest habitat within 50 feet of TEWA 37.15-N. TEWA 37.15-N is important to facilitate the crossing of both ESI-19 and ESP-20 (Trib to Big Creek) as well as construction/grading requirements for traversing the narrow ridgeline which will encounter sideslopes. During construction staking, the EI will ensure that TEWA 37.15-N is setback at least 10 feet from ESI-19 and will ensure that appropriate BMPs, outlined in the ECRP, are implemented to minimize potential sedimentation and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
51.71	SS-222-006	R4UB	TEWA 51.57-W	50	**Agricultural Wetland - Pasture** SS-222-006 is a narrow disturbed ephemeral drainage within a pasture/hay field that is expected to be dry during construction. The ephemeral drainage was delineated after establishment of the construction right-of-way, based on a landowner (Standley) requested reroute in this area. TEWA 51.57-W, located at the break between Spreads 1 & 2, is required for the crossing of Highway 42, ingress/egress, construction staging associated with the beginning/ending of pipeline construction spreads, and topsoil and spoil storage. PCGP will ensure that appropriate BMPs, outlined in the ECRP, are implemented to minimize potential sedimentation and to ensure that disturbed areas are appropriately revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
55.90 55.94	BSI-202 BSI-203	R4SB3C	TEWA 55.92-N TEWA 55.89-W	55	**Previously Disturbed Area – Pasture** These TEWAs are located in previously disturbed pastures and will not affect any riparian areas. They are required for topsoil segregation/storage in the pastures and will be set back a minimum of 10 feet from the intermittent drainages which should be dry during construction. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
56.28 56.34	DA-13 DA-14	R4SB	TEWA 56.20-W	55	DA-13 and DA-14 are narrow intermittent drainages that are expected to be dry during construction. These intermittent drainages are interpreted from available data on denied access properties. During construction staking, the EI will remove the portion of TEWA 56.20-W that crosses these drainages and establish a 10-foot minimum TEWA setback from the drainages and ensure that appropriate BMPs, outlined in the ECRP, are implemented to minimize potential sedimentation.
56.69	DA-15	PFO	TEWA 56.69-W TEWA 56.72-N	55	Survey access to this parcel was denied and the wetland delineation is preliminary. However, these TEWAs are required for the open cut crossing of Ireland Road (Douglas Co. Road 140). Ireland Road is elevated with 4-5 feet of gravel fill at the pipeline crossing, therefore this material will need to be temporary stored and replaced during restoration. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
56.75 56.78 56.83	BW-160 W-T-02-004A-1 (BW-161) BW-162	PFOC PEMC1 PFO/PEMC	TEWA 56.74-W TEWA 56.75-N TEWA 56.78-N Construction ROW >75 feet	55	These TEWAs are required for ingress/egress, the crossing of Ireland Road, and topsoil and spoil storage. They are located in the wetland and cannot be adjusted to be 50 feet or more from the wetlands and still be useful to complete the required construction activities (crossing of Ireland Road and PI construction). Impacts to the wetland from TEWA 56.74-W would mostly occur to emergent wetland areas. Portions of TEWA 56.75-N have been located to utilize an existing road which bisects the wetlands. TEWA 56.78-N has been located within previously disturbed emergent areas within wetland BW-161.
56.97 57.02	BW-163 BSI-139	PEMC R4SB1C	TEWA 56.78-N Construction ROW >75 feet	56	**Agricultural Wetland - Disturbed Emergent Pasture** This TEWA is required to segregate and store topsoil within this disturbed emergent pasture wetland. Impacts to this wetland from project construction are expected to be temporary and short-term.
57.11 to 57.31	BSI-140 BW-142 BW-141 BSI-138	R4SB1C PEMC PEMC R4SB1C	TEWA 56.78-N TEWA 57.11-N TEWA 57.25-W TEWA 57.31-N Construction ROW >75 feet	56	**Agricultural Wetland - Disturbed Emergent Pasture** TEWAs 57.11-N and TEWA 57.25-W are required to segregate and store topsoil within this disturbed, emergent wetland pasture (BW-142/BW-141). The full 95-foot construction right-of-way will be maintained through this wetland because impacts will be temporary, minor, and short-term. The TEWAs located in or adjacent to BSI-140 and BSI-138 (intermittent drainages) are also located in previously disturbed areas or are required for spoil/topsoil storage associated with the road crossing and the PI. This intermittent drainage is expected to be dry during construction and PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
57.97	BDX-148	R4UB3Cx	TEWA 57.91-N	57	**Agricultural Wetland – Disturbed Emergent Pasture** This TEWA is required to segregate and store topsoil within the disturbed pasture. Construction impacts to this intermittent ditch will be fully restored, resulting in only temporary and short-term effects.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
57.08 to 59.02	BW-150 BSI-151 BDX-157 W4-02 (BW-158) BSP-159 BSP-155 BW-154 BSI-132 BSI-129 BW-126 BW-127 NSP-13 BDX-153 BW-128	PEMC R4SB1C R4UB3Cx PEMC R3SB1H R2SB1H PEMC R4SB3C R4SB3C PEMC PEMC R3SB1H R4UB1Cx PEMC	TEWA 57.91-N TEWA 58.21-N TEWA 58.56-N TEWA 58.65-W TEWA 58.79-N TEWA 58.79-W TEWA 59.30-N TEWA 59.31-W TEWA 59.66-N TEWA 60.01-N TEWA 60.05-W TEWA 60.35-W TEWA 60.44-N Construction ROW >75 feet	57 - 59	**Previously Disturbed Area – Pasture** These TEWAs have not been located 50 feet or more from these waterbodies and wetlands because they have been located within existing disturbed pasture areas. They will not affect any woody/riparian areas. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
63.97	BSP-240 BSI- 241	R2UB1H R4UB1J	TEWA 63.93-W, TEWA 63.93-N TEWA 63.99-N	63	The steep topography immediately east of Kent Creek prevents location of these TEWAs 50 feet or more from these waterbodies. Setbacks greater than 10 feet from Kent Creek (BSP-240 and its tributary (BSI 241) are not feasible considering the space requirements necessary to clear the construction right- of-way, deck and haul timber, cross Kent Creek Road (County Rd 100), and cross the creek using the dry open cut crossing method. TEWA 63.93-W was also configured to utilize existing pasture areas to minimize tree clearing. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
65.76	S2-04 (BSP-227)	R3SB1H	TEWA 65.68-N	64	**Previously Disturbed Area – Pasture** This TEWA has been located within previously disturbed pastures and will not affect existing riparian areas associated with Rice Creek (BSP-227). PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
66.87 66.95 67.00	BSI-230 BSP-168 BSI-169	R4SB1J R3SB1C R4SB3J	TEWA 66.85-W TEWA 66.89-N TEWA 66.89-W TEWA 66.97-W TEWA 66.02-N TEWA 67.03-W	65	**Previously Disturbed Area – Pasture** All of these TEWAs have been located within previously disturbed pastures and will not affect existing riparian areas associated with Willis Creek (BSP- 168). Due to the topographic conditions and the project alignment along the intermittent drainage (BSI-230), this drainage could not be avoided by the right-of-way or TEWA 66.89-W. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated.
69.57	SS-004-006 (SS-100-014)	R4SBC	TEWA 69.54-W	68	TEWA 69.54-W is necessary for the PI and spoils storage in an area where the alignment traverses sideslopes along a ridgeline. Intermittent drainage SS- 004-006, which crosses this TEWA. This potential intermittent waterbody is expected to be dry during construction; however, appropriate erosion control and restoration BMPs, as outlined in the ECRP, would be implemented to minimize sedimentation and to restore this intermittent drainage, if present.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
71.04 to 71.11	WW-005-002 WW-501-009 SS-005-006 (SS-100-015)	PEM PEM R4SBA	TEWA 71.01-N TEWA 71.06-W	70	SS-005-006 is an interpreted intermittent waterbody (NWI) that is affected by TEWA 71.01-N which is required for the Direct Pipe crossing of I-5, South Umpqua River, Dole Road and the railroad. This waterbody is expected to be dry at the time of the crossing. As defined by Section I. B.1. of FERC's Wetland and Waterbody Procedures, these features are not considered waterbodies and are therefore protected under FERC's Upland Plan. During restoration the site/feature would be restored to the approximately preconstruction contour and appropriate erosion control BMPs would be installed as determined by the EI.
71.25	BSP-26 SS-005-008 (SS-100-016)	R3OWH PSS1C	TEWA 71.31	70	The purpose of the TEWA is for hydrostatic test water withdrawal and has been located to primarily occupy existing cleared/disturbed areas. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation
71.34 to 71.42	WW-504-010 (WW-005-004) SS-005-008 EDX-02	PEM PSSC1C R4SB3Cx	TEWA 71.33-W	70 & 71	TEWA 71.33-N, which affects Intermitted drainage SS-005-008, is required to complete the Direct Pipe Crossing of the South Umpqua River (BSP-26), Interstate-5, Dole Road, and the railroad. This TEWA is also necessary to facilitate construction/fabrication of the aboveground Block Valve Assembly #6 (AGF-06) and to facilitate ingress/egress to and use of the Roth Pipe Yard, which abuts the adjacent railroad spur. The intermittent drainage is expected to be dry during construction and would be appropriately bridged/culverted to minimize potential effects to the drainage during Direct Pipe operations and construction of AGF-06. During construction staking the EI, if feasible, will provide a setback between the TEWA and SS-005-008 at the pipeline crossing (~MPs 71.48 to 71.51) to minimize disturbance effects to the drainage. PCGP will implement appropriate erosion control and restoration BMPs, as outlined in the ECRP, to minimize sedimentation and to restore the intermittent drainage. Intermittent ditch EDX-02 and Wetland WW-504-010 are within 50 feet but are upslope and away from the Roth Pipe Yard; therefore, potential effects to and sedimentation of these features will not occur from the use of the yard. ,
73.56	SS-005-011& 012	R4SBA	TEWA 73.53-W	72	A small portion of TEWA 75.53-W is within 50 feet of this intermittent drainage. The TEWA is required to install a PI at this location. Erosion control and restoration BMPs, as outlined in the in the ECRP, will be utilized to minimize potential sedimentation and to ensure disturbed areas are appropriately restored.
73.60	WW-005-006	PEM	TEWA 73.68-W Construction ROW > 75'	73	The 95-foot construction right-of-way was maintained through Wetland WW- 005-006, and TEWA 73.68-W is located within 50 feet of the wetland because of the side sloping alignment in this area. The TEWA is located in previously disturbed herbaceous uplands adjacent to the wetland to facilitate construction at the acute PI. Erosion control and restoration BMPs, as outlined in the in the ECRP, would be utilized to minimize potential sedimentation and to ensure disturbed areas are appropriately restored.
75.33 75.34	EE-SS-9032 ES-SS-9033	R4SBC R4SBA	TEWA 75.32-N TEWA 73.68-W	74	Survey access in this area was denied; therefore, the intermittent streams were interpreted from available sources. The TEWAs are required to facilitate safe construction along the steep narrow ridgelines and for descending/ascending the steep drainage slopes and crossing the incised intermittent streams. PCGP will ensure that appropriate erosion control and restoration BMPs, as outlined in the ECRP, are implemented to minimize potential sedimentation and to ensure disturbed areas are appropriately restored. During construction staking, the EI will also provide, if feasible, TEWA setbacks at these crossings, depending on site-specific conditions.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
76.38	S-T02-004 (BSP-1)	R3SBH	TEWA 76.36-N TEWA 76.36-W	76	**Previously Disturbed Area – Pasture** These TEWAs have not been located 50 feet or more from this waterbody because they are located within existing pastures and forested riparian areas will not be disturbed. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
76.69	BW-2	PEMC	TEWA 76.66-N Construction ROW >75 feet	76	The full 95-foot construction right-of-way and TEWA 76.66-N are necessary in this wetland because the pipeline traverses steep topography and narrow ridgelines in this area. The TEWA is necessary for steep slope construction staging and spoil storage associated with the PI, and other potential grading activities necessary to safely install the pipeline. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.
77.71	BSP-6	R3SB7/PSS1C	TEWA 77.68-N	77	The alignment of BSP-6 was adjusted based on the review of LiDAR data, and the adjustment caused the encroachment into TEWA 77-68-N. During construction staking, the EI will ensure that TEWA 77-68-N is adjusted to provide a 10-foot setback, or greater, from BSP-6, based on site-specific conditions, engineering, construction, and safety constraints. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.
77.93 & 78.02	BSI-8 BSI-10	R3SB1H R4SB3C	TEWA 77.72-N TEWA 77.95-W	77	**Previously Disturbed Area – Pasture & Intermittent Stream** These TEWAs are necessary for staging and pipe storage in an area of the project which traverses rugged and remote terrain with limited access and limited areas suitable for staging. These TEWAs are located in a level, previously disturbed pasture where access is available in the Little Lick Creek drainage. The TEWAs encompass the intermitted drainages which are expected to be dry during construction. Elimination of these drainages from the TEWAs and applying a 50-foot setback would exclude significant areas of these critical staging TEWAs. PCGP will limit project activities within these intermittent tributaries and will also use existing access across the drainages or will use construction mats over these drainages as necessary to minimize potential channel disturbance. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
79.15 79.17 79.19	NSP-38 EE-SS-9038 EE-SS-9039	R3SB1H R3SB1H R3SB1H	TEWA 79.13-N TEWA 79.14-W	78	These waterbodies were interpreted from available data because access was denied. These TEWAs have been located 50 feet from North Myrtle Creek (NSP-37); however, this setback pushes these TEWAs into NSP-38 (Trib. N. Myrtle Creek), EE-SS-9038 and EE-SS-9039. These TEWAs cannot be set back further to allow a 50-foot offset from NSP-38 due to the extremely steep slopes immediately east of the creek (left bank). These TEWAs are needed for the crossing of Myrtle Creek, the crossing of the tributary (NSP-38) as well as for construction up the long steep slope adjacent to NSP-38, EE-SS-9038, and EE-SS-9039. This slope is approximately 1,300 feet in length and has an average slope of approximately 40 percent. PCGP's EI will monitor clearing and construction activities at the crossing of NSP-38, EE-SS-9038, and EE- SS-9039 to mark/flag any vegetation that can potentially be protected within the clearing limits. The EI will review these clearing limits (vegetation protection) with PCGP's Chief Inspector to ensure that the crossing can be safely constructed. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts to this tributary as well as to North Fork Myrtle Creek and to ensure that disturbed areas are appropriately restored and revegetated including woody riparian vegetation.
81.38	BSP-259	R3SB1H	TEWA 81.21-W	81	**Previously Disturbed Area – Pasture** TEWA 81.21-W is located in a hayfield/pasture within 50 feet of BSP 259, but it would not disturb any riparian vegetation associated with BSP 259. Appropriate BMPs, as outlined in the ECRP, would be installed as necessary to minimize potential sedimentation.
81.45-81.64	SS-100-023 EE-SS-9075	R4SBA R2UBH	TEWA 81.53-W	81	**Previously Disturbed Area – Pasture** These intermittent streams were interpreted from available sources because access was denied. TEWA 81.53-W, which crosses SS-100-023 and is within 50 feet of EE-SS-9075, is necessary for topsoil salvage and segregation. During construction, the EI will provide a setback between the TEWA and SS- 100-023. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts to this tributary and to ensure that disturbed areas are appropriately restored and revegetated.
84.23	EW-26 EW-24 EW-25	PEMC PEMC PEMC	TEWA 84.18-W	84	TEWA 84.18-W is required for staging in a remote area where the project traverses steep and rugged terrain and where level areas for large staging and access are extremely limited. Although TEWA 84.18-W entirely encompasses these emergent wetlands, they will be avoided by project activities. The EI will delineate the boundaries of these wetlands with silt fence and ensure that these sites are protected from disturbance.
85.38-85.71	EE-SS-9040 EE-SS-9041 EE-SS-9042	R4SBC R4SBC R3UBF	TEWA 85.15 TEWA 85.68-W	85	**Previously Disturbed Area – Forest Clear-cut** These intermittent streams were interpreted from available sources because access was denied. The TEWAs are required to facilitate safe construction in this area where the alignment traverses steep slopes and side sloping topography. During construction, the EI will provide setbacks between the TEWAs and these intermittent streams, if feasible, based on site-specific conditions and construction requirements to facilitate safe construction. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
88.20 & 88.23	BSI-236 BSI-238 (MOD)	R4SB1J R4SB1J	TEWA 88.07-N TEWA 88.26-W	87	This intermittent drainage, which is expected to be dry during construction, is confined to a road ditch and cannot be avoided by TEWA 88.07-N because of the project's alignment, location of the PIs, and parallel road alignment. These TEWAs are required for ingress/egress, the road crossing, and staging and spoil storage. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to restore the ditch/drainage.
88.48	BSP-232	R3SB1H	TEWA 88.26-W TEWA 88.49-N	88	**Previously Disturbed Area – hayfield/pasture** These TEWAs have not been located 50 feet or more from this waterbody (Fate Creek) because these TEWAs have been located in agricultural hayfields/pastures and will not disturb woody riparian areas immediately adjacent to the creek. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
92.62	ASP-303	R3RB2H	TEWA 92.57-N TEWA 92.57-W TEWA 92.63-W TEWA 92.62-N TEWA 92.62	92	The steep side sloping topography on the west side (right bank) of St John's Creek prevents locating TEWA 92.57-N and TEWA 92.57-W 50 feet or more from this waterbody. The slope on the west side of the creek is over 1,800 feet in length and has an average slope of greater than 40 percent. Similarly, on the east side (left bank) of the creek, steep slopes limit setbacks of 50 feet or more for TEWAs 92.63-W and TEWA 92.62-N. Further, an existing road provides access to the east side of the creek and the road is incorporated within these work areas. All of these TEWAs will be set back a minimum of 10 feet from the creek. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
94.51 to 94.66	WW-504-012 (AW-197) WW-502-003 (AW-201) WW-GM-39 H3-01 H3-02 H3-03	PEMC PEMC PSS1C PUB2H PUB2H PUB2H	TEWA 94.52-N TEWA 94.56-W TEWA 94.64-N Milo 1 & 2 Yards Construction ROW >75 feet	94	**Previously Disturbed Emergent Wetland** These previously disturbed seasonal emergent wetland and ponds are located in a previously reclaimed barrow/fill area that currently supports a pasture. The alignment has been selected to provide the best crossing location for the South Umpqua River. These TEWAs have been selected as the Milo Yards (1 & 2), a proposed pipe storage and contractor yard. This site is a significant staging area for project activities because of the proximity of the pipeline alignment to a large level area (previous industrial site) with excellent access from Highway 227. These TEWAs are also necessary for ingress/egress, the crossing of Highway 227, spoil storage, and parking. The ponds within the TEWA/yard would not be disturbed and would be protected with silt fence. To restore these wetlands, PCGP would utilize the procedures outlined in the ECRP to restore these disturbed wetlands.
94.73	ASP-196 (South Umpqua River)	R2OWH	TEWA 94.69-N TEWA 94.69-W TEWA 94.73-W Construction ROW >75 feet	94	These TEWAs and full construction right-of-way width are required for the diverted open cut crossing of the South Umpqua River, a major waterbody with an ordinary high water mark (OHWM) greater than 100 feet in width. The width of the flowing water is significantly less than the OHWM in the summer, when the crossing is proposed. These TEWAs are required to install the temporary portable in-stream diversions so that the crossing can be completed in the dry. The crossing procedures are described in Resource Report 2. The ECRP outlines the measures that will be utilized to restore banks and woody riparian vegetation.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
94.85 94.96	ASI-193 WW-504-013 (AW- 194/AW-195 (MOD))	R4SB3C PEMC	TEWA 94.86-N Construction ROW >75 feet	94	**Agricultural Wetland - Disturbed Emergent Pasture** The full 95-foot construction right-of-and and TEWA 94.86-N are required for topsoil segregation/storage and are located in or within 50 feet of the intermittent tributary to the South Fork Umpqua River (ASI-193) and emergent wetland WW-504-013. The alignment is located in the pasture and will not disturb any woody riparian vegetation associated with the intermittent drainage. PCGP will implement appropriate BMPs and procedures outlined in the ECRP to minimize sedimentation and to restore the disturbed wetland.
103.90	WW-003-006 (CW-55)	PEMC	TEWA-103.92-N TEWA 103.92-W Construction ROW >75 feet	104	**Previously Disturbed Area – Forest Clear-cut** These TEWAs are located in a recent forest clearcut which includes the entire wetland swale. Because this wetland was previously disturbed, the TEWAs were located within 50 feet of the wetland. These TEWAs are necessary for ingress/egress, log storage during clearing, staging and temporary spoil storage associated with the road crossing. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the wetland and to ensure that the area is appropriately restored and reforested.
109.13 to 109.17	GDX-15 WW-111-001 (GW- 14 (FS-HF-C) WW-111-001	R4UB3Cx PSS PSS	TEWA 109.10-W Construction ROW >75 feet	109	The side hill alignment, location of the road crossing (FS 3200500), and PI prevent eliminating TEWA 109.10-W and narrowing of the construction right-of- way to 75 feet at the crossing of Wetland GW-14 and road side ditch (GDX-5). These conditions also prevent a 50-foot setback. The road crossing (minimum 5 feet of cover), side hill construction and PI will require additional excavation and spoil storage. To minimize potential impacts to the wetland, the EI and Chief Inspector will determine at the time of construction what measures can be accommodated in the TEWA configuration based on site-specific conditions (i.e., topographic, slope grading requirements).
109.33	GSI-16 (FS-HF-F)	R4	TEWA 109.19-N	110	TEWA 109.19-N is located within 50 feet of this intermittent drainage that is expected to be dry at the time of construction. The alignment traverses side slopes requiring the TEWA for additional grading and spoil storage. To minimize riparian effects associated with the intermittent drainage, the EI and Chief Inspector will determine at the time of construction what measures can be accommodated in the TEWA configuration/setback based on site-specific conditions (i.e., topographic, slope grading requirements). PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the drainage and to ensure that the area is appropriately restored and reforested.
109.69	GSP-22 (ASP-297/FS-HF-M)	R3UB1H	TEWA 109.68-N	110	TEWA 109.68-N is located along FS Road 3200500 and across the culverted crossing of East Fork Cow Creek (GSP-22) and is necessary for parking/staging during construction. The TEWA was aligned to minimize impacts to riparian vegetation. The configuration of TEWA 109.68-N was also designed to allow the removal of the culvert for potential restoration purposes if the road is not required for future use by the Forest Service. PCGP and the Forest Service discussed the potential removal of the culvert for mitigation purposes during an on-site meeting in the summer of 2008.
109.78	FS-HF-K	R3UB1H	TEWA 109.73-N	110	A small portion of TEWA 109.73-N is within 50 feet of FS-HF-K and is required to facilitate safe construction in the narrow sloping area between the sharp PIs and stream crossings. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the drainage and to ensure that the area is appropriately restored and reforested.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
110.57	EW-69 ESI-68	PUB3C R4SB1H	TEWA 110.73 Peavine Quarry	111	**Previously Disturbed Area – Quarry** This TEWA encompasses an existing quarry on the Umpqua National Forest. Although wetland features EW-69 and ESI-68 are located in the quarry and were created by quarry activities, PCGP Project activities will not disturb these features.
110.96	FS-HF-N (ESI-68)	R4SB1H	TEWA 110.96-N	111	The project alignment was modified in this area to minimize impacts to this intermittent drainage and its upstream source. The alignment modification moved the alignment down slope adjacent to the road to minimize the sideslope cuts. The right-of-way was necked down on the working side and TEWA 110.96-N on the non-working side adjacent to the road to provide ingress/egress and to facilitate installation of the PIs at MPs 110.95 and 110.98. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the drainage and to ensure that the area is appropriately restored and reforested.
118.80	SS-100-032	R4SB1H	TEWA 118.70-N	119	Because access was denied, this intermittent stream was interpreted from available sources. TEWA 118.70-N is required to facilitate construction across the side sloping area. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the intermittent drainage and to ensure that the area is appropriately restored and reforested.
118.89	ASP-202	R2SB1H	TEWA 118.70-N TEWA 118.83-W TEWA 118.89-W	119	**Previously Disturbed Area – Pasture** These TEWAs are required for the crossing of West Fork Trail Creek, ingress/egress, and topsoil segregation/storage. They have been located within 50 feet of this stream within a previously disturbed pasture. Woody riparian vegetation associated the waterbody will not be disturbed. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the pasture and riparian areas are appropriately revegetated.
120.45	NSP-11	R4SB1H	TEWA 120.29-W	120	TEWA 120.29-W is located within 50 feet of this intermittent drainage and is required to facilitate construction across the side sloping area and to cross the incised intermittent drainage channel. The end of TEWA 120.29-W abuts the edge of an existing road adjacent to NSP-11. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that the area is appropriately restored and reforested.
120.83	AW-204	PEMC	TEWA 120.73-N TEWA 120.84-N	121	**Previously Disturbed Area – Residential yard/pasture** These TEWAs have been located within 50 feet of this wetland because they are located in the previously disturbed area (residential yards/pasture) and will not disturb any woody riparian vegetation associated the waterbody. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to appropriately revegetate the pasture and riparian areas within the construction right-of-way.
121.87 & 122.65	ESI-70 ESI-71 ESI-72 ESI-73 ESI-74 ASP-235	R4SB1C R4SB1C R4SB1C R4SB1C R4SB1C R3UBH	TEWA 121.95-W TEWA 122.62-W	122 & 123	These TEWAs are required for the Rogue River (ASP-235) HDD, pipe pull- back areas, and to access the river for a water source (Hydrostatic, HDD, dust abatement) and for potential frac out response. Although TEWA 121.95-W is located across these intermittent drainages, which are expected to be dry during construction and the HDD, ground-disturbing activities will be minimized through the use of rollers and temporary bridges to span these drainages. The EI will locate appropriate BMPs to minimize sediment delivery to these intermittent drainages and will work with the HDD contractor to minimize construction-related disturbance to these drainages.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
127.21 127.33	ADX-285 ADX-287	R4UB3CX R4UB3CX	TEWA 127.25-W TEWA 127.24-N	127	These TEWAS are necessary to facilitate construction of the PI across a side sloping area, for ingress/egress from the existing access road, and to stage construction activities. PCGP will ensure that appropriate BMPs are utilized to minimize sedimentation and ensure restoration of the intermittent ditches as outlined in the ECRP.
128.61	AW-278 ASP-310	PEMC/R3UB3 R3SB1H	TEWA 128.55-W TEWA 128.55-N TEWA 128-68-W Construction ROW >75 feet	129	**Agricultural Wetland - Disturbed Emergent Irrigated Pasture** These TEWAs have been located outside of this heavily grazed irrigated pasture wetland, except portions of TEWA 128.55-N which are required for topsoil segregation and storage. The full 95 foot right-of-way will be maintained in the wetland because impacts to this disturbed emergent irrigated pasture wetland will be temporary and short-term. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the pasture is appropriately revegetated.
128.89	AW-309	PEM	Construction ROW >75 feet	129	Wetland AW 309 is an emergent wetland that requires verification. If present, the EI during construction staking will determine the feasibility of necking in the construction right-of-way to 75 feet based on site-specific conditions. The EI will also ensure that appropriate BMPs are utilized to minimize sedimentation, reduce impacts, and ensure restoration of this emergent wetland as outlined in the ECRP.
130.83	WW-201-003b (AW-244) WW-201-003a (AW-245) ASI-246	PSSC R4UB1C	TEWA 130.81-W Construction ROW > 75'	131	This TEWA is required for ingress/egress and the crossing of Crowsfoot Road. It cannot be moved out of this wetland and still efficiently accomplish the road crossing. TEWA 130.81-W is bisected by an existing road that intersects with Crowsfoot Road within the construction right-of-way. Narrowing the construction right-of-way to 75 feet would not minimize disturbance to these wetlands because additional TEWAs would be needed to provide the necessary workspace for the road crossing. The portion of TEWA 130.81-W that is within 50 feet of ASI-246 would not disturb woody riparian vegetation. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated.
131.26	WW-201-001 (AW-248 (MOD)	PEMA	TEWA 131.03-N	131	TEWA 131.03-N was reduced in size and located in an area primarily dominated by emergent vegetation with very few shrubs. Moving the TEWA back to allow a 50 foot setback would disturb more shrub vegetation; therefore, the TEWA was not set back 50 feet. The construction right-of-way was necked down to minimize disturbance to this wetland. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that the wetland and uplands are appropriately revegetated.
132.03 & 132.12	S2-02 (ADX-253) WW-502-002(W2- 02) ASP-252	R4UB3x PEMA R4SB1C	TEWA 131.88-N Construction ROW > 75'	132	**Previously Disturbed Area – Hayfield** TEWA 131.88-N and the full 95-foot construction right-of-way are maintained through the pasture/and hayfield because topsoil salvaging and five feet of cover are required in the pasture. Because of the 5-foot depth of cover, additional area is required for spoil and topsoil storage. The TEWA is located with a 10-foot minimum setback from Neil Creek (ASP-252) because it is located in an irrigated hayfield and riparian vegetation will not be affected by its location. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the hayfield is appropriately revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
132.22 132.26	WW-502-001 EDX-75	PEM1C R4UB3x	TEWA 132.18-W Construction ROW > 75'	132	**Previously Disturbed Area – Heavy Grazing / Cattle Use** WW-502-001 is a disturbed emergent wetland, heavily impacted (trampled) by concentrated cattle use during the winter. The TEWA and 95-foot construction right-of-way are necessary to facilitate construction across sideslopes and expected shallow bedrock areas. Temporary and short-term effects to this disturbed wetland are not expected to affect or alter this system. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the hayfield is appropriately revegetated.
132.26 to 132.54	EDX-75 W3-05 (AW-243) W5-01	R4UB3x PEMC	TEWA 132.18-W TEWA 132.26-W 132.45-W 132.46-N 132.52-W 132.52-N Construction ROW > 75'	131 - 133	**Agricultural Wetland – Hayfield/ Pasture** The alignment in this area was rerouted based on a landowner request (Schott), which significantly reduces the crossing length/effects within Wetland W3-05 (AW243). However, the full 95-foot construction right-of-way and TEWAs are required in these wetlands to cross the Butte Falls Hwy (elevated road fill), for, ingress/egress, and installation of Block Valve #11 – Launcher/Receiver in the upland area at MP 132.46. In addition, five feet of cover and topsoil salvage are required in the pasture. Because of the 5-foot depth of cover, additional area is required for spoil and topsoil storage. PCGP will use low-ground-weight equipment or operate equipment off of mats to minimize rutting and compaction impacts. The measures outlined in the ECRP will be used to minimize potential sedimentation impacts and to ensure that the wetlands are appropriately revegetated.
132.69	W5-02 (AW-242)	PEMC	TEWA 132-68-N TEWA 132-69-W TEWA 132.72-W	133	Wetland AW-242 was extended to the west across the modified alignment in this area based on landowner request (Schott). The right-of-way was not necked down to 75 feet through the wetland, and TEWAs 132.68-N, 132.69-W, and 132.72-W could not be set back 50 feet from this wetland because of the PI at MP 132.71 and the established setback of TEWA 132.72-W from wetland AW-264. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the TEWAs are appropriately revegetated.
133.09	AW-263	PEMC	Construction ROW > 75'	133	minimize rutting and compaction impacts. The measures outlined in the ECRP will be used to ensure that the wetland is appropriately restored.
133.35	ASP-241	R3UB3H	TEWA 133.24-N TEWA 133.28-W	134	Waterbody ASP-241 is formed from leakage from the Medford Aqueduct (ASP- 240) which is to be crossed by conventional boring. TEWA 133.24-N is required for the bore pit installation and boring operations. The TEWA cannot be moved back to avoid the intermittent drainage considering the bore length (~300 feet) and the topography in this area. If the waterbody is flowing at the time of construction, the flow will be diverted around activities as necessary to avoid water quality impacts. TEWA 133.28-W cannot be set back 50 feet from the waterbodies because it is critical to minimize the length of the bore to minimize boring risk/failure.
138.65 138.57	ASI-208 SS-GM-9 SS-GM-10 SS-GM-11 SS-GM-12	R4UB3C R4SB3 R3UB1 R4SB3 R4SB4	TEWA 138.24-W TEWA 138.26-W TEWA 138.39-W TEWA 138.40-N TEWA 138.47-W TEWA 138.56-W Construction ROW > 75'	139	These TEWAs were designed to be between these small ephemeral/intermittent head water streams, to fascinate construction across the dissected terrain, incised drainages crossings and PIs and could not be setback 50-feet from these features. During construction staking the EI, to the extent feasible, will adjust the TEWAs based on site specific conditions to ensure that grading and disturbance to riparian vegetation adjacent to these drainages is minimized All of these headwater drainages are expected to be dry at the time of construction. The EI will also ensure that appropriate BMPs measures outlined in the ECRP to minimize potential sedimentation and to ensure that the TEWAs are appropriately revegetated.

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139.07 & 139.17	S-T04-002A (SS- GM-14) WW-GM-33 (ASI-214) WW-GM-37	R4SB3 PEMC/R4UB1C PEMA	TEWA 139.01-N TEWA 139.01-W TEWA 139.08-N TEWA 139.08-W Construction ROW > 75'	139	The location of wetland SS-GM-14 in relation to the gravel access road prevents a 50-foot setback from this intermittent drainage to complete both road and drainage crossings. The TEWAs have been located with a setback of approximately 20 feet or more to minimize riparian vegetation impacts. TEWA 139.08-W is required for ingress/egress and staging. This TEWA is accessed by an existing, private graveled road in a remote area which is level and provides an ideal staging location. A 50-foot setback from SS-GM-14 and ASI- 214 was not provided because TEWA 139.08-W was located entirely within a rangeland pasture and will not affect woody riparian vegetation. The full 95- foot construction right-of-way through wetland WW-GM-37 is required to accommodate the crossing of SS-GM-15 with no additional TEWAs.
139.39 to 139.91	S-T04-008 (ASI- 217) ASI-226 ASI-227 ASI-228 SS-GM-43 (AW-230) SS-GM-19	R4SB1C R4SB1C R4SB1C R4EMC R4SB3 R4SB1	TEWA 139.46-W TEWA 139.57-N TEWA 136.60-N TEWA 139.68-W TEWA 139.82-W Construction ROW > 75'	140	The alignment in this area traverses a slightly sloping rangeland pasture which is bisected by numerous intermittent drainages, and emergent wetlands. The alignment was routed through the pasture to minimize forested impacts and was necked down to minimize impacts to these features where feasible. Although these TEWAs have been located to minimize impacts to these wetland/waterbody features, where possible, it is not feasible to set back TEWAs 139-46-W, 139.57-N, or TEWA 139.60-N 50 feet from these features. TEWAs 139.68-W and 139.82-W, which are required for the PIs and spoil storage, are located within several of the intermittent drainages and emergent wetlands. The intermittent drainages are expected to be dry during construction and impacts to these features will be temporary and short-term and fully mitigated through implementation of the measures outlined in the ECRP (topsoil salvage, scarification and reseeding).
140.94 141.08	ADX-186 EW-76 EW-77 EW-78 (EW-82)	R4SB1 PEMC PEMC PEMC	TEWA 140.98 TEWA 140.85-W	141	**Previously Disturbed Area – Reservoir Dam** TEWA 140.98 is required for water withdrawal proposed at Star Lake Reservoir. Water withdrawal activities for dust or fire control would not require any excavation or ground disturbance at this site. Where traffic is required across these emergent wetlands, the travel route will be matted if the wetlands are saturated to minimize potential compaction impacts.
141.48	ASI-188	R4SB1	TEWA 141.44-W TEWA 141.52-W	142	The route in this area was slightly modified to avoid the parallel alignment of the intermittent drainage ASI 188 within the construction right-of-way, and the right-of-way (working sides) was reconfigured because of sideslopes. To accomplish this alignment/right-of-way modification, two PI were included at MPs 141.46 and 141.5, which required TEWAs to store spoil for the side sloping alignment. Although the TEWAs were set back from the intermittent drainage, which is not expected to be flowing at the time of construction, a 50- feet setback could not be maintained. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
142.28 to 142.65	EDX-32 EW-33 EW-35 ESP-34 ESI-31 EDX-36	R4SB3Cx R4SB3Cx PEMC R3SB3H R4SB3Cx R4SB3Cx	TEWA 142.17-N TEWA 142.51-W TEWA 142.58-W TEWA 142.58-N Construction ROW > 75'	142 & 143	**Agricultural Wetland – Irrigated Emergent Pasture** The full 95-foot construction right-of-way is maintained and the TEWAs are located within this irrigated pasture wetland because impacts to this disturbed emergent wetland are expected to be temporary and short-term. The TEWAs are required for topsoil segregation/storage and are needed for staging during the crossing of Salt Creek. These TEWAs have been located within the wetland pasture but outside of woody riparian areas immediately adjacent to the creek. The full right of way width is maintained because of the required 5- foot depth of cover over the top of the pipe in the pastures, which requires additional area for topsoil and spoil storage. Impacts to these features will be fully mitigated through implementation of the measures outlined in the ECRP (topsoil salvage, and reseeding) and the use of low-ground weight equipment or operating equipment off of equipment mats if needed to minimize rutting and compaction impacts.
143.12	ESI-37	R4SB3C	TEWA 143.05-W TEWA 142.11-W	143	The alignment in this area traverses side sloping toe slopes. To minimize effects to ESI-37 and associated forested riparian areas, TEWAs 143.05-W and 142.11-W are required to facilitate construction, including the PI and crossing of ESI-37. Therefore, the full 50-foot setback cannot be incorporated. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated, including supplemental plantings of woody species.
143.51-]143.77	EL-41 ESI-38 ESI-39 ESI-40	R4SB2C R4SB3C R4SB3C	TEWA 143.69-W	144	**Agricultural Wetland – Stock Pond** The alignment and location of the PI prevents setting the TEWA outside the stock pond (wetland EL041). The alignment on the C2 Ranch was rerouted based on landowner recommendations, but the TEWA could not be located to avoid the excavated pond. During construction PCGP will minimize disturbance to the stock pond as much as feasible and will repair any damage to the pond during restoration.
144.70	GSP-5 (ESP-48)	R3SB3H	TEWA 144.59-N	144	Waterbody GSP-5, a confined stream reach flowing immediately adjacent to BLM Road 36-2E-19 (Salt Creek Road), also runs through TEWA 144.59-N and is within 50 feet of TEWA 144.70-W. The alignment in this location was dictated by the landowner (C2 Ranch), and the acute angle (PI) of the pipeline requires the need for TEWAs 144.59-N and TEWA 144.70-W. The configuration of the alignment and the road made it impractical to avoid the stream with the TEWA in the project design. However, during construction the stream would be flagged by the EI and project activities/disturbance would minimize/avoid impacts to the stream to the extent practical. The EI would assure that appropriate BMPs are installed to protect the stream reach in this area.
145.54	ESI-61 EW-63	R4SBC PEMC/PSSC	TEWA 145.38-N TEWA 145.53-W	145	The bored crossing of Highway 140 will require these TEWAs for ingress/egress to excavate the bore pit, store spoil, and for equipment staging. Therefore, a 50-foot setback on this intermittent drainage was not feasible considering the location of the highway in proximity to the intermittent stream. Further the shrub/tree riparian area is very limited along this intermittent stream and impacts to this riparian area will be replanted after construction.

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Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
145.63	EW-67	PEMC	TEWA 145.58-W TEWA 145.58-N	145	**Agricultural Wetland – Irrigation Ditch** Wetland EW-67 is an irrigated wetland pasture with associated ditches located immediately adjacent to Highway 140 and North Fork Little Butte Creek. The TEWAs are not set back 50 feet because the TEWAs will not disturb any riparian vegetation. The highway crossing will be bored and the location of the sharp PI makes it infeasible to include TEWA setbacks from the irrigated field and ditches. Further, the TEWAs are necessary to stage the crossing of North Fork Little Butte Creek.
146.05	ESI-56	R4SBC	TEWA 145.91-W	146	TEWA 145.91-W is required to accommodate grading cuts associated with the ridge toe slope along with existing roads and the incised drainage of ESI-56. Although the full 50-foot setback from ESI-56 was not entirely incorporated, prior to clearing, the EI will flag any trees for saving within TEWA 145.91-W, where feasible, to minimize riparian disturbance. The EI will also ensure that the measures outlined in the ECRP are utilized to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated, including supplemental plantings of woody species.
146.38	ESI-55	R4SBC	TEWA 146.14-N	147	TEWA 146.14-N is necessary for topsoil salvage and segregation through the pasture crossed in this area. During construction staking, the EI will determine appropriate cutouts/setbacks between this TEWA and ESI-55 based on site- specific conditions to minimize removal of woody vegetation. This intermittent waterbody is expected to be dry at the time of construction.
152.33	AL-169	PUBFx	TEWA 152.29-N	153	**Previously Disturbed Area – Excavated pond** This man made pond may be used as a water source for dust/fire control if allowed by the landowner.
171.06	WW-001-013 (EW-85)	R4UBC/PEMC	TEWA 171.08-N TEWA 171.08-W	171	**Previously Disturbed Area - Existing Road** TEWA 171.08-N and TEWA 171.08-W were not placed 50 feet back from wetland EW085 because an existing road is located along the southern edge of the wetland. These TEWAs were located on the northern edge of the road shoulder adjacent to the wetland in the previously disturbed road area. Sediment barriers would be placed along the TEWAs adjacent to the wetland to ensure that sediment is contained within the construction right-of-way.
171.57	SS-201-001 (GSP-7)	R3SBC	TEWA 171.08-N	171	The linear TEWA 171.08-N was maintained in this area because of the sidesloping alignment that is confined/co-located with Clover Creek Road. The right-of-way has been narrowed to slightly less than 75 feet in this area, but the TEWA is needed to facilitate sideslope construction and the crossing of GSP- 7. PCGP will implement BMPs, outlined in the ECRP, to minimize potential sedimentation and ensure that all disturbed areas are appropriately restored. .
176.54	ESI-69	R4SB2	TEWA 176.49-N	176	TEWA 176.49-N was located across intermittent drainage (ESI-69) because of the side slope construction requirements, and required PI locations in this area. The PIs (pipe bend angles) are required based on the slope contours. Prior to clearing, the EI will flag trees for salvage/saving trees within TEWA 176.38-N, where feasible, to minimize riparian disturbance.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
188.90	SS-001-001 (SS-100-025)	R4EM2	TEWA 188.82-W	188	TEWA 188.82-W was extended across this intermittent waterbody, which is located in a steep, incised drainage, adjacent to an access road crossing, PIs, and steep sidesloping topography. The waterbody is expected to be dry at the time of construction and all appropriate erosion control and revegetation BMPs, as outlined in the ECRP, will be installed to minimize sedimentation. Prior to clearing, the EI will flag trees to be protected within TEWA 188.82-W, where feasible, to minimize riparian disturbance.
191.45 to 198.16	Multiple Agricultural Hayfield/Pasture Wetlands and drainage Ditches/canals	PEMC PEMA R4UB2x R4UB3Cx	Multiple TEWAs and Construction ROW > 75 feet	190 - 196	**Active Agricultural Wetland – Hayfield/Pastures** The full 95-foot construction right-of-way was maintained between MPs 191.5 and 198.20 through the many and extensive hayfields/pastures wetlands in this area. Additionally, multiple TEWAs have been located in these hayfield/pasture wetlands in this area and are located immediately adjacent to the many drainage ditches/canals that are crossed. The construction right-of- way design is based on the expected high groundwater levels and the need to have the necessary space to contain the topsoil and excavated spoil. The trench width may become excessively wide because of the high groundwater table and the unconsolidated and saturated soils in the wetland. The right-of- way width and TEWAs are necessary because the trench will also need to be wider in the wetland because the pipeline will be weight-coated with several inches of concrete to compensate for pipeline buoyancy which increases the overall pipe diameter. In addition, the burial depth of the 36-inch pipeline in the pasture will have 5 feet of cover over the top of the pipe compared to the standard 3 feet of cover in non-agricultural uplands. Additionally, it will be difficult to contain/confine saturated trench spoil materials within the wetland because these materials typically lack sufficient strength for stacking or piling. The alignment for much of this area parallels a paved private access road which is provided by TEWAs 192.51-W. Ingress/egress from this road will be critical for project activities. Trench dewatering will be an important component of the project construction activities in this area because of the high groundwater table. Therefore, to ensure that discharge from dewatering activities does not flow into the construction footprint, TEWAs have been located south of the private access road that parallels the alignment which is down slope of the alignment. These dewatering TEWAs include: 192.76-W, 192.94-W, 193.13-W, 193.32-W, 193.51_W, and 194.51-W. PCGP will utilize appropriate low-ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts as specified in FERC's Wetland and Waterbody Procedures. Appropriate BMPs will also be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. All of the affected wetlands are disturbed emergent pasture wetlands and impacts associated with the project activities are expected to be temporary and short-term.
198.99	AL-44	PABGh	TEWA 199.01-W	196	**Disturbed Industrial Yard** TEWA 199.01-W is required for the HDD crossing of the Klamath River and is located within a previously disturbed industrial yard. The EI will ensure appropriate sediment controls are installed to minimize potential sedimentation of the pond.

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Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
199.59 to 199.77	WW-001-006 (AW-156) AW-157 AW-158 WW-001-007 (AW-159) WW-GM-36 (AW- 160)	PEMC/R4UB3x PEMC/R4UB3x PEMC/R4UB3x PEMC PEMC	TEWA 199.58-W TEWA 199.60-N Construction ROW > 75 feet	197	**Active Agricultural Wetland – Hayfields/Pastures** TEWAs 199.60-N and 199.58-W are required for the HDD crossing of the Klamath River. These TEWAs may also be used for staging of all project activities east of the Klamath River and will be used to move all spread equipment around the Klamath River. Wetland AW-159 is an agricultural drainage ditch as well as a depressional emergent pasture wetland. Impacts to this wetland have been avoided, but TEWA 199.58 could not be offset 50 feet from the wetland and be fully functional for the Klamath River HDD. PCGP will implement the measures outlined in the ECRP to minimize potential sedimentation and to appropriately restore all disturbed areas.
200.03 200.06	WW-001-003 (AW-312) AW-255	PEMC PEMC	TEWA 199.58-W TEWA 199.97-N TEWA 200.09-N TEWA 200.09-W TEWA 200.18-W Construction ROW > 75 feet	198	**Agricultural Wetland – Hayfields/Pastures** The construction right-of-way and TEWA requirements in this hayfield/pasture wetland were designed in consideration of the railroad crossing, the two sharp PIs in the alignment and the required 5-foot of cover over the top of the 36-inch diameter pipeline. The railroad will be bored and because of the length of the wetland the bore pits could not be placed outside the wetland. The two PIs will require additional workspace to install the radius bend or fitting and to contain the additional spoil materials associated with these PIs. Because of the location of the PIs the TEWAs could not be placed outside the wetland. In this area, the trench width may become excessively wide due to the high groundwater table and the unconsolidated and saturated soils in the wetland. Therefore the full 95-foot construction right-of-way was maintained through these wetland pastures. The right-of-way width and TEWAs are necessary because the trench will be wider in the wetland because the pipeline will be weight-coated with several inches of concrete to compensate for pipeline buoyancy which increases the overall pipe diameter. Further, the excavated trench spoil material will be difficult to contain/confine because they are expected to be saturated and will be spread out when stacked because these saturated materials typically lack sufficient strength. Project impacts to these agricultural wetlands will be temporary and short-term, and PCGP will apply the appropriate measures outlined in the ERCP to minimize potential sedimentation and to restore these areas.
200.31 200.54	ADX-293 ADX294	R2UB3Hy R2UB3Hy	TEWA 20.37-W TEWA 200.46-N TEWA 200.54-N	198	**Agricultural Wetland – Hayfields/Pastures and Previously Disturbed Areas – Pastures** TEWA 200.37-W is required to complete the crossing of Joe Wright Road, and TEWAs 200.46-N and 200.54-H are required to cross ADX-284, an irrigation ditch/drain. The TEWAs have been located immediately adjacent to the canals and ditches in adjacent fields/pastures, which will not affect riparian vegetation.
201.39 to 212.07	WW-001-002 (AW-95) WW-GW-35 (AW-98) AW-102 AW-108 AW-122 SS-003-005 (NSP- 1) WW-003-001 WW-202-005 (WW-003-002) and multiple drainage ditches/canals	PEMC PEMC PEMC PEMC PEMC R3UBH PEMC PEM1Cx	Multiple TEWAs Construction ROW > 75 feet	199 - 209	**Agricultural Wetland – Hayfields/Pastures and Previously Disturbed Areas - Pastures** The agricultural wetlands and numerous ditches and canals that are crossed in this area require the full 95-foot construction right-of-way and the TEWAs to be located in the wetlands and immediately adjacent to the ditches/canals. In these areas, the pipeline will require a 5-foot depth of cover and topsoil will be segregated in these areas. The topsoil and additional spoil material that will be excavated and stored in these areas will require the full construction right-of- way width and TEWAs. The TEWAs are required for ingress/egress as well as the multiple road and canal/ditch crossings in this area. The TEWAs have been located immediately adjacent to the canals and ditches because the adjacent fields/pasture will not affect any riparian vegetation. Project impacts to these agricultural wetlands will be temporary and short-term and PCGP will apply the appropriate measure outlined in the ERCP to restore these areas.

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Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
212.51 to 212.73	WW-001-001 (EW-86) (EW-87) (ESI-52) (EDX-54) (EDX-55)	PEMC PEMC PEMCR4SBC R4UB3Cx R4UB3Cx R4UB3Cx	TEWA 212.08-N TEWA 212.49-W TEWA 212.53-N TEWA 212.53-W TEWA 212.67-N TEWA 212.69-W Construction ROW >75 feet	210	**Previously Disturbed Area – Railroad right-of-way/Irrigation Canal/Irrigated Hayfield** These TEWAs are required for the bore of the Burlington Railroad at MP 212.52 and the crossing of the irrigation canal at MP 212.72. The wetlands are previously disturbed emergent wetlands. Project impacts to these agricultural wetlands will be temporary and short-term, and PCGP will apply the appropriate measures outlined in the ECRP to control erosion and to restore these areas.
212.85 to 214.18	EDX55/EDX-90 ADX-318/EDX-90 ADX 318 ADX 274 ADX 275	R4UB3Cx R4UB3Cx R4UB3Cx R4UB3Cx R4UB3Cx	TEWA 212.69-W TEWA 213.22-N TEWA 213.88-W	210 & 211	**Previously Disturbed Area – Hayfields/Pastures** The alignment in this area follows/abuts irrigation ditches/canals as requested by the landowner to minimize encumbrances to the agricultural fields. The TEWAs have been located immediately adjacent to the canals and ditches in fields/pasture, which will not affect riparian vegetation.
214.28	Edge-2	PUBC3	TEWA 213.88-W	211	**Previously Disturbed Area – Cattle Feedlot/ Holding Pen** This feature is located within a concentrated cattle feed lot/holding pen that held standing water at the time of an Oregon Department of State Lands wetland review site visit with PCGP. DSL requested that this highly disturbed feature be designated/identified. TEWA 213.88-W is required to cross Hill Road which is elevated on fill in this area. The TEWA was not set back from this unvegetated and highly disturbed/trampled area in the feedlot pen because impacts from the TEWA during construction will not affect any function this low lying area might be considered to provide.
216.10 216.30 216.44	ASI-51 ASI-50 ASI-49	R4SB3C R4SBC R4SB1x	TEWA 214.08-W TEWA 216.10-W TEWA 216.31-W TEWA 216.44-W	214	The alignment in this area is co-located with a powerline easement which crosses undulating and sidesloping topography. The TEWAs are required for additional spoil storage associated with sidehill construction. Although the TEWAs have been removed from the intermittent drainages, which are expected to be dry during construction, they could not be set back 50 feet from the channel because of construction requirements. PCGP will apply the appropriate measures outlined in the ECRP to control erosion and to restore these areas.
219.69-219.70	AW-292 ASI-291 NL-116 Excavated Pond	PEMC R4UB3C PABGx	TEWA 218.84-N TEWA 219.70-N TEWA 219.69	217	**Previously Disturbed Area – Power Line Corridor** These TEWAs are located in a previously disturbed powerline corridor and their location will not impact any riparian vegetation. These TEWAs have been offset a minimum of 10 feet from Wetland AW-292 and intermittent stream (ASI-291). PCGP will utilize the measures outlined in the ECRP to minimize the potential for sedimentation and to ensure that adjacent areas are appropriately revegetated. TEWA 219.69 encompasses an excavated pond (NL-116) for water withdrawal purposes for potential dust control. All required appropriation/withdrawal permits and landowner approvals would be acquired prior to withdrawals.

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Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
Project-wide	Waterbodies and Wetlands	Various	Various Uncleared Storage Areas (UCSAs)	1 - 226	PCGP requests a modification for the location of the uncleared storage areas (UCSAs) to be allowed within 50 feet of wetlands or waterbodies so that large woody debris can be stored on site and in close proximity to where it will be redistributed during restoration efforts. As defined in Resource Report 1 (Section 1.5.1) the UCSAs will be used to store forest slash, stumps, and dead and downed log materials that will be scattered across the right-of-way after construction. PCGP requests this modification because forest and vegetation clearing and ground disturbance will not occur in these areas, therefore the potential for sedimentation to a wetland or waterbody is greatly minimized. PCGP requests that the UCSAs be used to store large wood debris such as dead and downed logs and stumps which will be scattered over the right-of- way after construction. Other than large woody debris, woody material generally less than 8 inches in diameter would not be stored in the UCSA's within 50 feet of a wetland or waterbody. PCGP expects that most of the existing large woody debris material may be sufficiently decayed, therefore minimizing the moving and handling of this material would be important so this material is not lost through the handling process.
Project-wide	Various ditches and intermittent streams		Various	1 - 226	The project crosses numerous road ditches and intermittent streams that are not expected to be flowing at the time of construction. As defined by Section I. B.1. of FERC's Wetland and Waterbody Procedures, these features are not considered waterbodies and are therefore protected under FERC's Upland Plan. PCGP will comply with this definition, except for intermittent streams on federal lands covered under the Northwest Forest Plan. PCGP has generally provided minimum setbacks from these types of features and the TEWAs have been located outside these features where practical.
Project-wide but concentrated in the Klamath Basin 191 to 230.9	Numerous agricultural irrigation canals ditches and canals	R4UB3x PEM	Various	192 - 226	A significant number of agricultural ditches and canals are traversed by the Pipeline in the Klamath Basin within agricultural croplands, pastures, and hayfields. These canals and ditches do not support riparian vegetation and adjacent areas are disturbed emergent and actively cultivated hayfields and pastures. Therefore, consistent with FERC's Wetland and Waterbody Procedures (Section V. B. 2. a.), the locations of TEWAs have been located immediately adjacent to these waterbodies without a 50-foot setback to facilitate these crossings.
Project-wide	Various Hydrostatic/Dust Water Source Withdrawal TEWAs	Various	Various	1-226	Various TEWAs at the potential water source locations for hydrostatic test or dust control (see Table 1.6-2 in Resource Report 1 and Table 2.2-12) have been located within 50 feet of the source water to allow staging of necessary pumping equipment. Procedures outlined in the SPCC Plan would be implemented to ensure pumping equipment is adequately contained and refueling operations are properly controlled. Appropriate sediment control measures, as outlined in the ECRP will also be appropriately implemented, if necessary during these activities.

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Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale

Treatment of Forest Slash and Modification From Section IV. F. 3. e. of FERC's Upland Plan

Slash from timber clearing will be salvaged on or at the edge of the right-of-way and scattered/redistributed across the right-of-way during final cleanup and reclamation according to BLM and Forest Service fuel loading specifications to minimize fire hazard risks. This material will be pulled back onto the right-of- way during final cleanup after seeding. **If during final redistribution significant disturbance occurs to seeded areas the EIs will ensure that supplemental hand broadcast seeding occurs to ensure adequate seed coverage for erosion control.** Where it is not feasible to pull the slash back onto the right-of-way after seeding and it is redistributed before seeding, seeding in these areas (broadcast or hydroseeding) will occur with specifications to ensure adequate seed coverage. Scattering the slash across the right-of-way will hinder Off Road Vehicle (ORV) traffic on the right-of-way and will act as a natural mulch to minimize erosion.

Because more than 1 ton per acre of woody material (logs, slash and chips) may be scattered across the right-of-way during final cleanup in many areas, **PCGP requests a modification from Section IV. F. 3. e. of FERC's Upland Plan.** PCGP will utilize the fuel loading standards of the BLM and the Forest Service as the limit for the quantity of woody debris that will be distributed across the right-of-way to minimize fire hazard risks for this modification request. **Section IV. F. 3. e. of FERC's Upland Plan** states that if wood chips are used as mulch to not use more than 1 ton per acre of chips and to add an equivalent of 11 lbs of available nitrogen where chips are used as mulch. The purpose of Section IV.F.3.e. of FERC's Upland Plan is to ensure that revegetation efforts are not hindered due to the decaying process of large amounts of wood chips which can bind-up soil nitrogen and impede revegetation. PCGP requests this modification because it will be impractical and infeasible to remove this woody slash material from the right-of-way and it is a typical sivilcultural practice in the project area (i.e., forest slash left in logged areas). Furthermore, it is expected that the woody slash material will not deplete soil nitrogen in the short-term, during revegetation establishment, because the size of the woody material that will be scattered on the right-of-way will be large and will not readily decay in the short-term to bind-up soil nitrogen. The Forest Service and BLM fuel loading requirements that PCGP would follow are provided in Section 1.6.1 of Resource Report 1.

Danger/Hazard Trees

To ensure safety during construction, PCGP requests a **modification to Section IV.A.1. of FERC's Upland Plan,** associated with confining activities to FERC's approved construction limits, in the event PCGP's professional forester and/or certified arborist designates a danger/hazard tree outside of the approved construction limits, as required by OSHA regulations during forest activities.[1] Hazard trees will be identified based on standard OSHA practices and guidelines (Filip, et. al., 2014; USDA, Forest Health Protection Pacific Northwest Region Portland, OR R6 NIR-TP-021-2013) and mitigated according to these guidelines based on site-specific conditions. Additionally, 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 danger/hazard trees are felled or 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 regulations.[1] 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.

[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.

Landowner Requested Logs

Where landowners request non-merchantable logs be salvaged for personal use/fire wood, PCGP requests that this material be allowed to be stockpiled within the PCGP Project's survey corridor (i.e., cultural, wetlands, biological) adjacent to but outside of the PCGP construction right-of-way and TEWAs in areas acceptable to the landowner. The EI will ensure that the adjacent offsite areas are consistent with FERC's Upland Plan (Section III.A.1., 2 and E. and IV.A.1.) and will not affect other landowners or sensitive environmental resource areas.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
Topsoil Salvaging on Forest Lands Where Requested by Landowner					
Along the alignment where topsoil segregation is proposed on level terrain, PCGP has requested 10 feet of temporary extra work area in addition to the 95-foot construction right-of-way to effectively conduct topsoil salvaging from the trenchline and spoil storage area. Where topsoil salvage from the full construction right-of-way is requested, PCGP will utilize up to a 25-foot wide temporary extra work area. The purpose of this temporary extra work area is to ensure that the topsoil is segregated and kept separate from the trench subsoil. In steep forested landscapes, it is impractical to salvage topsoil based on topographic and vegetation conditions (i.e., large trees/stumps that would have to be removed in order to accomplish the task). The Forest Service previously requested that topsoil be salvaged on NFS lands. However, PCGP is **requesting a modification from Section IV.B.1 (4) of FERC's Upland Plan which specifies that topsoil be salvaged according to landowner requests.** PCGP requests this modification on all forest lands managed by the Forest Service, BLM, or private landowners. The purpose of the modification is to prevent the need for additional temporary extra work areas (and associated disturbance) on NFS lands to conduct the topsoil segregation. The alignment mainly traverses forested habitats through NFS lands which are primarily designated as LSR. Resource Report 8 provides a more detailed discussion of LSRs. According to Forest Service Standards and Guidelines, LSRs are managed with an objective to protect and enhance habitat for late-successional and old- growth related species. Limited silvicultural treatments are permitted in LSRs. It is PCGP's opinion that widening the proposed 95-foot construction right-of- way to 105 feet (i.e., topsoil salvage from trench line and spoil storage), and likely even more on steep terrain, to accommodate topsoil salvaging, would create more long-term impacts in these habitats than is practical or warranted. The construction footprint has been purposefully restricted in LSRs to minimize overall project disturbance. This has been accomplished by reducing the total number of temporary extra work areas in LSRs and limiting these work areas to the minimum size necessary. In forested habitats, the temporary extra work area that would be required to segregate the topsoil on NFS lands would be considered a long-term impact because of the time required to reestablish LSR forest stand characteristics. In forested areas, topsoil would be segregated from the trench line and spoil storage areas, and this topsoil would be returned to the same area after trench backfilling. This topsoil segregation area would coincide with the 50-foot permanent easement and the 30-foot corridor centered over the pipeline that would be maintained in a shrub or herbaceous state to facilitate corrosion and leak surveys and for aerial surveillance according to DOT regulations (192.705 Transmission lines: Patrolling and 192.706 Transmission lines: Leakage surveys). Creating long-term impacts to LSR habitats by enlarging the construction right-of-way to segregate topsoil does not provide a benefit compared to the habitat lost. This is because the topsoil that would be segregated occurs in the area that would become the permanent easement. This area will be maintained in a shrub or herbaceous state. Again, PCGP believes that creating long-term impacts from cutting additional forested areas and causing added disturbance in order to segregate topsoil is not reasonable or advantageous. PCGP will comply with Section VI. B. 2. h. of the FERC Procedures that specifies that the topsoil will be segregated in wetlands, except in areas where standing water is present or soils are saturated. PCGP will comply with this measure in all wetlands crossed by the project including those in forested areas. PCGP acknowledges and understands the importance of the soil and topsoil resource and would comply with the Forest Service and BLM's request to salvage topsoil if practical on forestlands. However, for the reasons stated above, this request is unreasonable. PCGP would apply the measure outlined in the ECRP to minimize adverse impacts to soil resources, minimize erosion and potential sedimentation, and to appropriately revegetate or reforest all disturbed areas. PCGP will only maintain the 30-foot area centered over the pipeline during long-term operations with these activities typically occurring about every 3 to 5 years. PCGP believes that by utilizing the measures outlined in the ECRP that impacts to site productivity will be minimized and the disturbed areas associated with the right-of-way will restored. The 30 foot area centered over the pipeline, would be converted to a non-forested condition through project maintenance activities. This area would coincide with the typical topsoil salvaging area, therefore, any loss of soil productivity in this area from soil mixing should not inhibit the vegetation communities that PCGP would maintain on the right-of-way (i.e., herbaceous and shrub vegetation). Further, as described in the Resource Reports and the ECRP, slash from forest clearing operations including dead and downed logs and other woody material that occur within the right-of-way would be salvaged on the edge of the construction right-of-way for redistribution during restoration. This material would provide effective ground cover for erosion control, provide important organic matter for nutrient cycling and provide habitat for all forest species including moss, lichen, fungi and mollusks species, among others.					
The use of clean gravel or native cobbles in coldwater fisheries					
According to Section V.C.1. of FERC's Wetland and Waterbody Procedures, clean gravel or native cobbles for the upper 1 foot of trench backfill is required in all waterbodies that contain coldwater fisheries, regardless of stream substrate materials. PCGP requests a modification from this Section of the Wetland and Waterbody Procedures in fish bearing streams that do not have gravel, cobble or other rock substrates. Many of these streams crossed by the project are remote and steep valley or ravine bottoms therefore hauling rock to these steams would create more disturbance and is impractical, especially where these streams do not have these substrate characteristics. In these waterbodies, PCGP would backfill the trench with the native material excavated from the trench.					

APPENDIX I

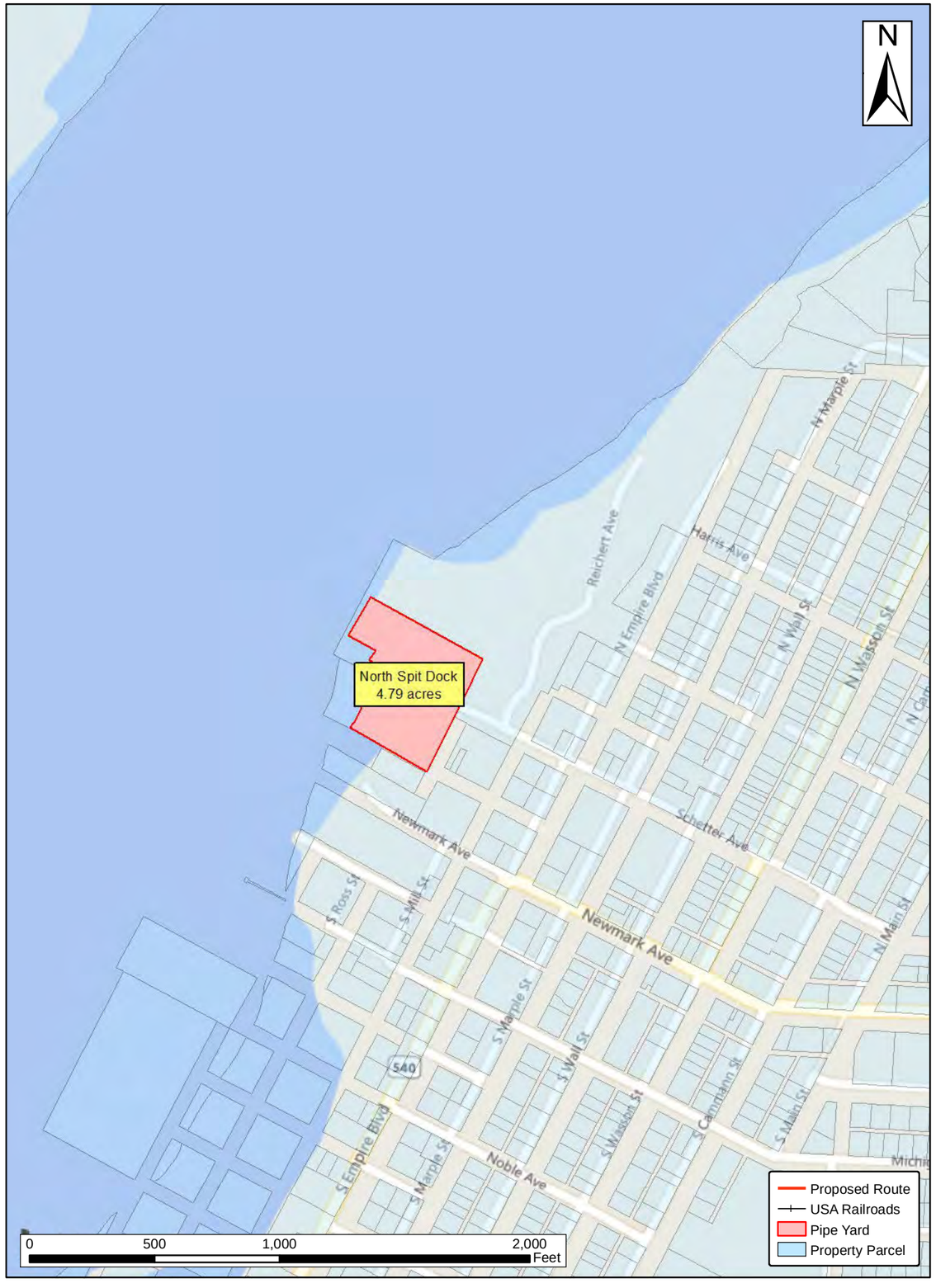
Pacific Connector's Pipe Storage and Contractor Yard Locations

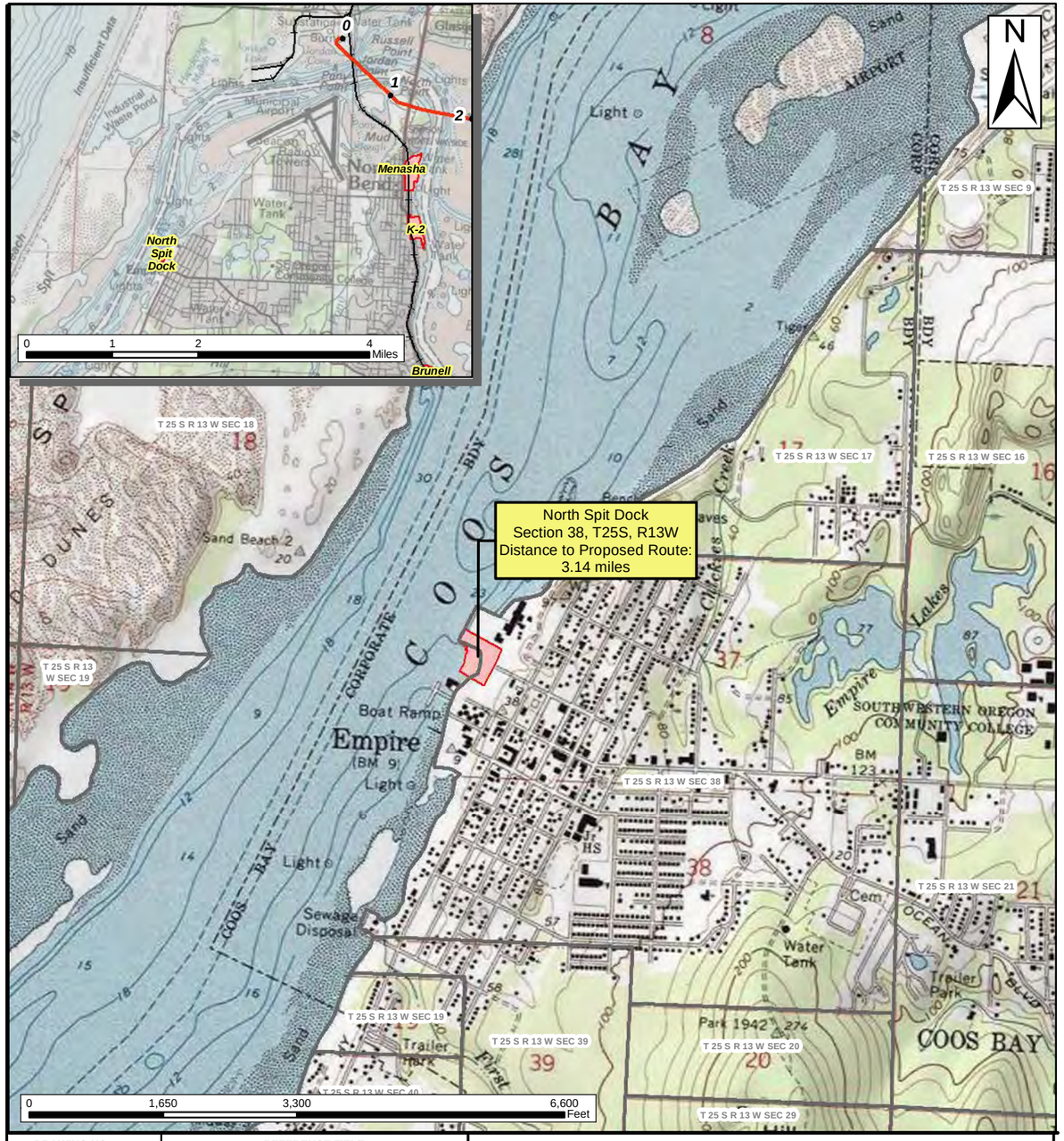
Pacific Connector Gas Pipeline, LP

Pipe Yard Maps

Pacific Connector Gas Pipeline Project

September 2017





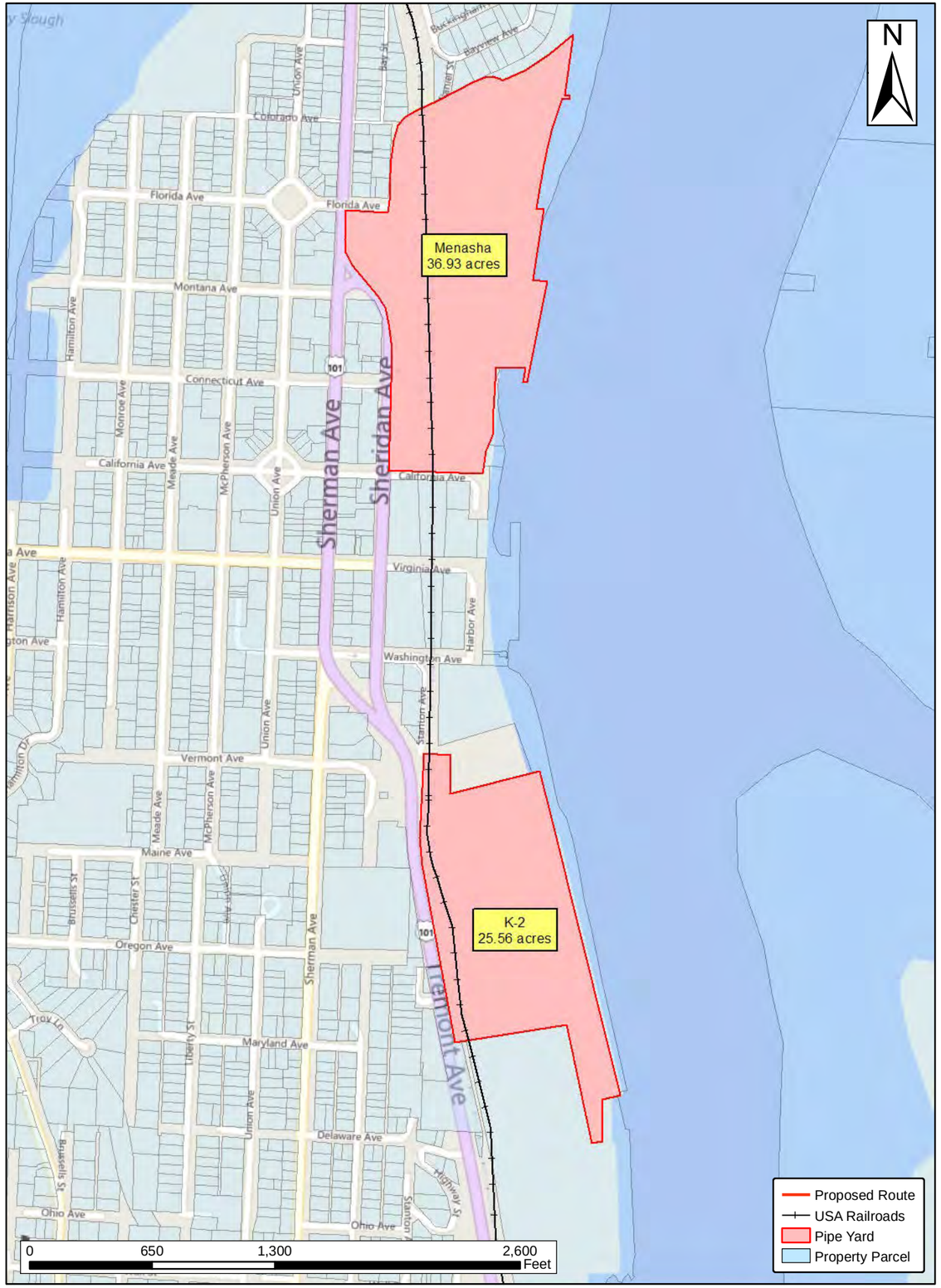
DRAWING NO.	REFERENCE TITLE

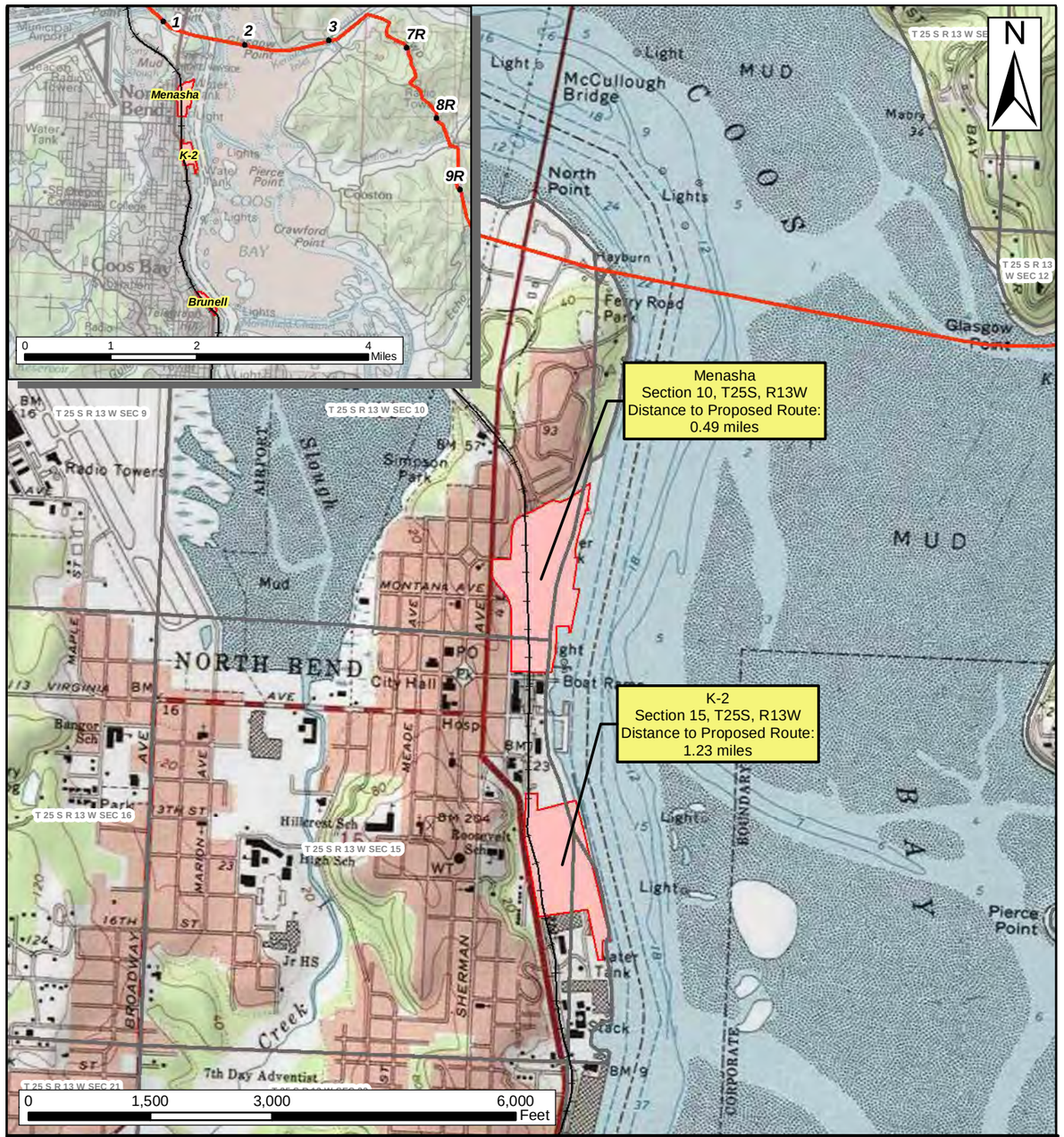
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
NORTH SPIT DOCK
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/23/2017	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-01_NS(1)	SHEET 1 OF 19





DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
MENASHA & K-2
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/23/2017	ISSUED FOR BID:	SCALE: AS NOTED
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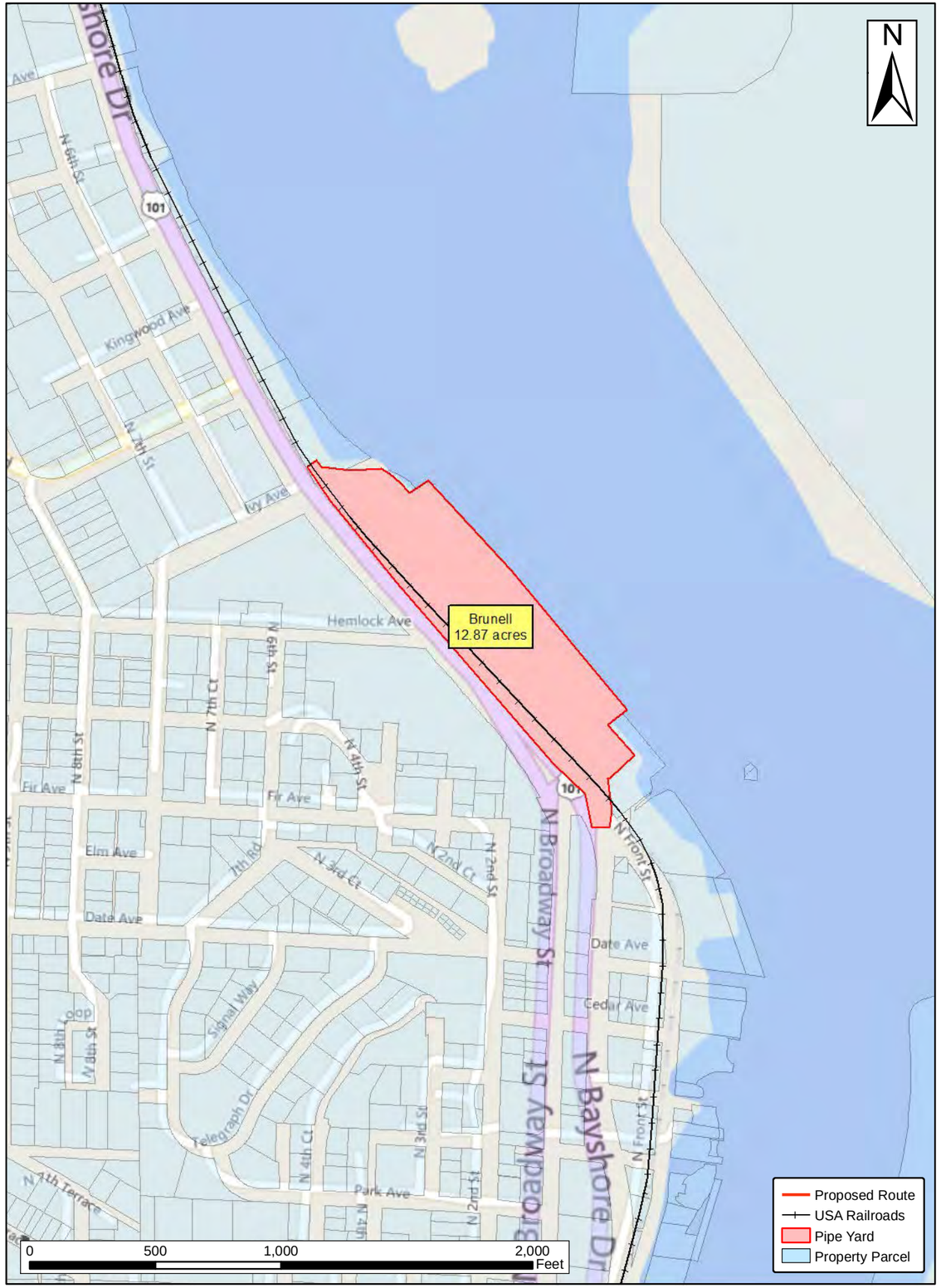
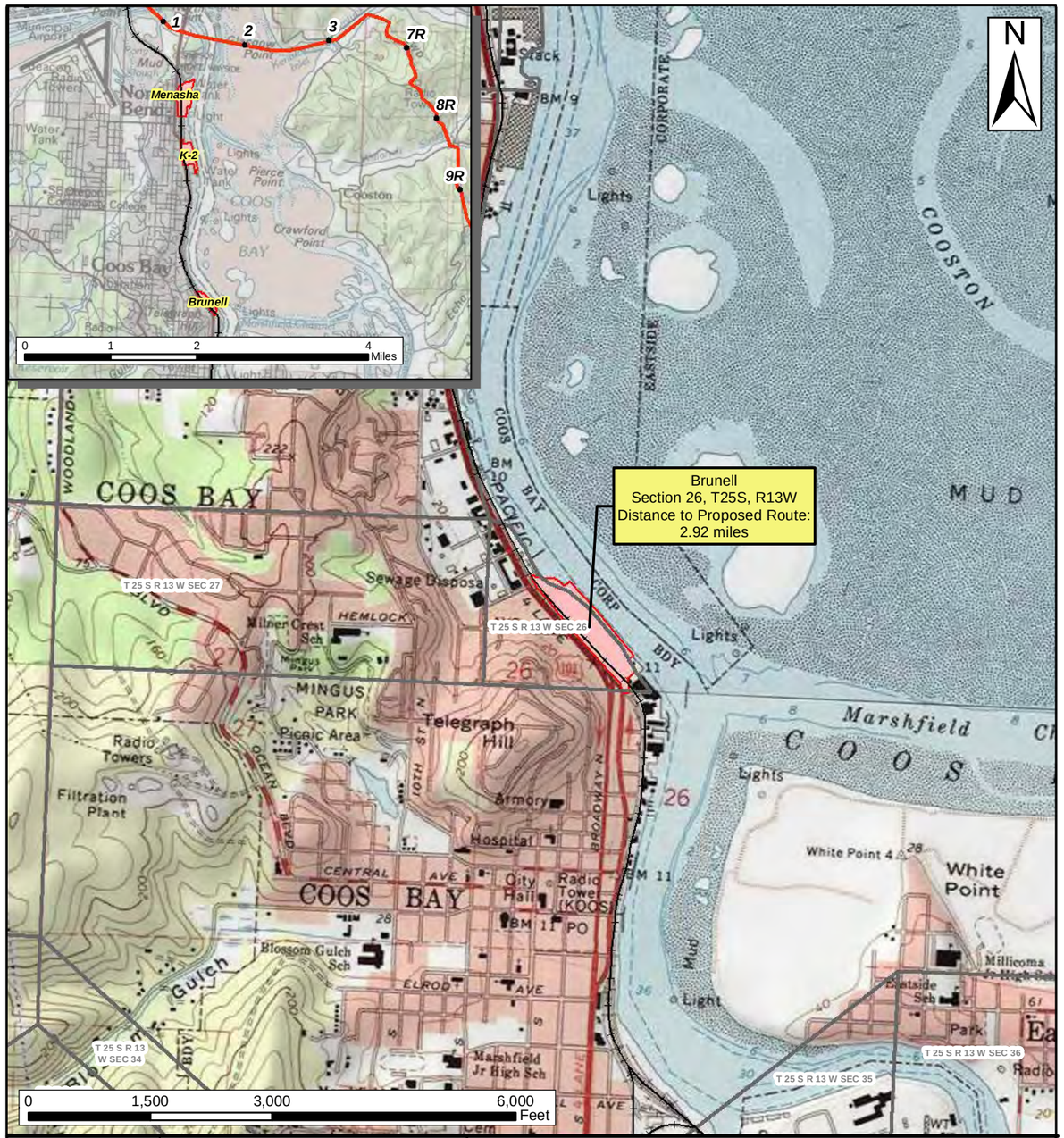
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-02_MEN(2)	SHEET 2 OF 19





DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
BRUNELL
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/23/2017	ISSUED FOR BID:	SCALE: AS NOTED
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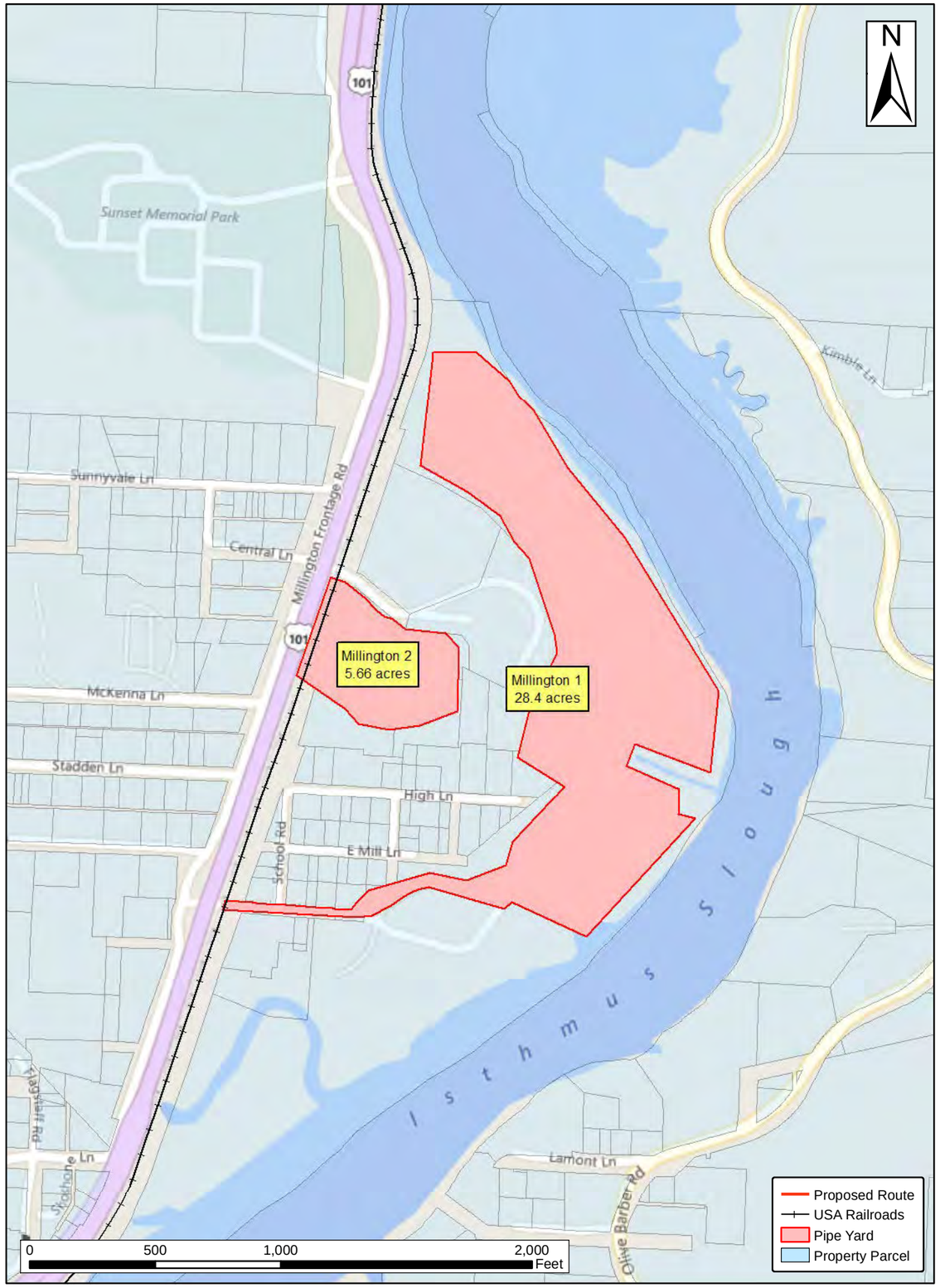

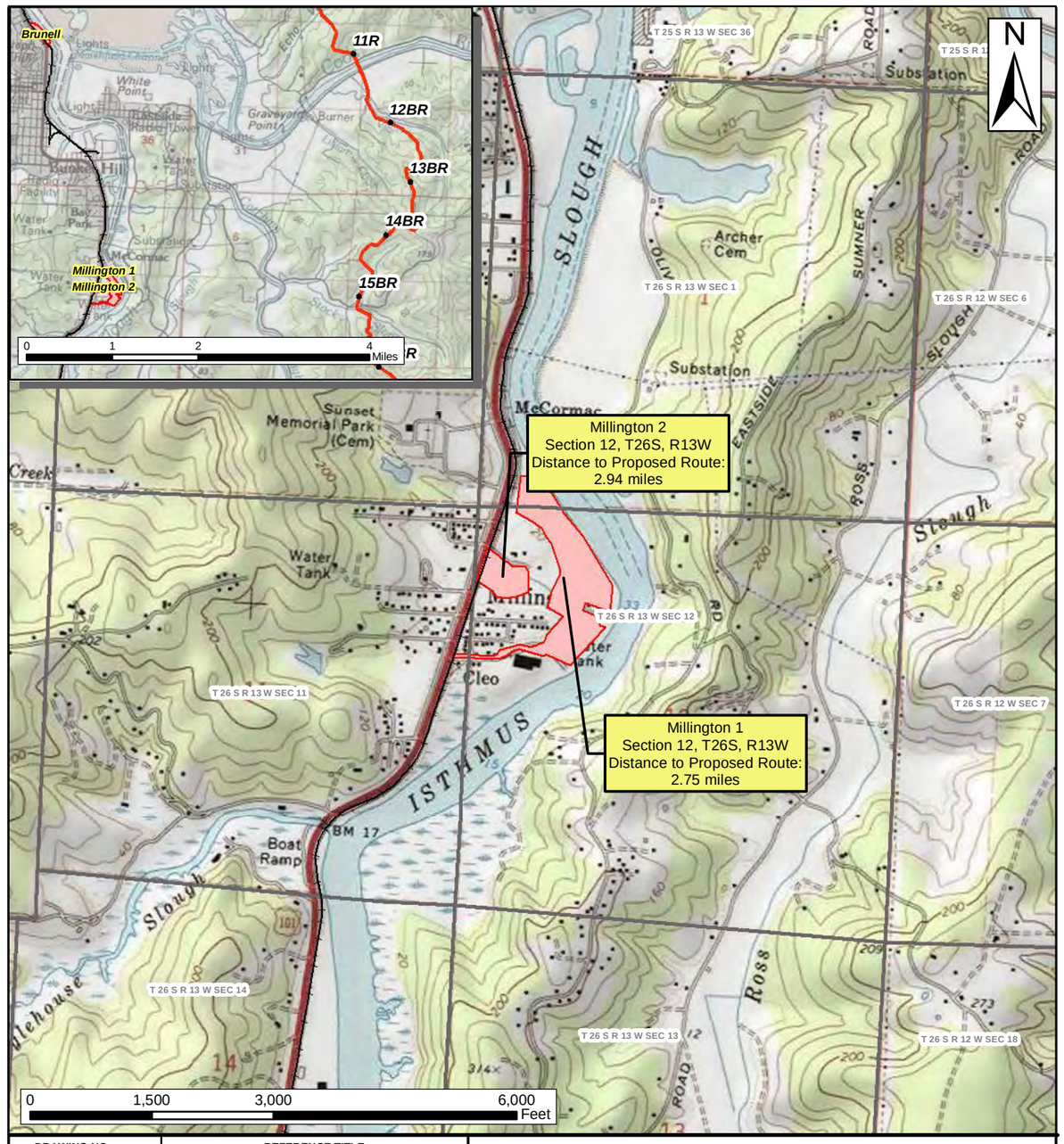

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
MILLINGTON 1 & 2
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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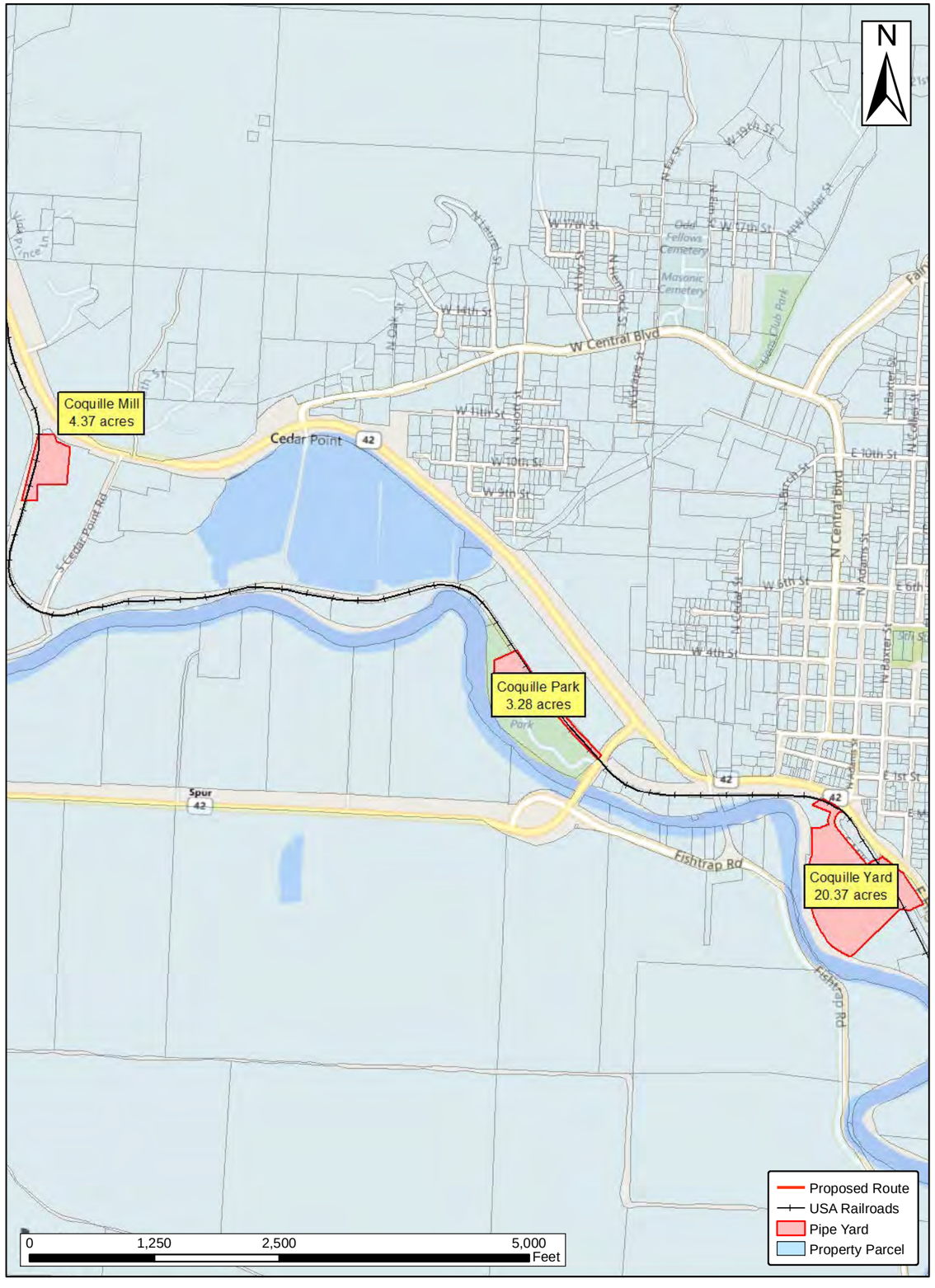

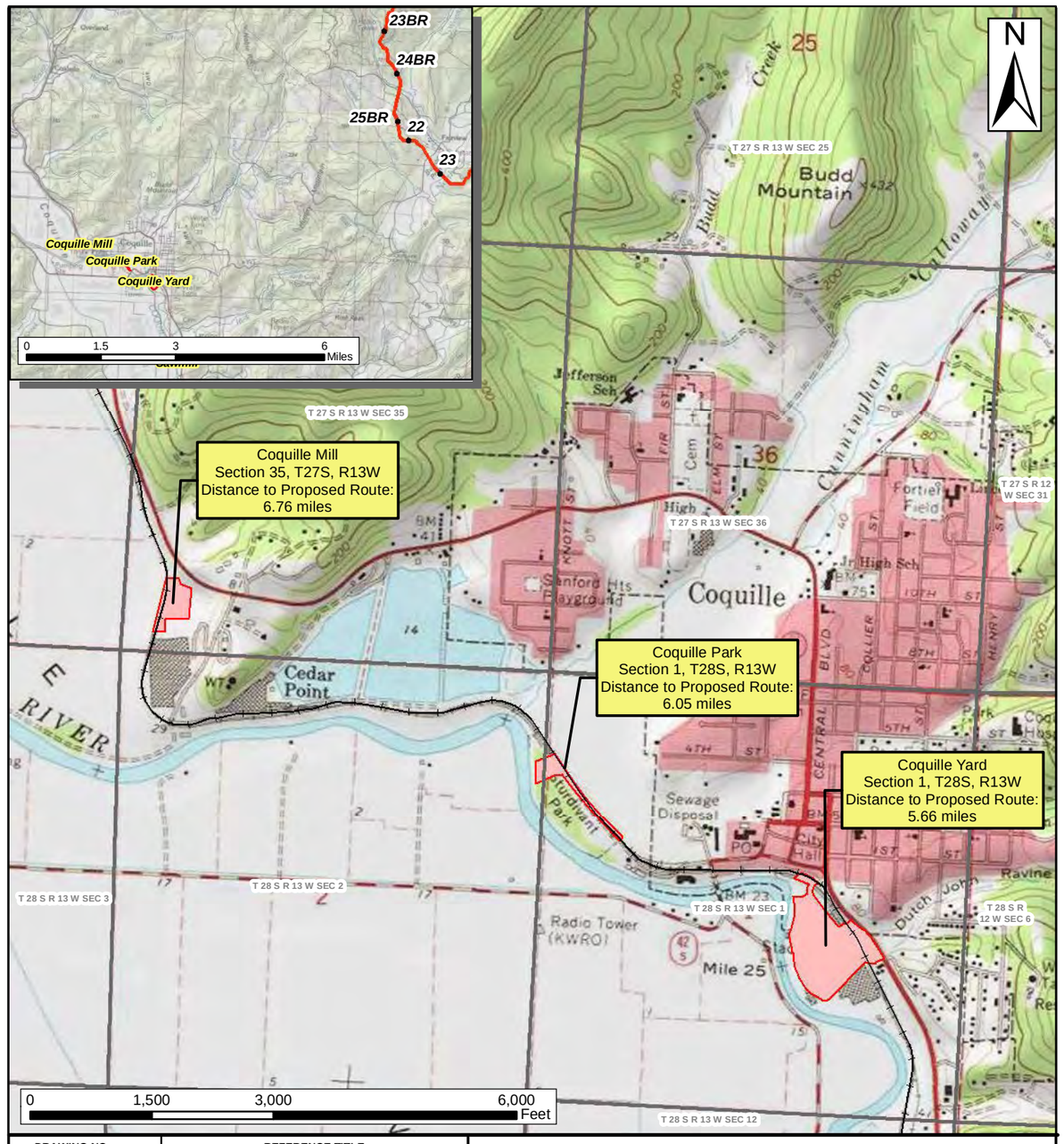

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
COQUILLE MILL, PARK & YARD
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/23/2017	ISSUED FOR BID:	SCALE: AS NOTED
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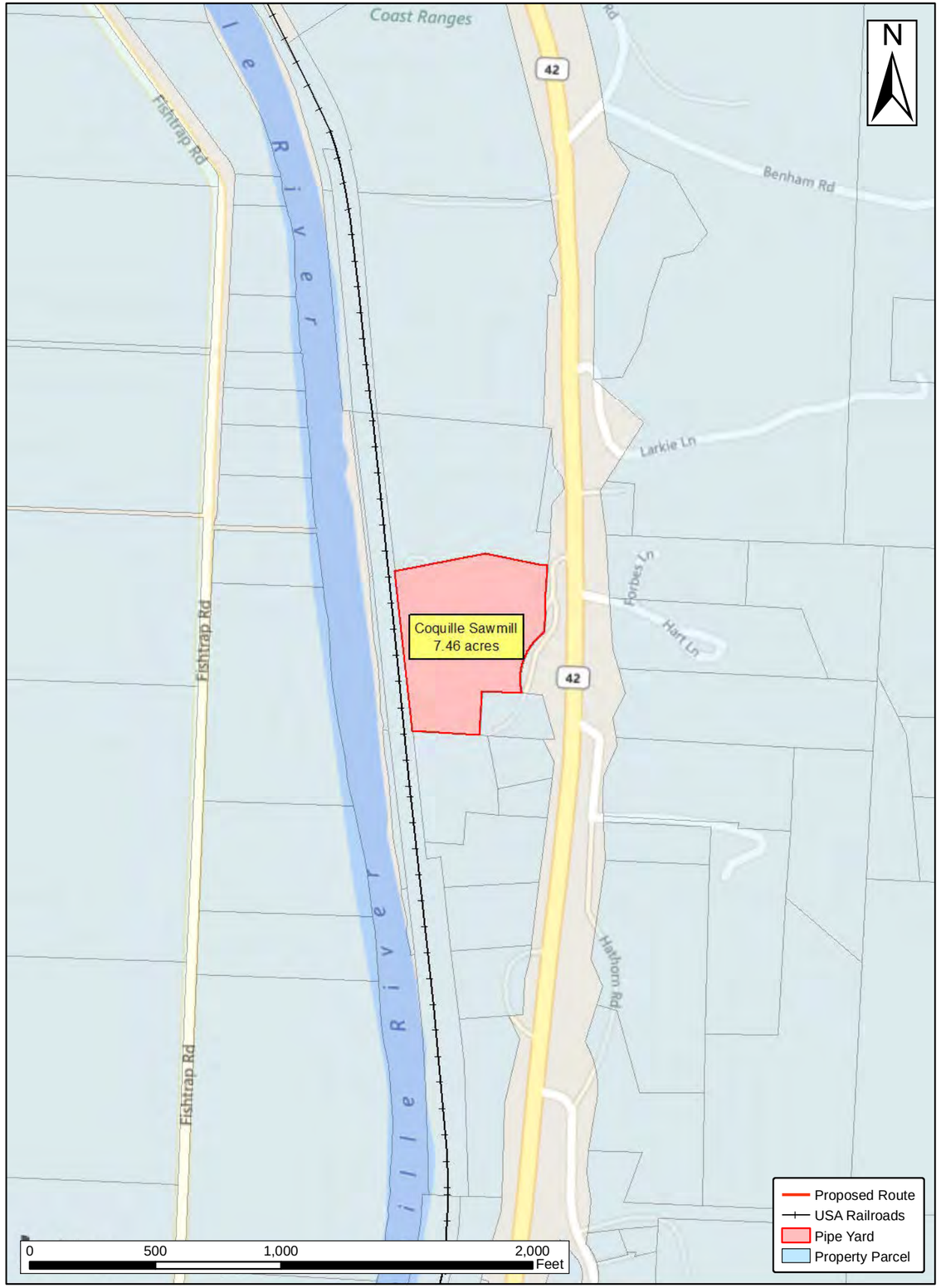

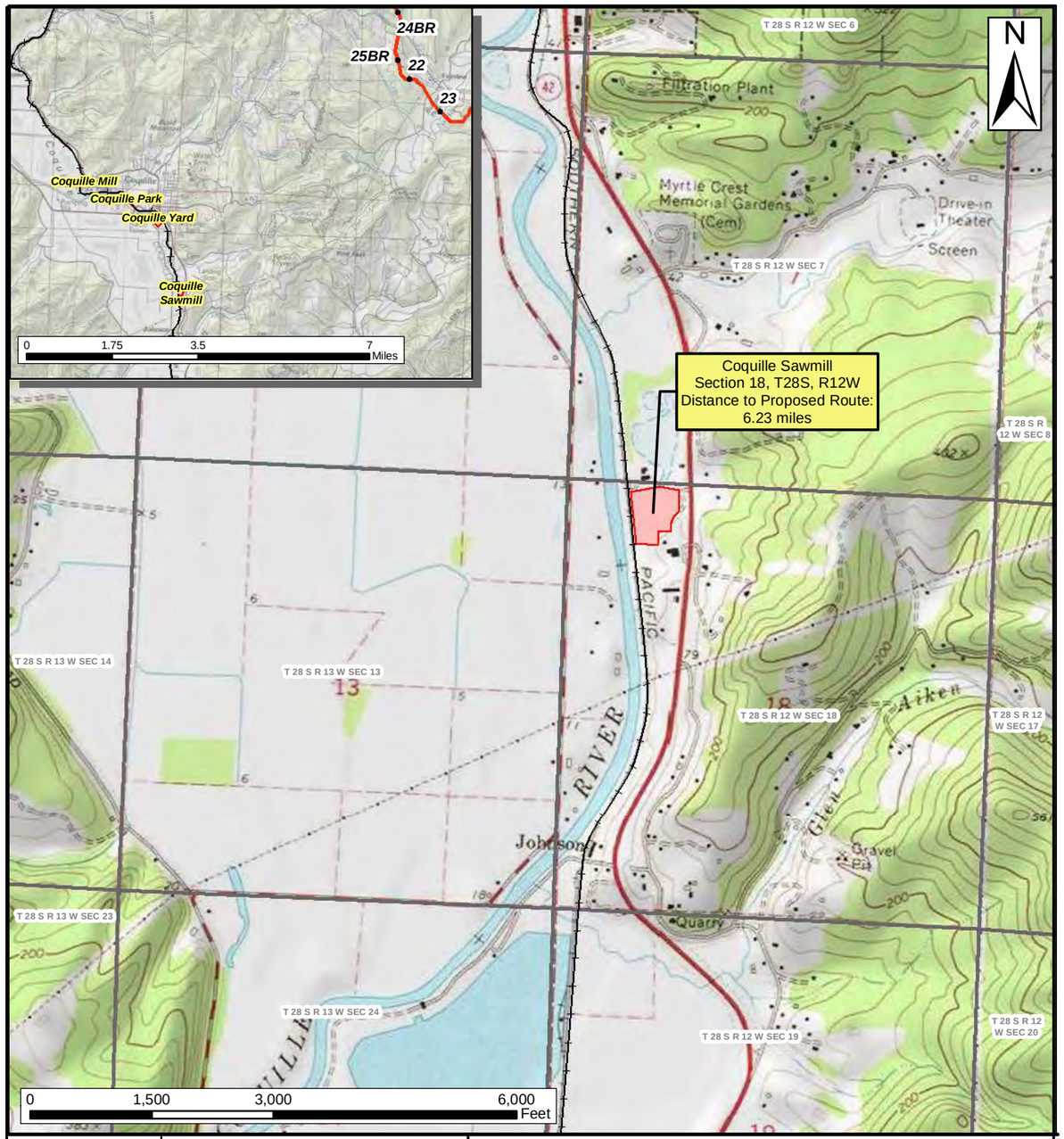

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
COQUILLE SAWMILL
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/23/2017	ISSUED FOR BID:	SCALE: AS NOTED
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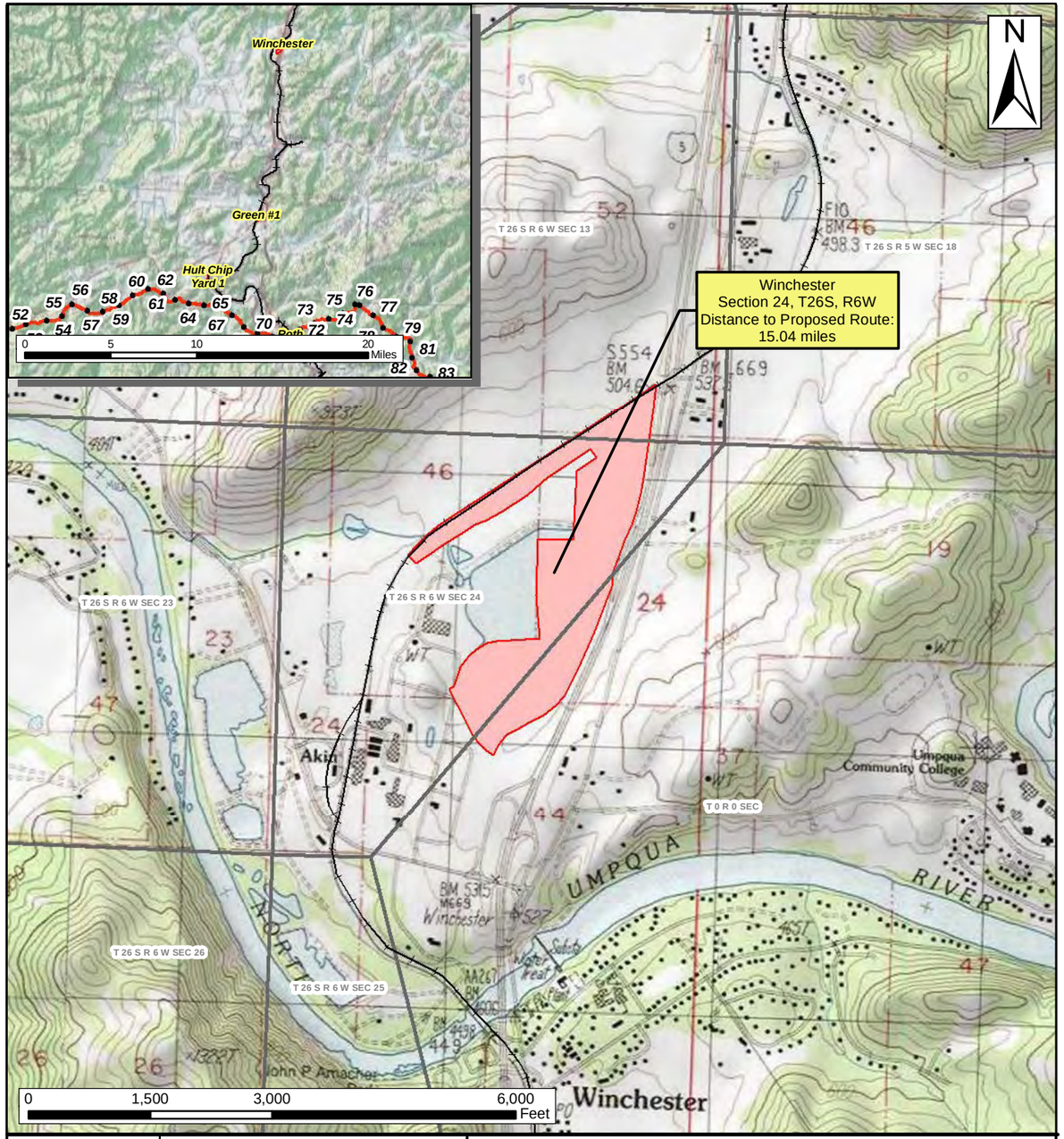

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
WINCHESTER
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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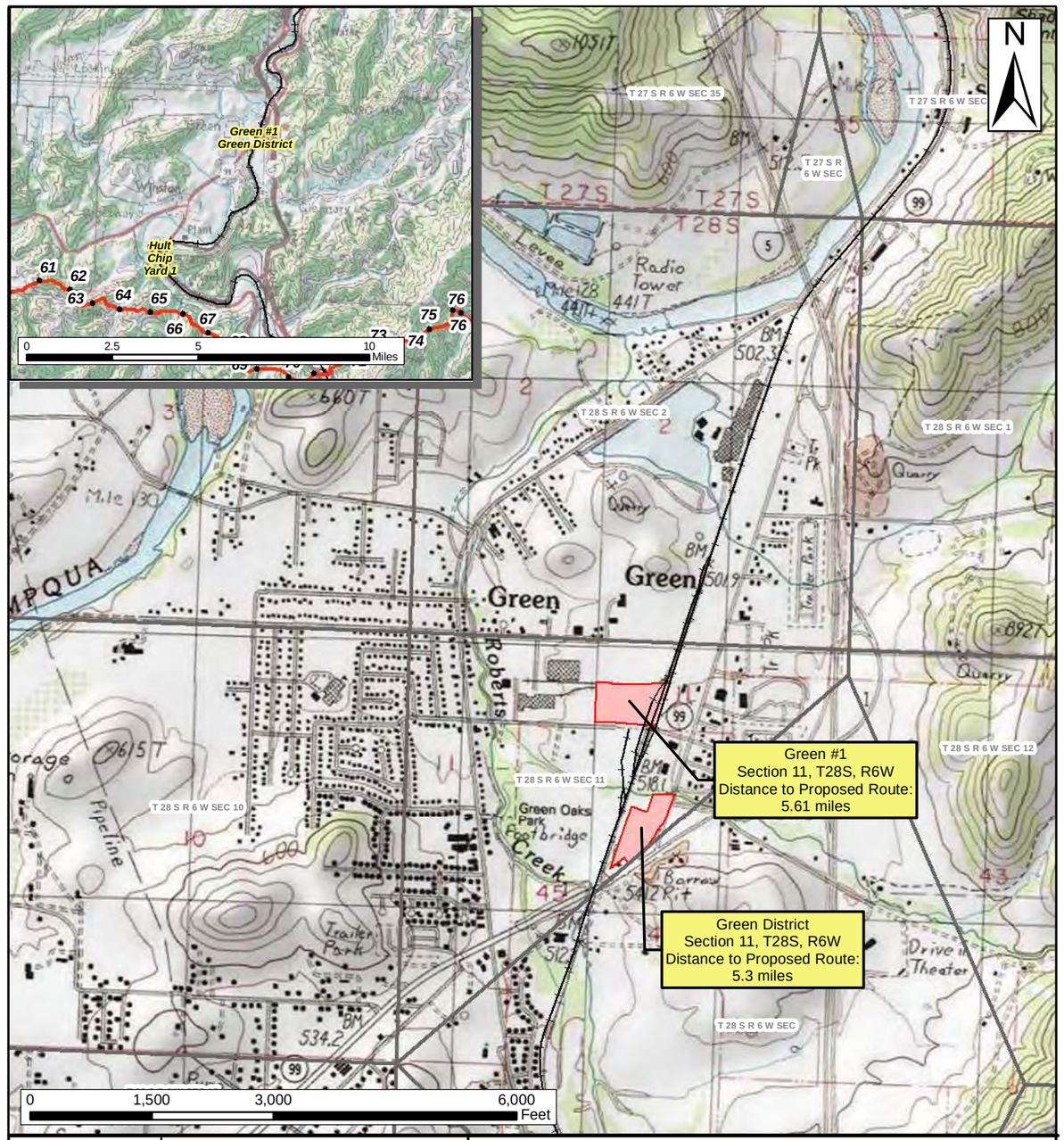

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
GREEN #1 & GREEN DISTRICT
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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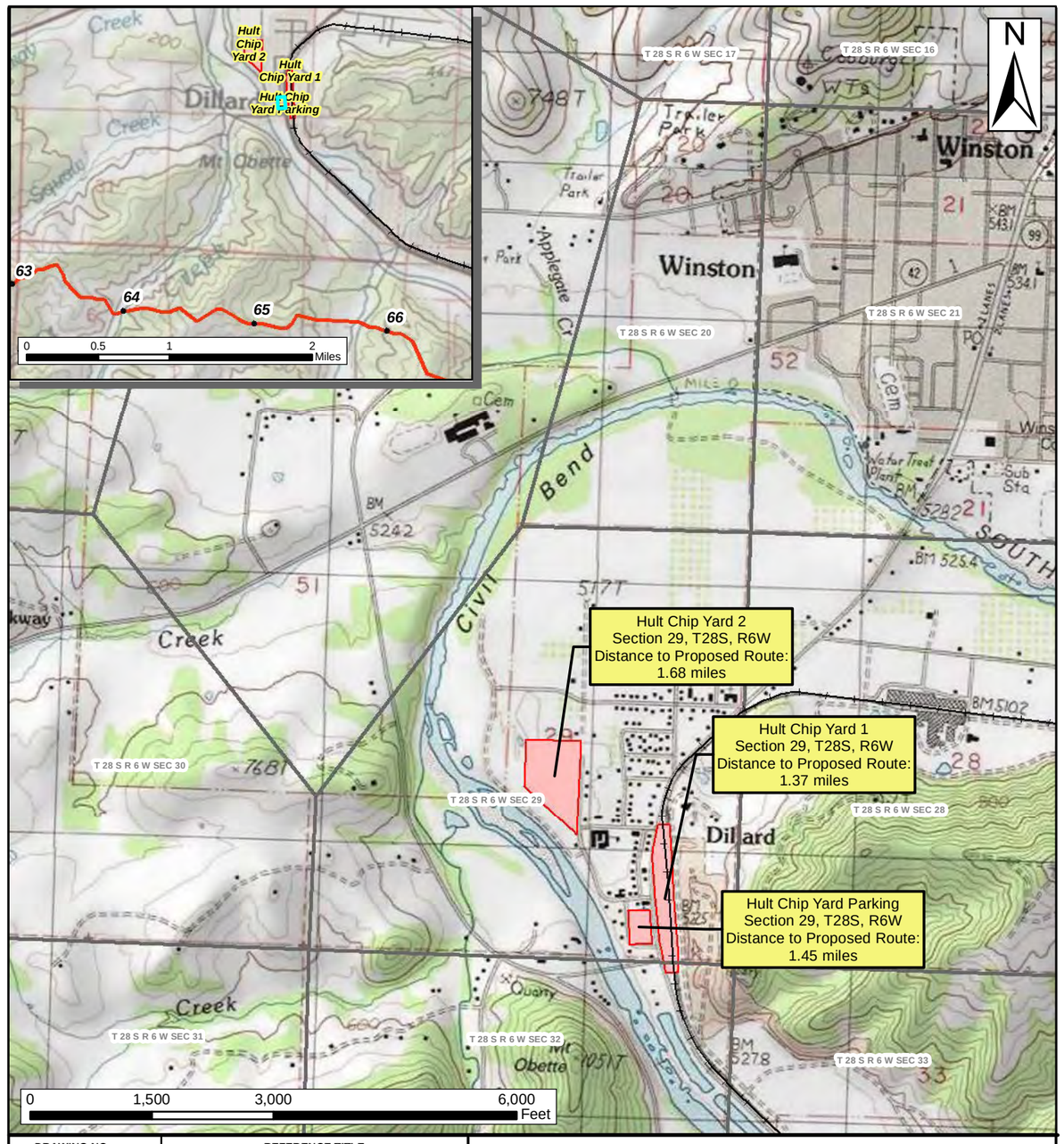
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-08_GRE(2)	SHEET 8 OF 19



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PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
HULT CHIP YARDS 1, 2 & PARKING
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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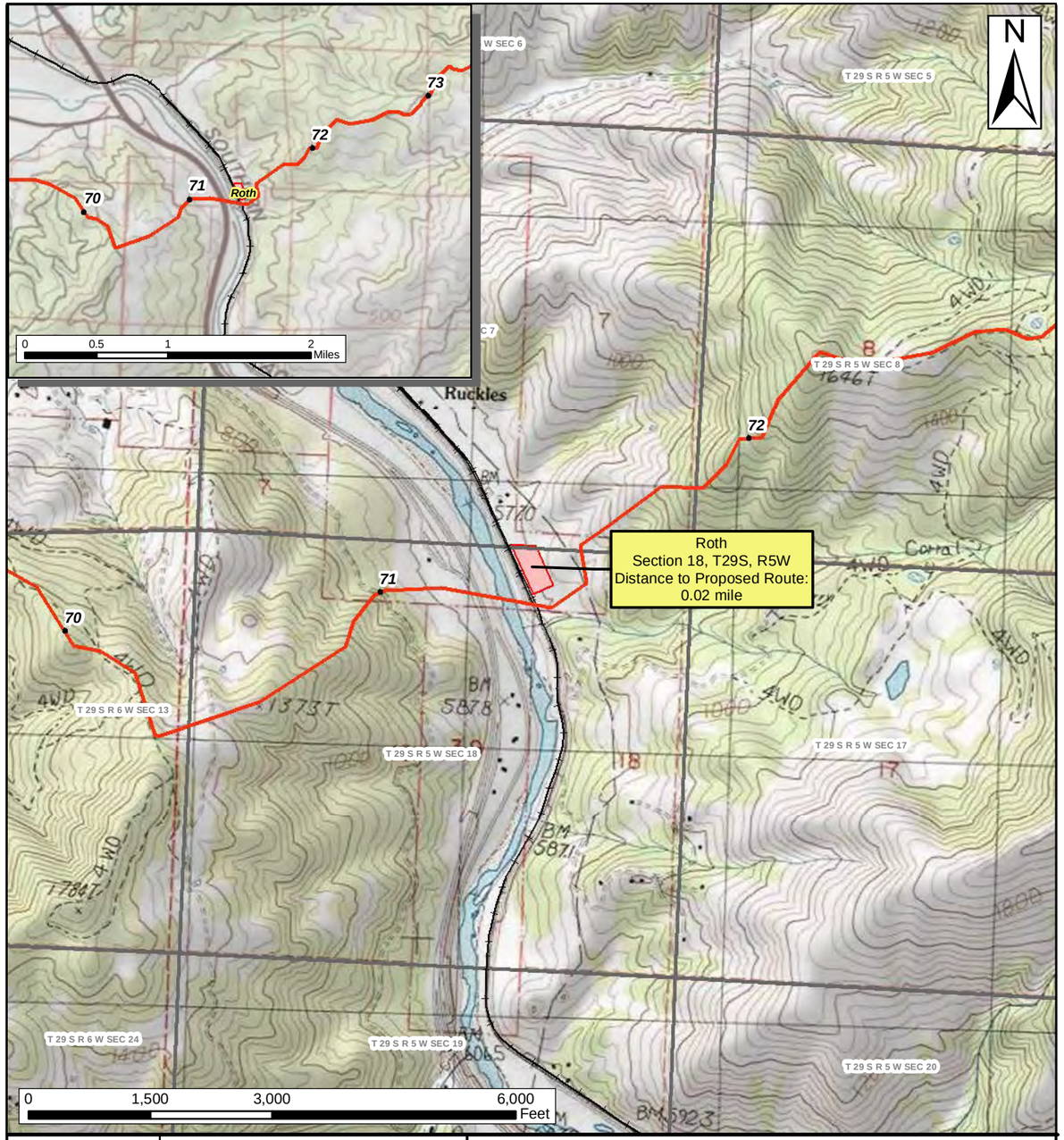

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
ROTH
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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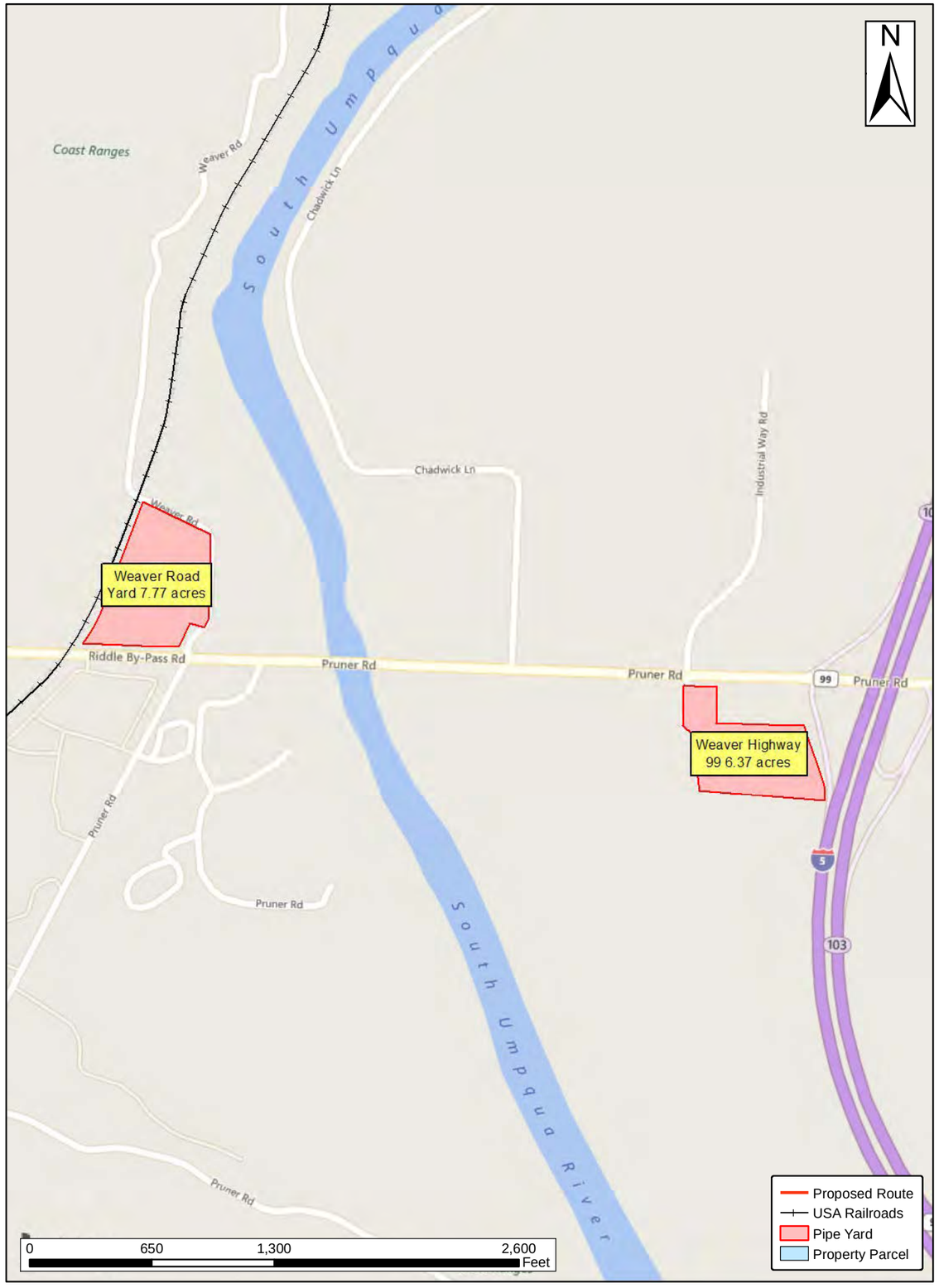

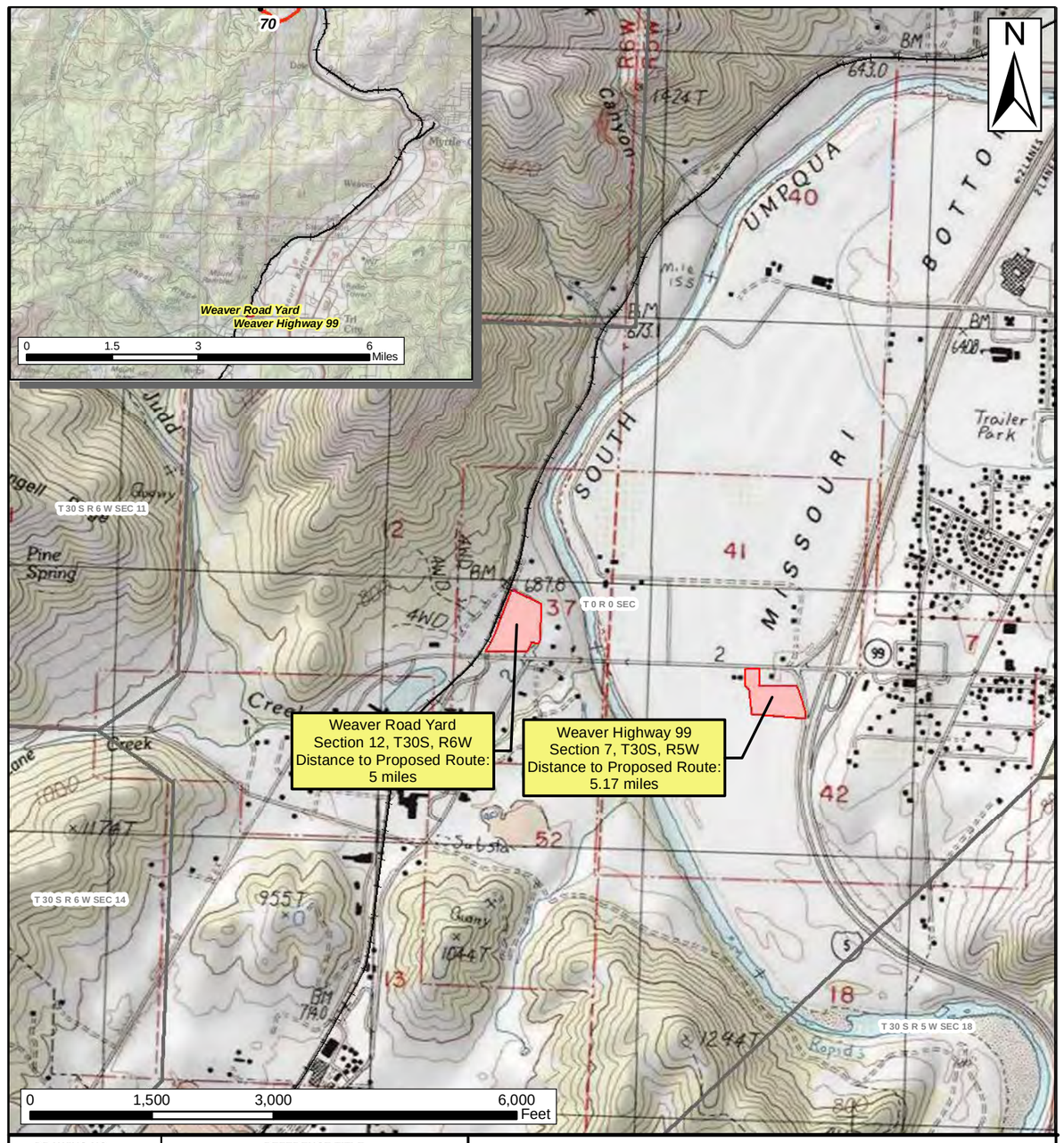

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PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
WEAVER ROAD & WEAVER HIGHWAY
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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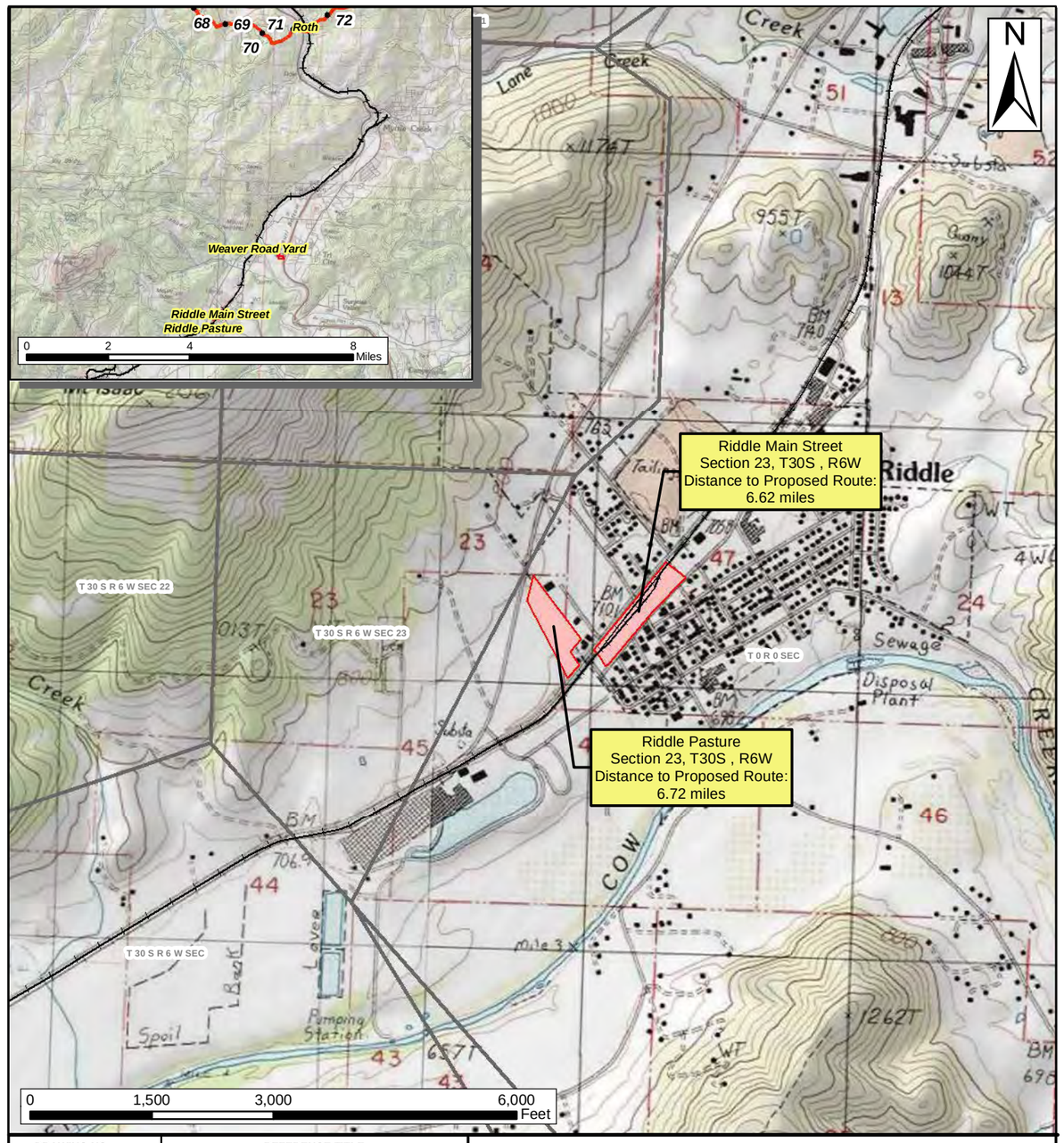
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-11_WEA(2)	SHEET 11 OF 19



DRAWING NO.	REFERENCE TITLE

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CONTRACTOR, PIPE, OR OFFLOAD SITES
RIDDLE MAIN STREET & RIDDLE PASTURE
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/23/2017	ISSUED FOR BID:	SCALE: AS NOTED
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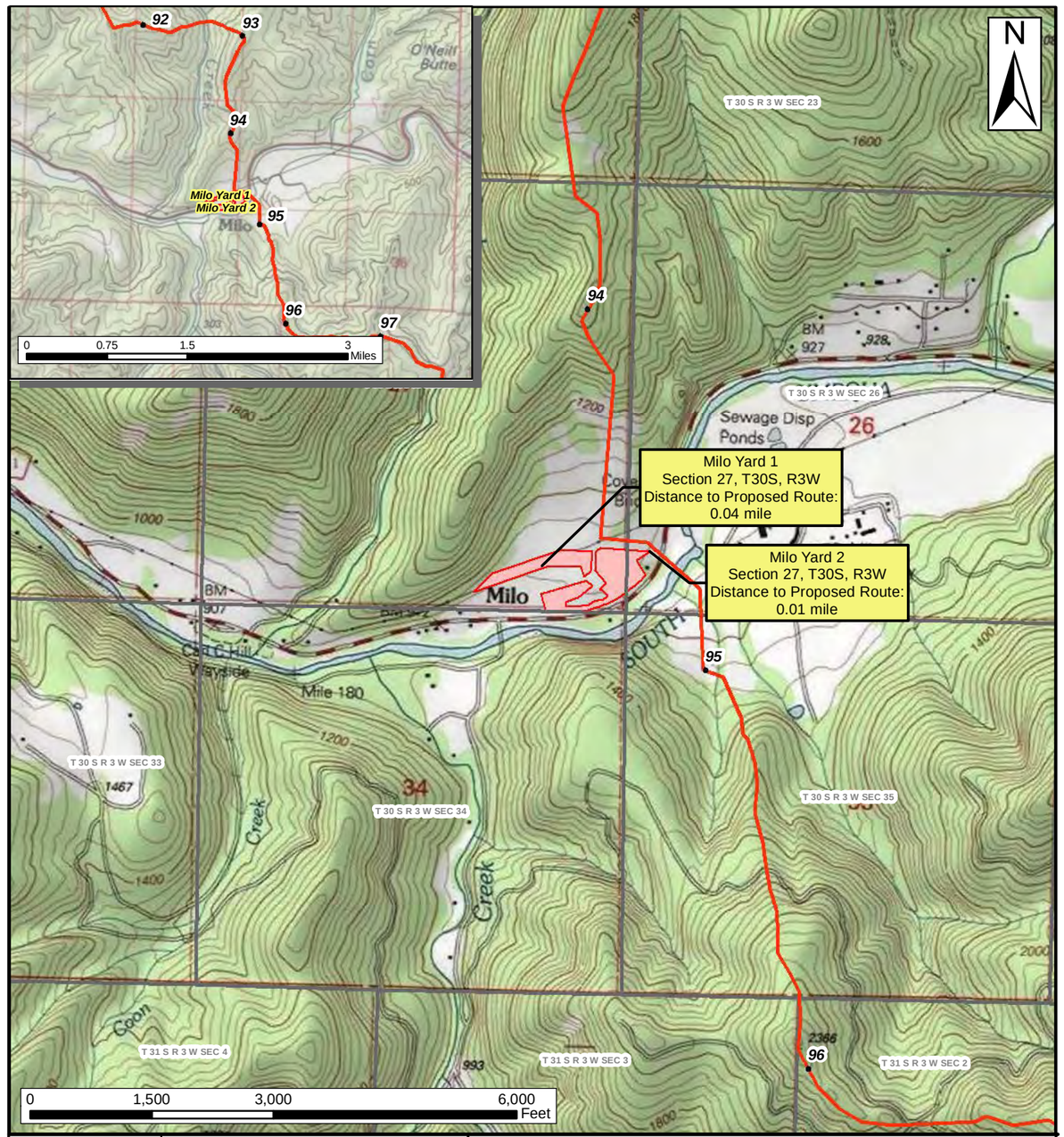
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-12_RID(2)	SHEET 12 OF 19



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
MILO YARD 1 & MILO YARD 2
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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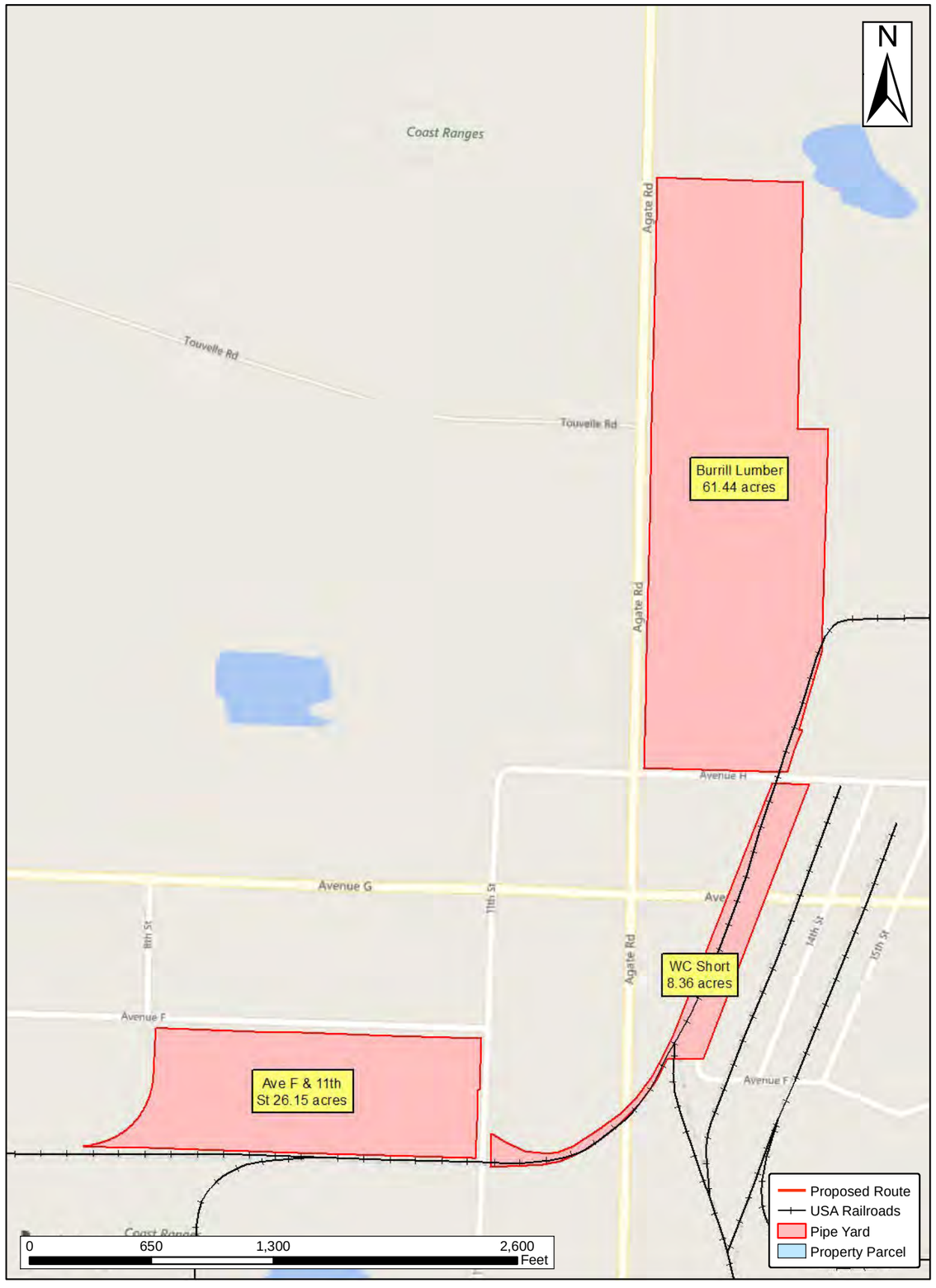
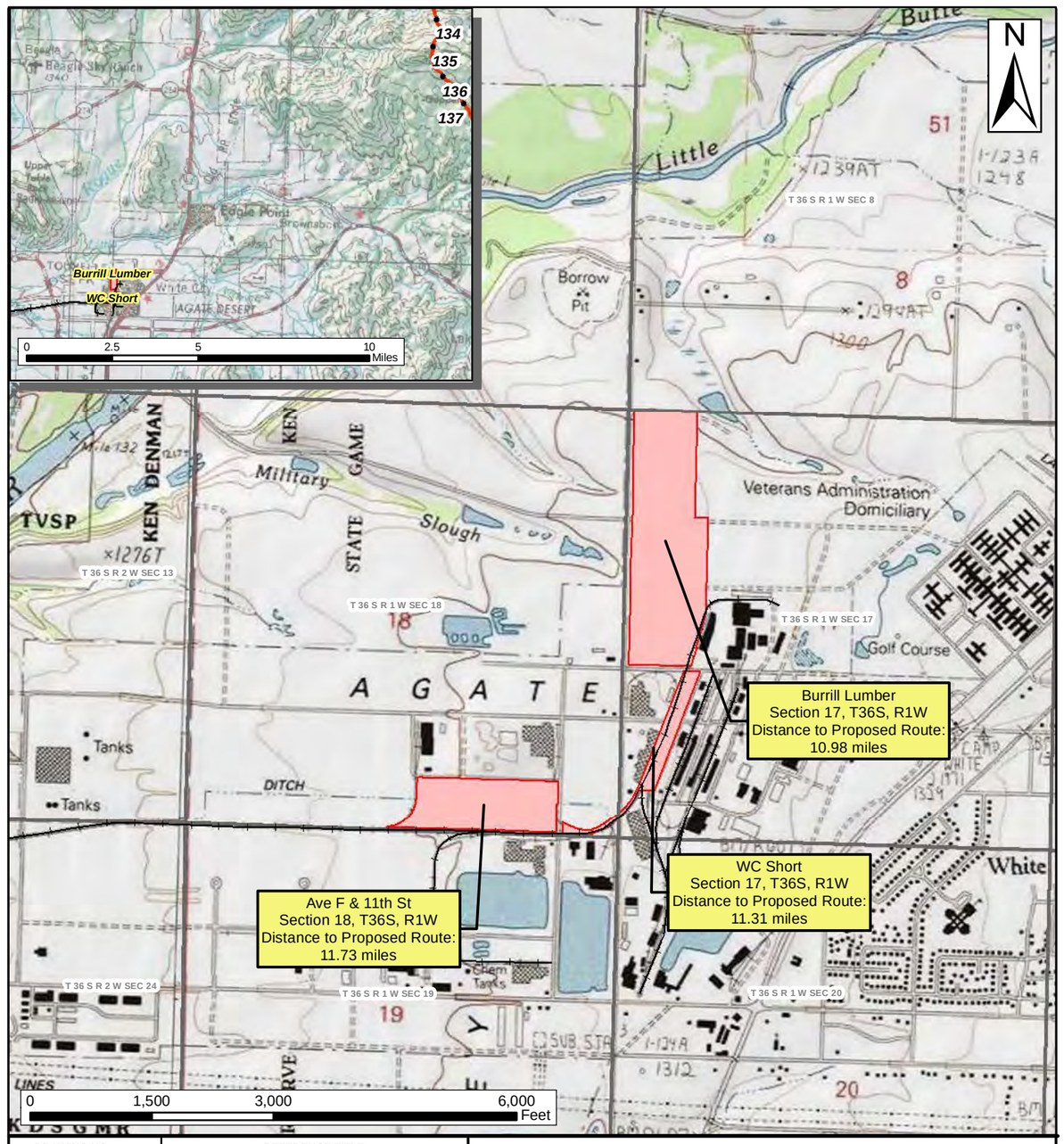
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-13_MILO(2)	SHEET 13 OF 19





DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
BURRILL LUMBER, WC SHORT & AVE F & 11TH
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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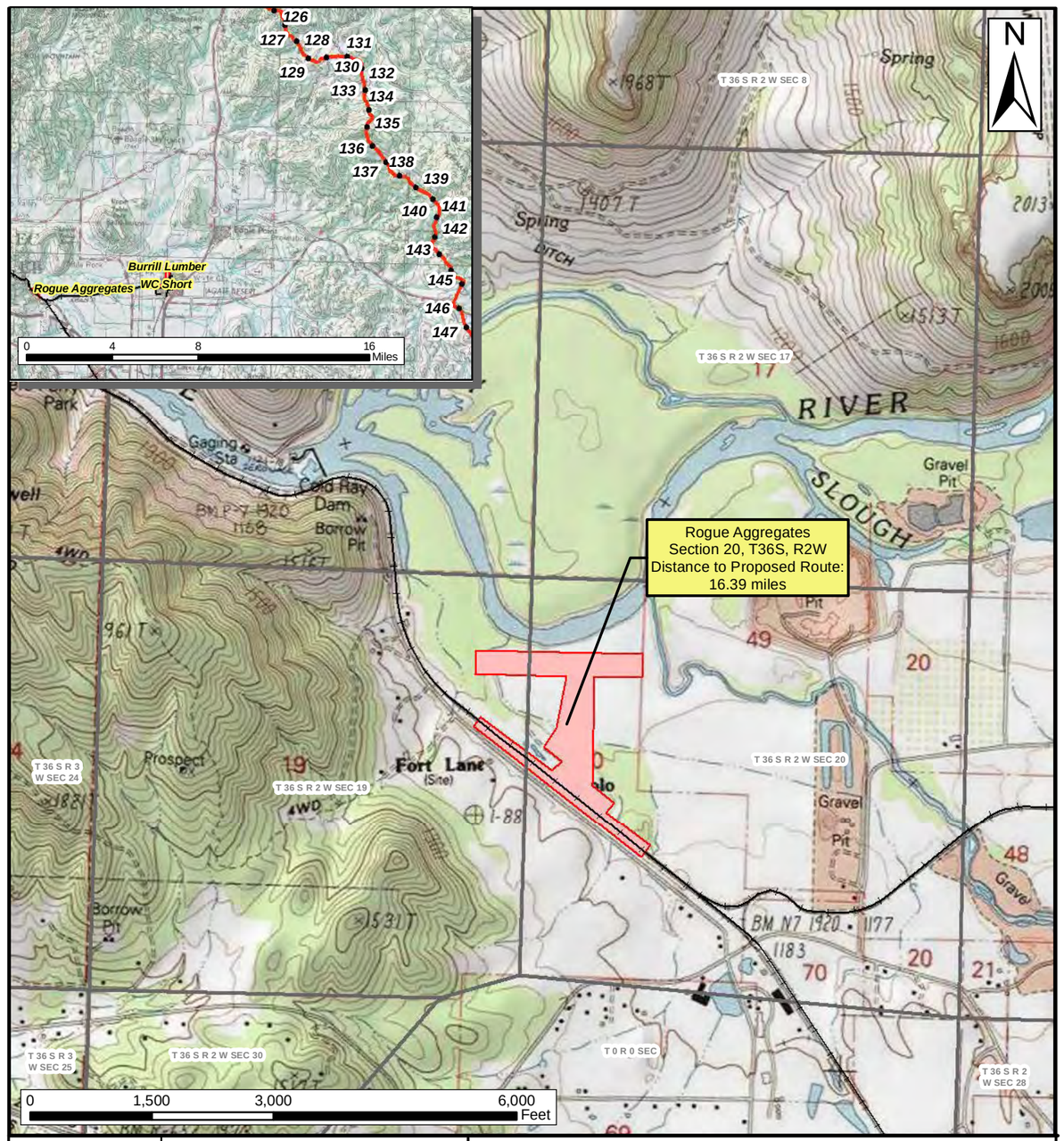

DRAWING NO.	REFERENCE TITLE

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CONTRACTOR, PIPE, OR OFFLOAD SITES
ROUGE AGGREGATES
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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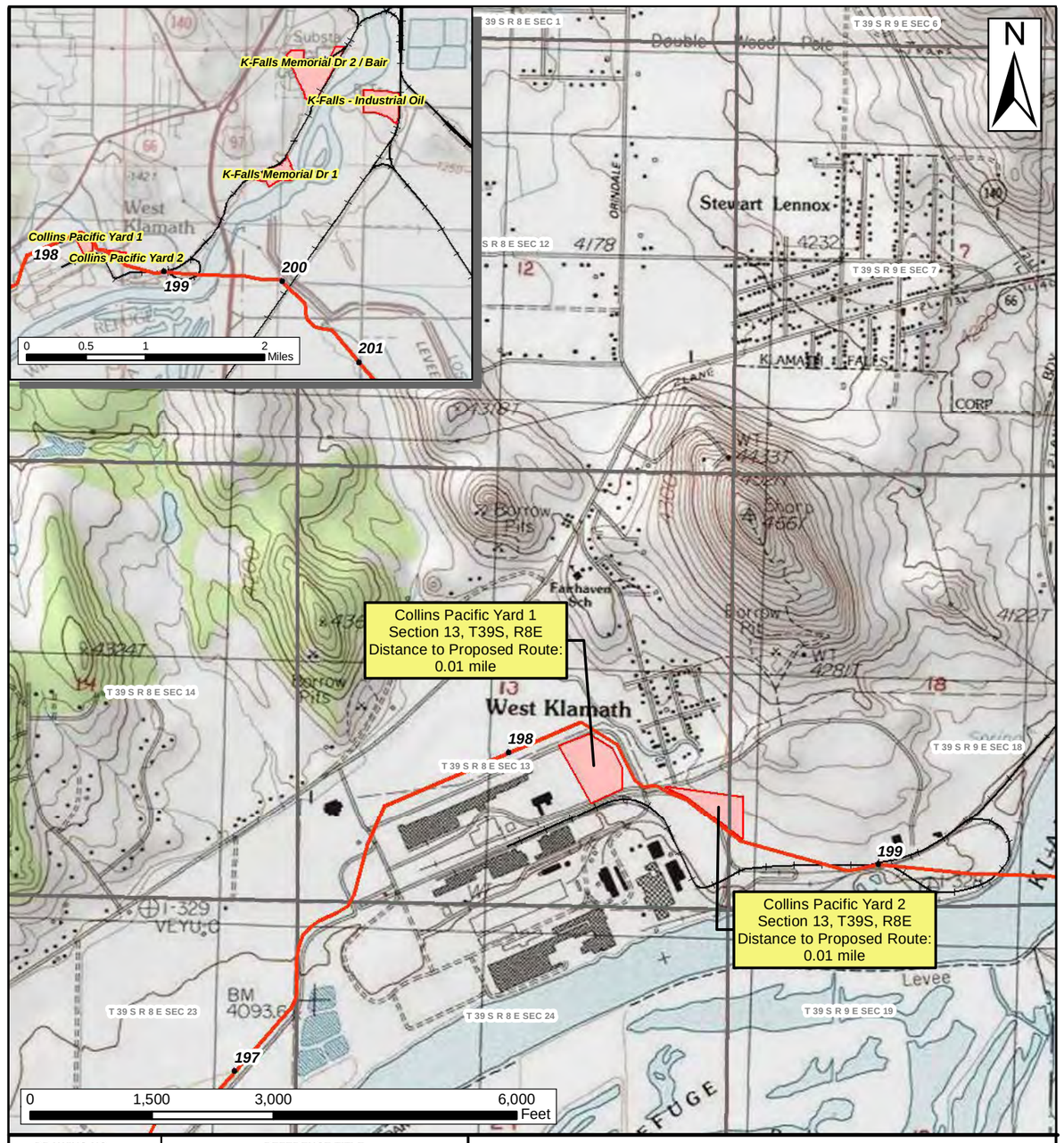
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-15_ROG(1)	SHEET 15 OF 19



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
COLLINS PACIFIC YARDS 1 & 2
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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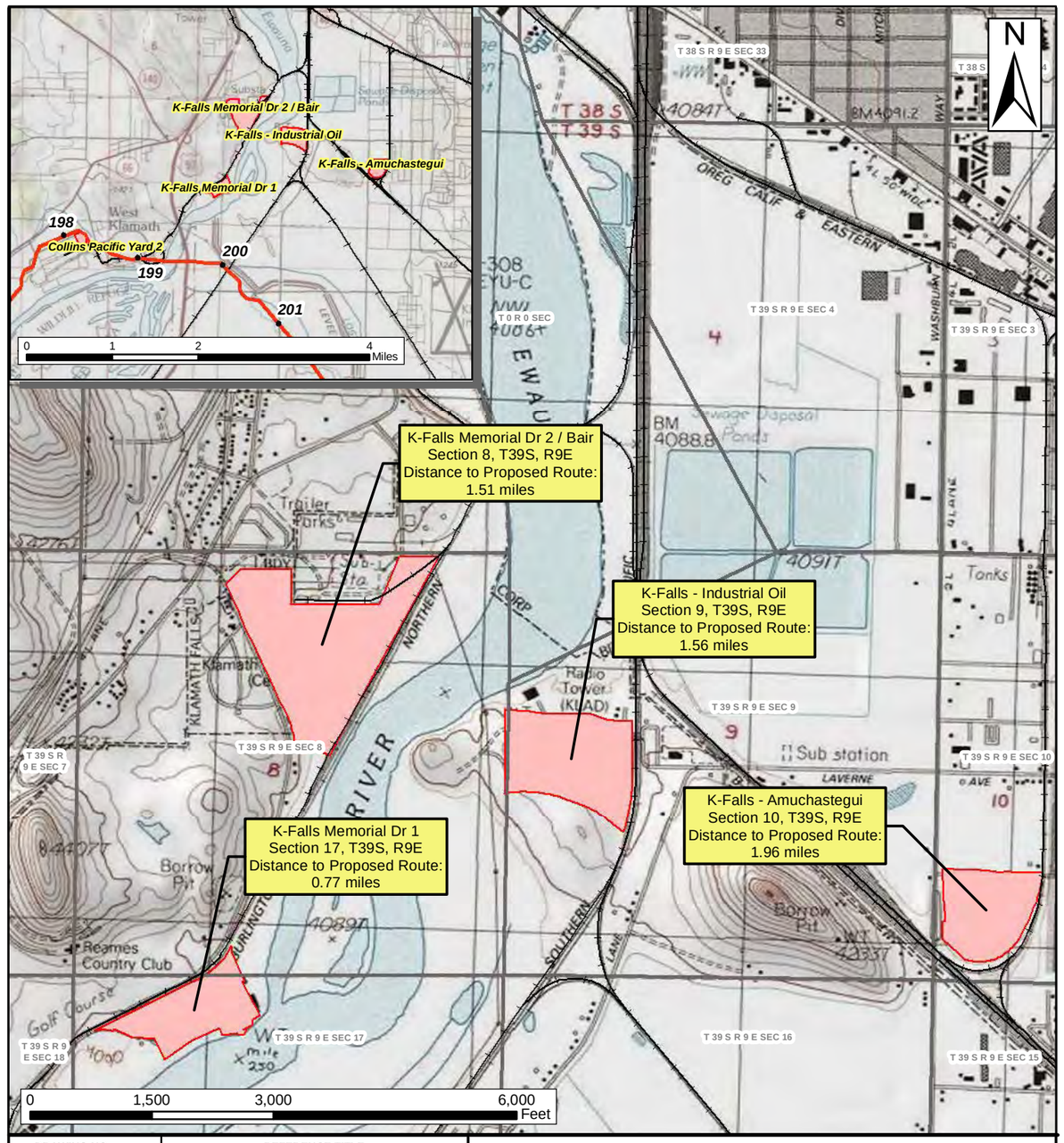
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-16_COL(2)	SHEET 16 OF 19



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
K-FALLS MEM DR 1&2, IND OIL & AMUCHASTEGUI
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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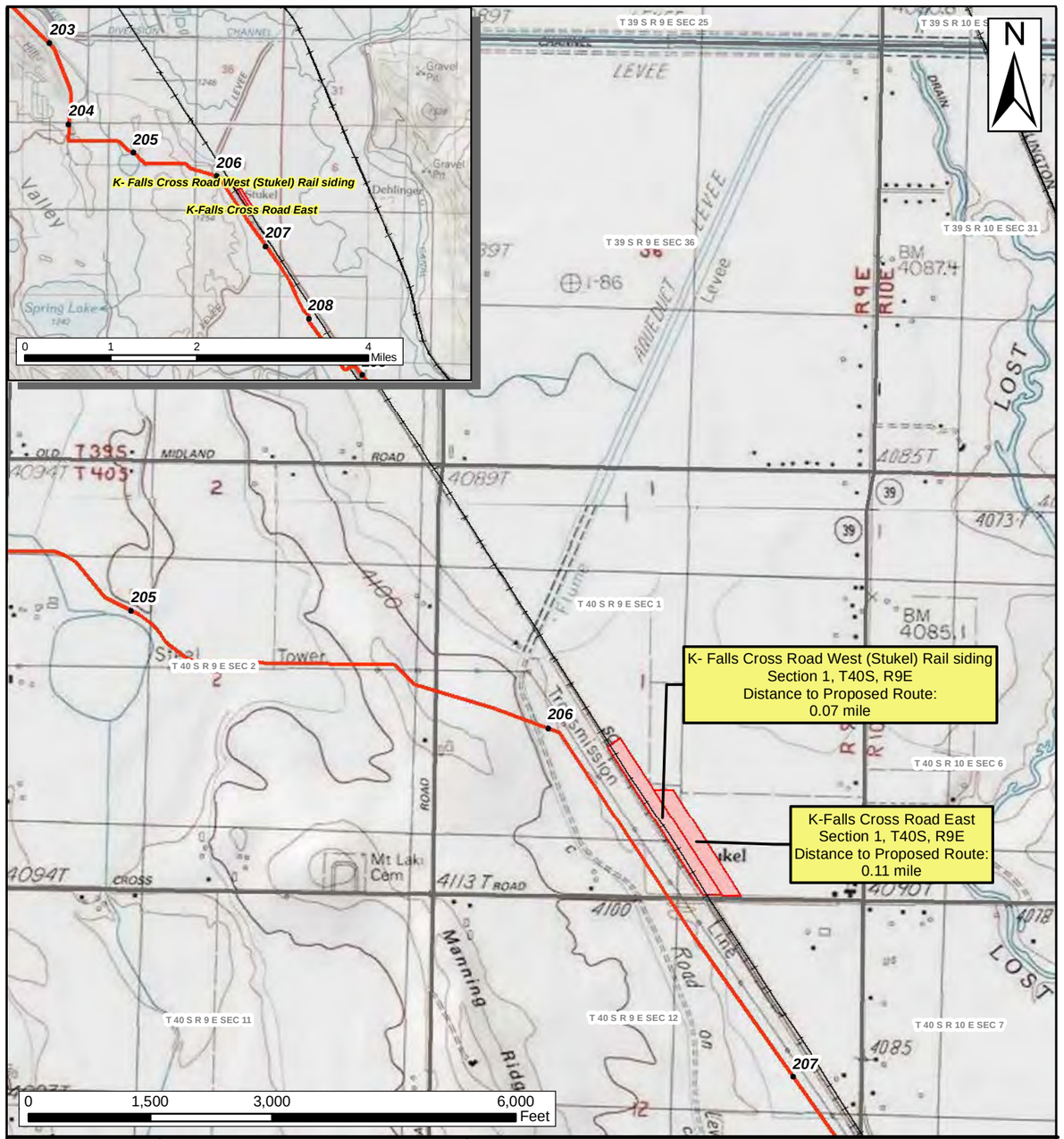
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-17_KF(4)	SHEET 17 OF 19



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
K-FALLS CROSS ROAD WEST & EAST
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
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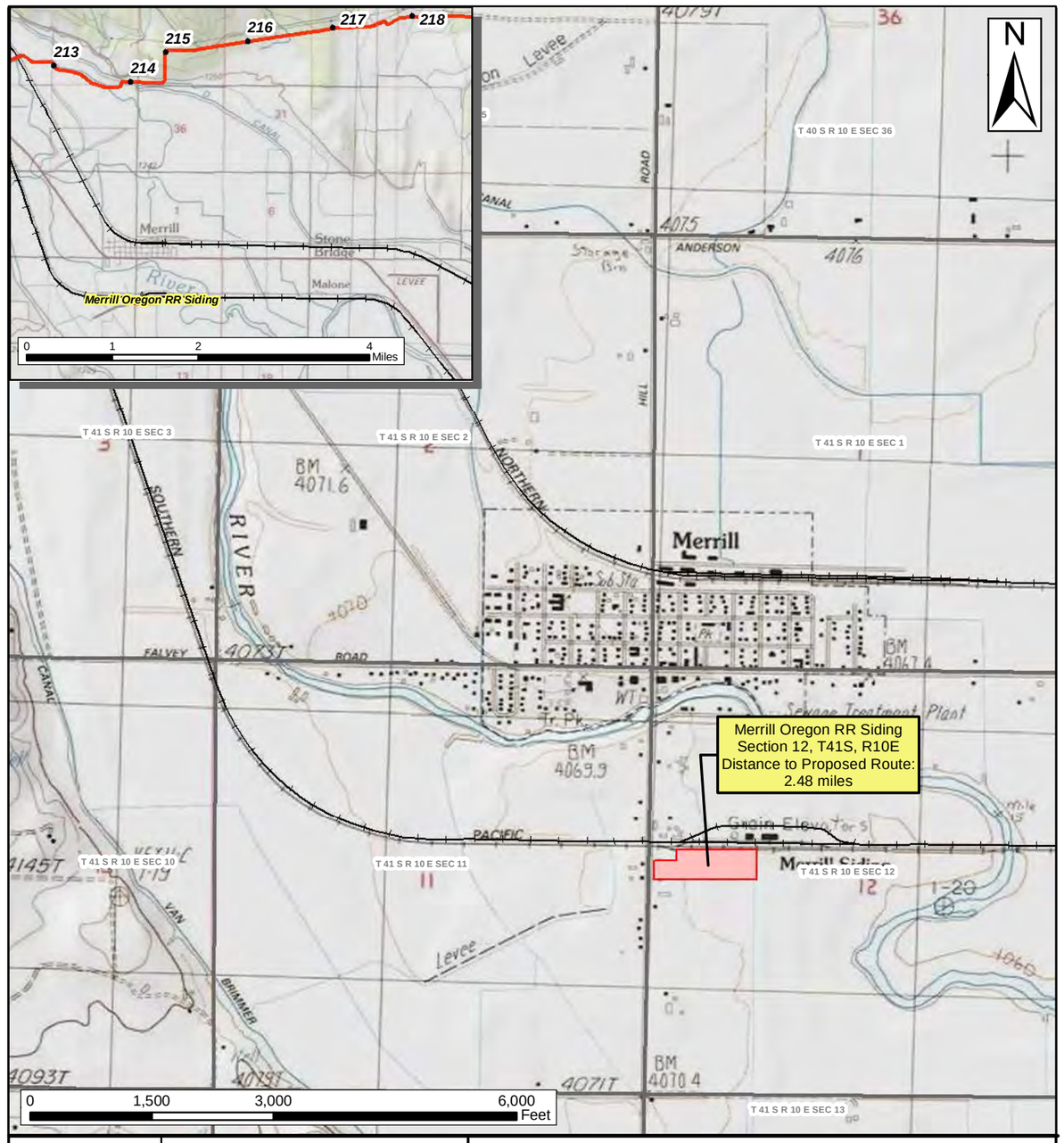

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
MERRILL OREGON RR SIDING
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.

DWG. BY: EE	DATE: 8/16/2017	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430_36-Y-19_MER(1)	SHEET 19 OF 19