October 8, 2018

Mr. Christopher Stine
Water Quality Engineer
Oregon Department of Environmental Quality
165 East 7th Ave., Suite 100
Eugene, OR 97401

Re: *Jordan Cove Energy Project L.P. and Pacific Connector Gas Pipeline, L.P.*
Section 401 Water Quality Certification
Response to ODEQ September 7, 2018 Additional Information Request

Dear Mr. Stine:

On September 21, 2017, Jordan Cove Energy Project L.P. (JCEP) filed an application pursuant to Section 3(a) of the Natural Gas Act, as amended,[1] and Parts 153 and 380 of the regulations of the Federal Energy Regulatory Commission (Commission or FERC),[2] for authorization to site, construct, and operate certain liquefied natural gas facilities (LNG Terminal). On the same day, Pacific Connector Gas Pipeline, LP (PCGP, and together with JCEP, Jordan Cove) filed an application pursuant to Section 7(c) of the NGA,[3] and Parts 157 and 284 of the Commission's regulations,[4] for a certificate of public convenience and necessity authorizing PCGP to construct, install, own, and operate a new natural gas pipeline ("Pipeline", and together with the LNG Terminal, "the Project").

Section 401(a) of the Clean Water Act, 33 U.S.C. § 1341(a), requires an applicant for "a Federal license or permit to conduct any activity . . .which may result in a discharge into the navigable waters" to provide the federal licensing or permitting agency a certification from the state that the discharge will comply with applicable state water quality standards. On October 22, 2017, Jordan Cove submitted an application for a Section 401 Water Quality Certification application for the proposed Project to the Oregon Department of Environmental Quality ("ODEQ") for review. Supplemental application materials were provided to ODEQ on February 6, 2018 and May 21, 2018.

In a letter dated September 7, 2018, ODEQ identified additional information necessary to complete ODEQ's analysis of the Project's compliance with the state water quality standards ("Information Request"). To facilitate ODEQ's review of Jordan Cove's responses, we have grouped ODEQ's questions as noted in Attachment A to this letter and numbered the requests for ease of reference. It is our understanding that a number of the requests in the Information Request would not require a response.

[1] 15 U.S.C. § 717b(a) (2012).
[2] 18 C.F.R. Pts. 153 and 380 (2017).
[3] 15 U.S.C. § 717f (2012).
[4] 18 C.F.R. Pts. 157 and 284.

The application provides a description of the proposed activities subject to federal permitting that may result in discharges. We agree that ODEQ's review is limited to ensuring that discharges resulting from the federally permitted activities comply with applicable state water quality standards. The application does not address activities and/or discharges outside of the scope of the federal permits necessary for the Project. Jordan Cove understands that other state permits and authorizations may be required to construct or operate the Project, that ODEQ may condition its Section 401 certification on the issuance of other state permits and authorizations necessary to assure compliance with state water quality standards.

With this understanding, enclosed are Jordan Cove's responses to the September 7, 2018 Information Request. The Information Request letter, provided in Attachment A, has been annotated for tracking purposes by numbering the individual information requests and using the same numbering for our responses. As noted, and to respond to ODEQ's requests, Jordan Cove is providing anticipated timelines for submitting applications for state permits and authorization. We understand ODEQ's consideration of those applications are outside of the Section 401 water quality certification process.

On September 25, 2018, Jordan Cove sent a letter to ODEQ withdrawing and simultaneously resubmitting its request for certification under Section 401 of the Clean Water Act. In a letter dated September 28, 2018, ODEQ confirmed that it had accepted the withdrawal and resubmittal of the application.

Jordan Cove looks forward to working with ODEQ on the Section 401 water quality certification. Should you have any questions, please contact Derik Vowels at dvowels@pembina.com or 971-940-7800.

Sincerely,

/s/ Tajvinder S. Diocee
Tajvinder S. Diocee
Jordan Cove Energy Project L.P.
Pacific Connector Gas Pipeline, LP

Attachments
Attachment A: September 7, 2018 ODEQ Additional Information Request Letter (annotated)
Attachment B: Responses to September 7, 2018 Additional Information Request

Attachment A

Kate Brown, Governor

Western Region Eugene Office
165 East 7th Avenue, Suite 100
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
OTRS 1-800-735-2900

September 7, 2018

Derik Vowels
Jordan Cove LNG, LLC
Consultant, Lead Environmental Advisor
111 SW 5th Ave., Suite 1100,
Portland OR 97204

Re: Additional Information Request
Jordan Cove Energy Project (FERC Project No. CP17-494)
Pacific Connector Gas Pipeline (FERC Project No. CP17-495)
U.S. Army Corps of Engineers (Project No. NWP-2017-41)

Dear Mr. Vowels:

The Oregon Department of Environmental Quality (DEQ) is currently reviewing an application from Jordan Cove LNG, LLC (Jordan Cove) for Clean Water Act section 401 water quality certification for a Section 404 permit from the U.S. Army Corps of Engineers necessary for construction of the Jordan Cove Energy Project and Pacific Connector Gas Pipeline (collectively, "the Project"). Jordan Cove proposes to construct a liquefied natural gas export facility near North Bend, Oregon, and a 232-mile natural gas pipeline connecting the terminal with existing pipelines near Malin, Oregon.

Section 401 of the Clean Water Act bars federal agencies from issuing a license or permit for an action that may result in a discharge to Oregon waters without first obtaining water quality certification from DEQ. DEQ anticipates Jordan Cove's construction and operation of the Project will require authorizations from multiple federal agencies, including but not limited to a Section 404 permit from the U.S. Army Corps of Engineers and authorizations from the Federal Energy Regulatory Commission (FERC) pursuant to the Natural Gas Act. DEQ is conducting a comprehensive section 401evaluation of the Project's direct, indirect, and cumulative effects on water quality. DEQ currently expects to develop a single certification decision based on this comprehensive evaluation of the Project that will be applicable to both the Corps and FERC decisions on the Project.

DEQ is processing the applications pursuant to Section 401 of the Clean Water Act, 33 USC §1341, ORS 468B.035 through 468B.047, and DEQ's certification rules found in Oregon Administrative Rules 340, Division 048. To certify the Project, DEQ must have a

reasonable assurance that the proposed Project, as conditioned, will comply with Sections 301, 302, 303, 306, and 307 of the Clean Water Act, Oregon water quality standards, and any other appropriate requirements of state law.

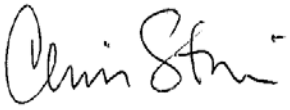
DEQ has conducted a preliminary review of the application package material submitted February 6, 2018, by David Evans and Associates, Inc. on behalf of Jordan Cove. The information described in the attachments to this correspondence is necessary to complete DEQ's analysis of the Project's compliance with applicable standards. Please file a complete response to this additional information request within 30 days of the date of this letter. Please forward your responses to:

Christopher Stine
Oregon Department of Environmental Quality
165 East 7th Avenue, Suite 100
Eugene, Oregon 97401

If Jordan Cove cannot provide certain information within the requested period, please indicate which items will be delayed and provide a projected filing date. You may reference previously submitted documents, in whole or in part, to support your responses to the requests in Attachments A through B

DEQ reserves the right to request additional information as necessary to complete its analysis and fulfill its obligations under state and federal law.

If you have any questions, please contact me directly at (541) 686-7810, or via email at stine.chris@deq.state.or.us.



Christopher Stine, PE
Water Quality Engineer

ec: Mike Koski, mkoski@pembina.com
Rose Haddon, rhaddon@pembina.com
Keith Andersen, Dave Belyea, Steve Mrazik, Chris Bayham, Mary Camarata, Sara Christensen/DEQ
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Sean Mole, sean.mole@oregon.gov

ATTACHMENT A

Jordan Cove Energy Project / Pacific Connector Gas Pipeline
Additional Information Request

1. Application for Certification
Oregon Administrative Rule (OAR) 340-048-0020(2) identifies the minimum requirements for applications to the Oregon Department of Environmental Quality for section 401 water quality certification. Please provide complete responses to the application requirements given in OAR 340-048-0020(2)(a-j). If Jordan Cove has previously submitted portions of this information, please reference the location and include any supplemental or clarifying information, as necessary, to provide complete responses.

2. Proposed Action
Jordan Cove must provide and update DEQ with a complete and current description of the construction and operation of the proposed Project and the impacts of these actions on affected waterbodies. DEQ recognizes that Jordan Cove may revise project elements during the design process. Jordan Cove must provide DEQ with timely submissions describing changes to the proposed activity that may directly or indirectly affect water quality. Jordan Cove must also specify clearly that it is requesting that DEQ accept these submissions as changes to the proposed activity and consider the effects of the revised action in our section 401 water quality evaluation.

3. Submission of Application Information
Jordan Cove's application to DEQ for section 401 water quality certification must provide DEQ with a comprehensive description of the proposed action including all resource reports, maps, electronic data files, and supporting documentation provided to federal agencies from whom Jordan Cove is seeking permits or authorizations. DEQ's certification rules require applicants to file information directly with the Department. For this reason, DEQ does not consider the availability of information on external websites or other sources as a submittal unless the applicant explicitly directs DEQ to obtain application materials from these sources.

4. Water Quality Standards
Oregon's water quality standards consist of beneficial uses, numeric and narrative criteria developed to support these uses, and an antidegradation policy that prohibits an activity from further degrading water quality. Applicants for water quality certification must provide sufficient information to demonstrate the activity will comply with Oregon water quality standards (OAR 340-048-0020(g)).

5 Provide information to demonstrate how the Project will comply with the water quality standards found in OAR 340 Division 041. For project activities that do not affect State waters, note how the Project will not violate applicable standards. For project activities that do impact State waters, note how Jordan Cove is proposing to mitigate, reduce, or prevent impacts so as to ensure the Project, as proposed, does not violate applicable water quality standards. Project impacts should be assessed in terms of direct, indirect, and cumulative effects of the activity on state water quality.

ATTACHMENT B

Jordan Cove Energy Project / Pacific Connector Gas Pipeline
Additional Information Request

Preliminary evaluation of the proposed activities to determine compliance with the requirements for a Certification Decision as described in Oregon Administrative Rules 340-048-0042(2):

Oregon Administrative Rule	Requirement	Information Requested
340-048-0042(2)	Compliance with Clean Water Act Sections 301 and 302	Please provide a NPDES 1200-C Permit Application demonstrating that land disturbing activities associated with the construction of Jordan Cove Energy Project's Liquefied Natural Gas Terminal as well as the following: • Land disturbing activities associated with the dry excavated portion of this terminal's Marine Slip, • Land disturbing activities associated with all offsite project areas associated with this terminal and its construction including those areas described in Section 5.3 of this terminal's stormwater management plan (Part 1, Attachment A3). • Land disturbing activities associated with roads used to access this terminal and offsite project areas. • Land disturbing activities associated with any other facilities (staging areas, refueling areas, employee parking etc.) that Jordan Cove Energy Project will use to construct of this terminal. DEQ will need to determine if these land disturbing activities will comply with the technology-based effluent limits of this permit. DEQ will also need an erosion and sediment control plan that, for example, addresses Schedule A.12.b.v and other conditions in this permit. For DEQ to evaluate the water quality impacts of the construction process on waters of the state, DEQ needs this information in an erosion and sediment control plan.
	6	
	7	Please provide a NPDES 1200-C Permit Application for land disturbing activities associated with the construction of Pacific Connector's gas pipeline and with the construction of all associated facilities such as communication towers, roads (existing and new), disposal sites, block valve facilities, and compressor stations. DEQ will need to determine if these land disturbing activities will comply with the technology-based effluent limits of this permit. DEQ will also need an erosion and sediment control plan that, for example, addresses Schedule A.12.b.v and other conditions in this permit. For DEQ to evaluate the water quality impacts of the construction process on waters of the state, DEQ needs this information in an erosion and sediment control plan.
	8	Please provide a NPDES 1200-A Permit Application demonstrating that the proposed 20 sites to obtain rock for Pacific Connector's gas pipeline construction and maintenance. DEQ will need to determine if these land disturbing activities will comply with the technology-based effluent limits of this permit.
	9	Please provide a NPDES 1200-A Permit Application demonstrating that the concrete batch plant proposed for the offsite project area referred to as Boxcar Hill in the LNG Terminal's stormwater management plan (Section 5.3, page

		19). DEQ will need to determine if rock quarries will operate in compliance with the technology-based effluent limits of this permit.
	10	Please provide a NPDES Individual Permit Application for the LNG Terminal's two domestic wastewater facilities discharging to surface water. DEQ will use the information in this permit application to develop a discharge permit containing technology-based and water quality-based effluent limits associated with this permit.
	11	Please provide a NPDES Individual Permit Application for discharges of non-contact cooling wastewater discharged from Liquefied Natural Gas carriers using the Marine Slip at the LNG Terminal. DEQ will use this permit application to develop a discharge permit containing technology-based and water quality-based effluent limits.
	12	If the discharge from wastewater treatment plants proposed for the LNG Terminal has a design flow capacity of 1 million gallons per day or more or requires pretreatment under 40 CFR §403, please provide a NPDES 1200-Z Permit Application demonstrating that the Terminal's stormwater management plan will comply with the technology-based and water quality-based effluent limits in this permit.
	13	Please provide an application for a NPDES Individual Permit for the discharge of vehicle and equipment washwater to surface water during the operation of the LNG Terminal. DEQ will use this permit application to develop technology-based and water quality-based effluent limits for this permit if the operations.
	14	Please provide an application for a NPDES Individual Permit for the discharge of vehicle and equipment washwater to surface water during the construction and operation of the gas pipeline and all its associated facilities. DEQ will use this permit application to develop technology-based and water quality-based effluent limits for this permit.
	Compliance with Clean Water Act Section 302	DEQ will evaluate compliance with CWA Section 302 upon the receipt of information requested above.
	Compliance with CWA Section 303	In compliance with OAR 340-041-0007(8), please provide an assessment of Pacific Connector Gas Pipeline's compliance with all applicable DEQ-approved Total Maximum Daily Load Implementation Plans or compliance programs for the following:
	15	• United States Department of Agricultural Forest Service Water Quality Restoration Plans and the USDA National Best Management Practices for Water Quality Management on National Forest System Lands (Volume 1: National Core BMP Technical Guide) noted in DEQ's Memorandum of Understanding with the Forest Service. • US Department of Interior Bureau of Land Management's Water Quality Restoration Plans. • Oregon Department of Forestry's Forest Practices Act Program. • Oregon Department of Agriculture's Water Quality Plans. • Coos County Total Maximum Daily Load Implementation Plan. • Douglas County Total Maximum Daily Load Implementation Plan. • Jackson County TMDL Implementation Plan. • Klamath County TMDL Implementation Plan. In this compliance assessment, please also note all the support documents such as design manuals, guidance documents, road permits etc. that PCGP will follow when complying with these Implementation Plans.
	16	In addition, please identify all proposed amendments to federal land and resource management plans that would necessitate amendments to current Forest Service, Bureau of Land Management, or Bureau of Reclamation Total

	17 18 19	Maximum Daily Load Implementation Plans covering the pipeline's construction and operation. Federal Water Quality Restoration Plans represent the Forest Service's and BLM's plan for activities on these federal lands serving as a source of point and nonpoint source pollutants including pollutants addressed in a Total Maximum Daily Load. Finally, for determining compliance with TMDL allocations covering federal lands, please provide for DEQ's review and approval all proposed Forest Service, Bureau of Land Management, and Bureau of Reclamation road permits and access grants or right-of-way permits. For determining compliance with TMDL allocations on non-federal lands, please provide for DEQ's review and approval all proposed easements, agreements, and access or right-of-way permits. This compliance assessment must also include a summary of the steps taken to first avoid and then minimize impacts to the Designated Management Agency's riparian buffer protection areas prior to: • Siting Temporary Extra Work Areas for the pipeline construction • Siting of the construction and the permanent right-of-way for the pipeline. DEQ is requesting this information in response to Pacific Connector Gas Pipeline's proposal to locate TEWAs 50 feet from a waterbody and wetland boundary (see page 25 of Resource Report 1 for the gas pipeline). For example, this setback will not comply with the Forest Service's and Bureau of Land Management's riparian buffer protection requirements as presented in their Water Quality Restoration Plans which serve as their TMDL Implementation Plans. In Resource Report 1 noted above, PCGP notes that there are 922.64 acres of TEWAs. Please identify the location of each TEWA that PCGP will locate within one and two potential tree heights away to 50 feet from waters of the state. For streams, please indicate the distance of each TEWA from the ordinary high water mark of the stream or riverine wetland. Additionally, please note the land ownership where each TEWA is located. In addition, on page 58 of Resource Report 1 for the gas pipeline, PCGP indicates that the pipeline – in some places – will impact riparian vegetation while paralleling streams. Specifically, this report notes that the "proposed route will avoid paralleling a waterbody within 15 feet or less, where feasible." In this report, PCGP notes that this placement is consistent with the Section V.B.2.a of FERC's Wetland and Waterbody Procedures. However, 15 feet of riparian buffer would violate DMA riparian buffer protection requirements. Moreover, based on the literature, a 15-foot riparian buffer for thermal regulation of streams may result in thermal gain to the adjacent water body. As result, please identify each segment of the pipeline's construction right-of-way and permanent right-of-way that is parallel to waters of the state and within two site potential tree heights from waters of the state. Please provide the location and a detailed rationale for siting TEWAs closer to streams than authorized by a DMA's riparian buffer protection requirements and when siting sections of the construction and permanent right-of-way. For example, the PCGP's rationale in Resource Report 1 (page 58) for not proposing setbacks larger than 50 feet in Riparian Reserves is that larger setbacks "would render the TEWA useless for the stream crossing." PCGP should justify its proposal for non-standard riparian buffer protections by providing the following information:

	20 21a 21b	• A description of the specific constraints at each site preventing the use of a TEWA in an area. • The specific rationale why the TEWA must be closer to the stream crossing. Without this specific information, DEQ cannot determine that Pacific Connector Gas Pipeline attempted to first avoid and minimize riparian impacts to the maximum extent practicable before seeking to mitigate these impacts. This compliance assessment must also identify other locations where PCGP will not comply with Designated Management Agencies' riparian protection areas when siting the following: • Temporary and Permanent Access Roads, • Staging areas, • Material storage areas, and • Other components (e.g., compressor stations, metering stations) of the pipeline. Please include a detailed justification for seeking alternative riparian buffer protection requirements when siting these facilities within riparian areas. Pacific Connector Gas Pipeline must evaluate the thermal impacts from all noncompliance with DMA riparian protection requirements requested above where PCGP has provided and DEQ has approved the following information: • Detailed information demonstrating it considered all actions to first avoid or then minimize impacts to riparian areas to the maximum extent practicable. • Detail rationale for proposing nonstandard widths for riparian buffer protections. This evaluation must be included in PCGP's Thermal Impacts Assessment noted in the comments below on compliance with state water quality standards.
	22	There is no information presented in Pacific Connector Gas Pipeline's Appendices for Timber Removal and Construction in the Transportation Management Plan (Part 2, Appendix E-8). Please provide the location of the approximately 660 miles of existing public and private roads that PCGP proposes to use to construct the gas pipeline and/or support its operation. In this updated plan, please delineate these existing public and private roads by ownership as follows: • Private road on land zoned for forest use • Private road on land zoned for agricultural use • Private road on land zoned residential/commercial/industrial use by Coos/Douglas/Jackson/Klamath County • Public road owned and operated by Coos/Douglas/Jackson/Klamath County • Public road on the Umpqua/Rogue-Siskiyou/Winema-Fremont National Forest • Public road on land in the Bureau of Land Management Coos Bay District/Roseburg District/Medford District/Klamath Resource Area • Public road on Bureau of Reclamation land

		DEQ will use this information to evaluate compliance with the Section 303 of the Clean Water Act as noted above. 23 There is also no information presented in PCGP's Appendices for Operations and Maintenance in the Transportation Management Plan. Please provide the documentation demonstrating that PCGP inventoried these existing roads to identify necessary maintenance actions and needed improvements to protect water quality prior to their use. This documentation should also include: • The results of the inventory for each road segment and the recommended maintenance prescription for each segment. • The road assessment protocols used (e.g., USDA Forest Service Water/Road Interaction Field Guide) and the evaluation tool (e.g. Geomorphic Road Analysis and Inventory Package) used to evaluate the surface erosion risk, gully risk, landslide risk, and stream crossing failure risk during road use. 24 Please also provide a detailed maintenance and improvement plan for the approximately 660 miles of existing roads. This plan must demonstrate that PCGP will implement all maintenance actions and improvements necessary to protect water quality – identified during the road inventory – prior to road use for pipeline construction or operation. This maintenance and improvement plan must also: • Implement the Designated Management Agencies' DEQ-approved TMDL Implementation Plans. • Comply with maintenance standards, requirements, and/or other design standards developed and used by DMAs to implement these TMDL Implementation Plans. 25 Additionally, please identify the location of all existing roads that PCGP will use to access the gas pipeline during its operation. Please provide a maintenance plan for these existing roads that includes: • A description of the level of use these roads will experience during the pipeline's operation. • A description of the maintenance practices to protect water quality and a schedule for performing these practices and supporting this level of use.
		26 Please provide the location of the propose 25 miles of new Temporary and Permanent Access Roads and the selection criteria used to site these new roads to avoid and minimize impacts to water quality. Please delineate these new roads by land ownership (e.g., private ownership on land zoned for forest use) consistent with the information request noted above. DEQ will need this delineation by land ownership to evaluate compliance with Section 303 of the Clean Water Act. 27 To ensure these roads will not serve as a source of sediment to and hydromodification of waters of the state and as a source of debris flows into streams from road-related landslides, please include the design standards and specifications for constructing these roads including their drainage systems, cut-slopes, and fill-slopes. Please identify the proposed designs to stabilize fillslopes and cutslopes and manage stormwater on new temporary and permanent roads located on the steep slopes (i.e., slopes greater than 30%) and engineering support for these designs. This information is necessary for DEQ to evaluate compliance with the statewide water quality criteria for road

	28	building and maintenance (OAR 340-041-0007)(7) and for ensuring that PCGP uses the highest and best practicable treatment control (OAR 340-041-0007(1). Additionally, please provide detailed best management practices and design standards for DEQ review and approval for decommissioning the Temporary Access Roads.
	Compliance with Clean Water Act Section 306	DEQ will complete its review upon the receipt of information requested above.
	Compliance with Clean Water Act Section 307	DEQ will complete its review upon the receipt of information requested above.
	Compliance with other appropriate requirements of state law 29	DEQ has not completed this review at this time but will consult in the future with other DEQ programs and other state agencies concerning compliance with other state statutory requirements such as: • Oregon Revised Statute 468B.035 and 105 (Enabling Legislation for Implementing the Coastal Zone Amendments and Reauthorization Act) • ORS 783.620 through 640 and 783.990 through 992 (Ballast Water Management Law) • ORS 466.020, 075, 105, and 195 (Hazardous Waste Management Law) • ORS 196.795 through 990 (Removal-Fill Law) • ORS 496.172 – 496.192 (Oregon Threatened and Endangered Species Act) • ORS 496.012, 496.138, and ORS 506.109 o Fish and Wildlife Habitat Mitigation Policy o In-water Timing and In-water Blasting Permits • ORS 509.585 (Fish Passage Requirements) • ORS 498 (Fish Screening) • ORS 497.298 (Scientific Taking Permit) • ORS 537 (Water Rights Law) • ORS 197 (Oregon Land Use Planning Law) • ORS 390.235 (Permits for Removal of Archaeological or Historical Material) • ORS 569 (Weed Control Law) • ORS 527 (Forest Practices Act) At this time, please provide applications for Construction and Demolition Landfill Permits required under Oregon Revised Statute 459.005 through 418 (Solid Waste Management Law) for the several proposed disposal sites associated with the construction or operation of the gas pipeline.
340-048-0042(2)(a)	Potential Alterations to Water quality standards in OAR 340 Division 41 30 31	DEQ is reviewing the Jordan Cove Energy Project's proposed stormwater management plan for the Liquefied Natural Gas Terminal. DEQ will provide comments in another information request. In compliance with OAR 340-041-0007(8), please provide for DEQ review and approval the resource and land management plans, guidance, design standards, design manuals, access permits or grants, and other programs from the U.S. Bureau of Reclamation that Pacific Connector Gas Pipeline will use to protect water quality during the following:

		• Siting Temporary and Permanent Access Roads and the construction/permanent right-of-way on U.S. Bureau of Reclamation land, over BOR water-bearing infrastructure (e.g., canals), or paralleling this infrastructure. • Maintaining both Temporary and Permanent Access Roads for pipeline construction and operation. • Siting other components to necessary to construct and operate such as staging areas, material storage areas, and other components (e.g., compressor stations, metering stations) of the pipeline. • Installing the construction and permanent right-of-way for the gas pipeline. • Operating the permanent right-of-way for the pipeline. Please identify any proposed amendments and changes to existing BOR resource and land management plans and other documents noted that are necessary to construct, use, or maintain access roads and the permanent right-of-way on BOR land.
	32	The scope of work in Pacific Connector Gas Pipeline's August 31, 2017 Thermal Impacts Assessment suggests that PCGP evaluated only stream crossings for their potential to influence or regulate thermal properties of streams. Please indicate if this Thermal Impacts Assessment of the gas pipeline's construction and operation includes the following: • An analysis of the impacts from the 50-foot setbacks from waterbodies in riparian areas currently proposed for the Temporary Extra Work Areas. • An analysis of the impacts from siting the pipeline alignment within riparian areas as close as 15 feet from streams as currently proposed when paralleling these waterbodies. • An analysis of the impacts from siting Temporary and Permanent Access Roads, Staging Areas, material storage area, and other pipeline components (e.g., compressor stations, metering stations) within riparian areas. DEQ is requesting this clarification because the scope of work from the Thermal Impacts Assessment suggests that the estimate of solar loading for stream crossings under both the construction (i.e., 75-95 foot wide) corridor and the permanent (i.e., 30-foot wide) corridor using the Shade-A-Lator tool did not consider the impact of these TEWAs. The use of TEWAs during pipeline construction extends the construction corridor beyond 75 and 95 feet. Currently, the Pacific Connector Gas Pipelines proposes to site TEWAs 50 feet from waterbodies as noted in the comment above. In addition, the scope of work in this assessment does not indicate PCGP evaluated the influence on stream thermal properties when the pipeline's construction and permanent corridor closely parallels streams and comes within 15 feet or less of these streams. For a comprehensive analysis of PCGP's compliance with the temperature standard, PCGP's Thermal Impact Assessment must also evaluate these impacts as well as other impacts (e.g., roads, staging areas etc.) as requested in the comments above on compliance with Section 303 of the Clean Water Act.
	33	In compliance with OAR 340-041-0007(1) and (7), please provide a post-construction stormwater management plan addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for all the road stream crossings that Cove Energy Project and Pacific Connector Gas Pipeline will: • Replace or improve to construct and/or operate the gas pipeline and

		• Result in an increase in impervious surface area during the replacement/improvement process. This information is necessary (see OAR 340-048-0042(2)(a)) to determine whether the stormwater discharge from the pipeline's road stream crossings will contribute to or cause violations of water quality standards.
	34	In compliance with OAR 340-041-0007(1) and (7), please provide a post-construction stormwater management plan addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for all stream crossings for the pipeline. The focus of this plan should be the drainage area for the right-of-way approaches that discharge stormwater into the stream crossing. To ensure compliance with OAR 340-048-0042(2)(a), please evaluate if the discharge from the pipeline's permanent 30 foot right-of-way at all stream crossings for the pipeline will contribute to or cause violations of water quality standards. In compliance with OAR 340-048-0042(2)(a), please propose the analytical model(s) (e.g., X-DRAIN) that Pacific Connector Gas Pipeline will use to evaluate if the stormwater discharge from the permanent 30 foot right-of-way with its 10 feet of compacted soil overlying the gas pipeline will contribute to or cause violations of water quality standards. In compliance with OAR 340-041-0002(1), this evaluation must also consider the impact of the change in stormwater volume discharged to receiving waters from the vegetation conversion (i.e., from forest canopy to herbaceous vegetation) during pipeline construction. The evaluation of this impact is necessary to determine if pipeline's permanent right-of-way will cause bed and bank erosion and, therefore, violate Oregon's biocriteria water quality standard (i.e., OAR 340-041-0011).
	35	In compliance with OAR 340-041-0007(1) and (7), please provide a post-construction stormwater management plan addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for the 30-foot permanent right-of-way for the approximately 117 miles of the proposed pipeline right-of-way traversing steeps slopes (i.e., slopes greater than 30%). This information is necessary before Pacific Connector Gas Pipeline, in compliance with OAR 340-048-0042(2)(a), can determine whether the discharge from the pipeline right-of-way will contribute to or cause violations of water quality standards. The information provided in PCGP's documents (e.g., 401 Application Submittal, drafts of Resource Reports) – made available to DEQ – only provides generic diagrams and erosion controls practices. DEQ can find no information on PCGP's field investigations or remote sensing for these areas to evaluate slope stability when siting the pipeline alignment. DEQ can find no information on the specific designs and practices that PCGP will use on cutslopes and fillslopes located on these steep slopes. In developing this plan in compliance with OAR 340-041-0007(1) and (7), please provide information on the designs and engineering support for these designs for the permanent controls Pacific Connector Gas Pipeline proposes to stabilize cut-slopes and fill slopes for the right-of-way sited along the steep slopes. The purpose of these controls is to prevent sediment discharge in stormwater and debris flows from landslides discharging into streams. Please note these on the post-construction stormwater plan in the information request above. Additionally, please identify where the 117 miles of proposed pipeline noted above coincide with the 94 miles of the proposed pipeline that would be located in soils that PCGP has identified as having a high or severe erosion potential.

		Please provide the designs and engineering support for these designs for the permanent controls in these areas of high/severe erosion potential and steep slopes. In compliance with OAR 340-041-0007(1) and (7), the engineering support must indicate that these permanent controls are sufficient to: • Manage stormwater to prevent erosion on the permanent right-of-way, its cut-slope, and its fill-slope. • Prevent debris flows into streams from landslides from cut-slope and fill-slope failures. On the post-construction stormwater management plan requested above, please also provide the location for these controls along the 117 miles of pipeline on steep slopes (>30%).
	36	In compliance with OAR 340-041-0007(1) and (7), please provide post-construction stormwater management plans for the proposed 25 miles of new permanent and temporary roads addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines. This information is required before Pacific Connector Gas Pipeline can determine whether the discharge from these new roads will contribute to or cause violations of water quality standards. In compliance with OAR 340-048-0042(2)(a), please propose the analytical model(s) (e.g., X-DRAIN) that Pacific Connector Gas Pipeline will use to evaluate if the stormwater discharge from these 25 miles of proposed new roads will contribute to or cause violations of water quality standards.
	37	Please provide an evaluation of compliance with water quality standards if Jordan Cove Energy Project and Pacific Connector Gas Pipeline will use dredged material in the construction of facilities in uplands and drainage from this dredge material will discharge to waters of the state. This request is to expand upon the Portland Sediment Evaluation Team's assessment (PSET Letters, January 19, 2016) that considered these constructed upland facilities to be outside federal Clean Water Act jurisdiction for the dredged material suitability determination. However, upland constructed facilities using dredged material are not outside the effects considered in a 401 Water Quality Certification of a FERC application for the construction of a gas pipeline.
	38	Please provide a post-construction stormwater management plans addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for North Point Workforce Housing Project noted in the Part 1, Section 404 Permit Application, Attachment F, Portland Sediment Evaluation Team Letters, Section 404 Permit Application. (If this site is not going to be used for the North Point Workforce Housing, please provide the post-construction stormwater plans for the proposed uses.) In addition, please provide the results of the Phase II environmental assessments evaluating the potential for contaminated soils summarized in the "FEIS, Section 4.3.1.3 (Soil Limitations) as noted in these PSET Letters.
	39	The 401 Water Quality Submittal package provides insufficient information concerning the dredging operations for the Marine Slip, Access Channel, and Material Offloading Facility. DEQ used a copy of Resource Report 1 (Section 1.5.5.2) for the development of an Environmental Impact Statement to obtain general information on the dredging operation. To direct the reader to additional information, this resource report references to the Dredge Material Management Plan and Resource Report 7 (Section 7.3.2.5). These two additional references provide few details regarding the water pollution control practices in the Marine Slip and Access Channel dredging operations. In compliance with OAR 340-041-0007(1) and -0036, please provide for DEQ review and approval a detailed pollution control plan for constructing the Access Channel and Marine Slip that provides at least the following information:

	40	• A detailed description of the sequencing of all construction dredging activities associated with the in-water Marine Slip construction, Access Channel construction, and Material Offloading Facility construction. • A site map of these construction actions and location of all structural controls to protect water quality. The site maps must include the following information: o A delineation of the areas in the Marine Slip that Jordan Cove will dry excavate and dredge. ▪ Please include the pollution controls for the dry excavation activities in response to the request above for an Erosion and Sediment Control Plan for a NPDES 1200-C Permit Application. o The location of the natural earthen berm separating the upland area of the Marine Slip that Jordan Cove will dry excavate from the remaining portion of the Marine Slip adjacent to the bay that Jordan Cove will dredge. o The location of the in-water dredging for the Access Channel and Material Offloading Facility. o The location of the slurry/hydraulic transport pipeline(s) for the transportation of the dredged material. o The location of all containment systems and/or spill response materials.
	41	• A construction dredging plan providing the following: o Dredging schedule for the Marine Slip, Access Channel, and Material Offloading Facility. o Type (e.g., cutter-suction dredging) and number of dredging plants that Jordan Cove will use during the dredging of the Marine Slip, Access Channel, and the Material Offloading Facility. o A description of water pollution controls (operational controls, structural such as floating turbidity curtain etc.) that Jordan Cove will use in dredging and transporting dredged material. o Detailed spill response procedures including all emergency shut-off procedures and procedures for a spill associated with the hydraulic transport pipeline. o A description of all operational and structural water pollution controls for breaching and removing the natural earthen berm noted in Section 1.5.5.4 of the Jordan Cove's Resource Report 1. o A dredging monitoring plan for DEQ review and approval to evaluate the effectiveness of all proposed controls.
	42	• A maintenance dredging plan providing the following: o A site map containing the following: ▪ The location of all areas Jordan Cove will dredge. ▪ The location of the slurry/hydraulic transport pipeline(s) for the transportation of the dredged material. ▪ The location of all containment systems and/or spill response materials. o Dredging schedule. o Type (e.g., cutter-suction dredging) and number of dredging plants that Jordan Cove will use during the maintenance dredging. o A description of water pollution controls (operational controls, structural controls such as floating turbidity curtain etc.) that Jordan Cove will use and the location of all structural controls to minimize the migration of turbid water from maintenance dredging activities, o Detailed spill response procedures including all emergency shut-off procedures and procedures for a spill associated with the hydraulic transport line. o A dredging monitoring plan for DEQ review and approval to evaluate the effectiveness of all proposed controls.
	43	In compliance with OAR 340-041-0007(1) and -0036, please provide for DEQ review and approval a detailed water pollution control plan presenting all practicable operational and structural control techniques that Jordan Cove

		Energy Project will employ when constructing the Material Offloading Facility east of the opening for the slip at the Liquefied Natural Gas Terminal. Please include in this plan a characterization of the fill material Jordan Cove will use to construct this facility that evaluates this fill material for contamination.
340-048-0042(2)(b)	Existing and potential designated beneficial uses of surface water or groundwater that might be affected by the activity	DEQ will perform this review upon the receipt of information requested elsewhere in this matrix.
340-048-0042(2)(c)	Potential water quality impacts from the use, generation, storage, or disposal of hazardous substances	DEQ will perform this review upon the receipt of information requested elsewhere in this matrix.
340-048-0042(2)(d) 44	Potential modifications of surface water quality or quantity affecting water quality	DEQ will perform this review upon the receipt of information requested above. In addition to these requests for information, please provide to DEQ an application for an Individual Industrial Water Pollution Control Facility Permit for the proposed discharges of the hydrostatic testing wastewater. Please provide the location of each point of discharge. If Jordan Cove Energy Project or Pacific Connector Gas Pipeline expects to discharge washwater to the ground from vehicle and equipment washing, please provide an application for a Water Pollution Control Facility Individual Permit for these discharges. Please provide the location of each point of discharge.
340-048-0042(2)(e) 45	Potential modifications of groundwater quality that might affect surface water quality.	DEQ will perform this review upon the receipt of information requested elsewhere in this matrix. In addition to these requests for information, please provide a copy of the results from the first phase (i.e., desktop data review with maps) of the Shallow Groundwater Study (Revised August 24, 2017 by GeoEngineers) showing suspected locations of shallow groundwater along the pipeline right-of-way. Please expand the maps proposed in this study to include suspected locations of shallow groundwater along the proposed route for the 25 miles of Temporary or Permanent Access Roads. When complete, please provide the results from the implementation of the subsurface exploration plan proposed for phase two of this study with an analysis of how the construction and permanent right-of-way will impact shallow groundwater as well as the construction of any proposed new roads. Moreover, please propose practices for how Pacific Connector Gas Pipeline will avoid, minimize, and, if necessary, mitigate the impacts identified in the Shallow Groundwater Study noted above.

340-048-0042(2)(f)	Potential water quality impacts from the construction of intake, outfall, or other structures associated with the activity.	DEQ will perform this review upon the receipt of information requested elsewhere in this matrix.
340-048-0042(2)(g)	Potential water quality impacts from wastewater discharges.	DEQ will perform this review upon the receipt of information requested elsewhere in this matrix.
340-048-0042(2)(h)	Potential water quality impacts from construction activities.	DEQ will perform this review upon the receipt of information requested elsewhere in this matrix.
340-048-0042(2)(i) 46	Compliance with plans applicable under Section 208 of the CWA.	Please provide signed Land Use Compatibility Statements from Coos, Douglas, Jackson, and Klamath Counties.

ATTACHMENT B

RESPONSES TO SEPTEMBER 7, 2018 ODEQ INFORMATION REQUESTS

The following requests for information were provided to Jordan Cove by ODEQ on September 7, 2018. Responses are provided below. Numbers in parentheses in the headings refer to the comment numbers in the annotated version of the September 7, 2018 ODEQ Additional Information Request Letter in Attachment A.

ODEQ COMMENTS (1, 2):

Application for Certification: Oregon Administrative Rule (OAR) 340-048-0020(2) identifies the minimum requirements for applications to the Oregon Department of Environmental Quality for section 401 water quality certification. Please provide complete responses to the application requirements given in OAR 340-048-0020(2)(a-j). If Jordan Cove has previously submitted portions of this information, please reference the location and include any supplemental or clarifying information, as necessary, to provide complete responses.

Proposed Action: Jordan Cove must provide and update DEQ with a complete and current description of the construction and operation of the proposed Project and the impacts of these actions on affected waterbodies. DEQ recognizes that Jordan Cove may revise project elements during the design process. Jordan Cove must provide DEQ with timely submissions describing changes to the proposed activity that may directly or indirectly affect water quality. Jordan Cove must also specify clearly that it is requesting that DEQ accept these submissions as changes to the proposed activity and consider the effects of the revised action in our section 401 water quality evaluation.

JORDAN COVE RESPONSE:

The Section 404/10 and Section 401 application materials were initially submitted to USACE and ODEQ on October 22, 2017. The application was supplemented with additional water quality-related materials on February 6, 2018 and May 21, 2018. These materials, supplemented with the additional information provided herein, provide a complete description of the proposed Project activities subject to federal permitting and discharges resulting from those activities. If the Project activities subject to federal permitting change in a manner that would affect the resulting discharges, Jordan Cove will notify DEQ accordingly to update the 401 application materials.

ODEQ COMMENT (3):

Submission of Application Information: Jordan Cove's application to DEQ for section 401 water quality certification must provide DEQ with a comprehensive description of the proposed action including all resource reports, maps, electronic data files, and supporting documentation provided to federal agencies from whom Jordan Cove is seeking permits or authorizations. DEQ's certification rules require applicants to file information directly with the Department. For this reason, DEQ does not consider the availability of information on external websites or other sources as a submittal unless the applicant explicitly directs DEQ to obtain application materials from these sources.

JORDAN COVE RESPONSE:

The 404-10/401 application materials submitted to USACE and DEQ on October 22, 2017, February 6, 2018 and May 21, 2018, and as supplemented with the additional information herein, include a complete description of the Project activities subject to federal permitting that may result in a discharge. To the extent information is available from other sources, we will provide links to DEQ to access such information.

ODEQ COMMENT (4, 5):

Water Quality Standards: Oregon's water quality standards consist of beneficial uses, numeric and narrative criteria developed to support these uses, and an antidegradation policy that prohibits an activity from further degrading water quality. Applicants for water quality certification must provide sufficient information to demonstrate the activity will comply with Oregon water quality standards (OAR 340-048-0020(g)).

Provide information to demonstrate how the Project will comply with the water quality standards found in OAR 340 Division 041. For project activities that do not affect State waters, note how the Project will not violate applicable standards. For project activities that do impact State waters, note how Jordan Cove is proposing to mitigate, reduce, or prevent impacts so as to ensure the Project, as proposed, does not violate applicable water quality standards. Project impacts should be assessed in terms of direct, indirect, and cumulative effects of the activity on state water quality.

JORDAN COVE RESPONSE:

The JCEP 401 Water Quality Memorandum (Part 1) and PCGP 401 Water Quality Summary Table (Part 2, Appendix A) in the application specifically address the Project's compliance with Oregon water quality standards.

ODEQ COMMENT (6):

Please provide a NPDES 1200-C Permit Application demonstrating that land disturbing activities associated with the construction of Jordan Cove Energy Project's Liquefied Natural Gas Terminal as well as the following:

- *Land disturbing activities associated with the dry excavated portion of this terminal's Marine Slip,*
- *Land disturbing activities associated with all offsite project areas associated with this terminal and its construction including those areas described in Section 5.3 of this terminal's stormwater management plan (Part 1, Attachment A3).*
- *Land disturbing activities associated with the dry excavated portion of this terminal's Marine Slip,*
- *Land disturbing activities associated with all offsite project areas associated with this terminal and its construction including those areas described in Section 5.3 of this terminal's stormwater management plan (Part 1, Attachment A3).*
- *Land disturbing activities associated with roads used to access this terminal and offsite project areas.*

- *Land disturbing activities associated with any other facilities (staging areas, refueling areas, employee parking etc.) that Jordan Cove Energy Project will use to construct of this terminal.*

DEQ will need to determine if these land disturbing activities will comply with the technology-based effluent limits of this permit. DEQ will also need an erosion and sediment control plan that, for example, addresses Schedule A.12.b.v and other conditions in this permit. For DEQ to evaluate the water quality impacts of the construction process on waters of the state, DEQ needs this information in an erosion and sediment control plan.

JORDAN COVE RESPONSE:

Jordan Cove is currently preparing a 1200-C permit application for the construction and land disturbing activities at the LNG terminal and anticipates submitting the application to ODEQ in Q4 2018.

ODEQ COMMENT (7):

Please provide a NPDES 1200-C Permit Application for land disturbing activities associated with the construction of Pacific Connector's gas pipeline and with the construction of all associated facilities such as communication towers, roads (existing and new), disposal sites, block valve facilities, and compressor stations. DEQ will need to determine if these land disturbing activities will comply with the technology-based effluent limits of this permit. DEQ will also need an erosion and sediment control plan that, for example, addresses Schedule A.12.b.v and other conditions in this permit. For DEQ to evaluate the water quality impacts of the construction process on waters of the state, DEQ needs this information in an erosion and sediment control plan.

JORDAN COVE RESPONSE:

PCGP is currently preparing a 1200-C permit application for the construction and land disturbing activities for the PCGP and anticipates submitting the application to ODEQ in Q4 2018.

ODEQ COMMENT (8):

Please provide a NPDES 1200-A Permit Application demonstrating that the proposed 20 sites to obtain rock for Pacific Connector's gas pipeline construction and maintenance. DEQ will need to determine if these land disturbing activities will comply with the technology-based effluent limits of this permit.

JORDAN COVE RESPONSE:

PCGP plans to procure rock commercially and will not be performing any related activity that requires a 1200-A permit.

ODEQ COMMENT (9):

Please provide a NPDES 1200-A Permit Application demonstrating that the concrete batch plant proposed for the offsite project area referred to as Boxcar Hill in the LNG Terminal's stormwater management plan (Section 5.3, page 19). DEQ will need to

determine if rock quarries will operate in compliance with the technology-based effluent limits of this permit.

JORDAN COVE RESPONSE:

JCEP's construction contractor, KBJ, will obtain a 1200-A permit application for the planned concrete batch plan at Boxcar Hill prior to commencing operation of the batch plant.

ODEQ COMMENT (10, 11, 13):

Please provide a NPDES Individual Permit Application for the LNG Terminal's two domestic wastewater facilities discharging to surface water. DEQ will use the information in this permit application to develop a discharge permit containing technology-based and water quality-based effluent limits associated with this permit.

Please provide a NPDES Individual Permit Application for discharges of non-contact cooling wastewater discharged from Liquefied Natural Gas carriers using the Marine Slip at the LNG Terminal. DEQ will use this permit application to develop a discharge permit containing technology-based and water quality-based effluent limits.

Please provide an application for a NPDES Individual Permit for the discharge of vehicle and equipment washwater to surface water during the operation of the LNG Terminal. DEQ will use this permit application to develop technology-based and water quality-based effluent limits for this permit if the operations.

JORDAN COVE RESPONSE:

JCEP is currently preparing an application to modify the existing NPDES Permit No. 101499 to address the discharges noted above and anticipates submitting the application to ODEQ in Q4 2018. The nature of the proposed effluent is detailed in the Discharge Characterization Memo issued to ODEQ on May 25, 2018.

ODEQ COMMENT (12):

If the discharge from wastewater treatment plants proposed for the LNG Terminal has a design flow capacity of 1 million gallons per day or more or requires pretreatment under 40 CFR §403 please provide a NPDES 1200-Z Permit Application demonstrating that the Terminal's stormwater management plan will comply with the technology-based and water quality-based effluent limits in this permit.

JORDAN COVE RESPONSE:

JCEP included a Stormwater Management Plan to ODEQ in the February 6, 2018 Water Quality Package (Part 1, Appendix D).

JCEP is currently preparing a 1200-Z permit application for the LNG terminal and anticipates submitting to ODEQ in Q4 2018.

ODEQ COMMENT (14):

Please provide an application for a NPDES Individual Permit for the discharge of vehicle and equipment washwater to surface water during the construction and operation of the gas pipeline and all its associated facilities. DEQ will use this permit application to develop technology-based and water quality-based effluent limits for this permit.

JORDAN COVE RESPONSE:

PCGP is currently preparing a 1200-C permit application for the construction of the pipeline and anticipates submitting the application to ODEQ in Q4 2018. The Erosion and Sediment Control Plan contained within the 1200-C application will include BMPs detailing how vehicle and equipment will be cleaned and any washwater flow into any waterbody, wetland, or irrigation canal/ditch will be minimized.

ODEQ COMMENT (15):

In compliance with OAR 340-041-0007(8), please provide an assessment of Pacific Connector Gas Pipeline's compliance with all applicable DEQ-approved Total Maximum Daily Load Implementation Plans or compliance programs for the following:

- *United States Department of Agricultural Forest Service Water Quality Restoration Plans and the USDA National Best Management Practices for Water Quality Management on National Forest System Lands (Volume 1: National Core BMP Technical Guide) noted in DEQ's Memorandum of Understanding with the Forest Service.*
- *US Department of Interior Bureau of Land Management's Water Quality Restoration Plans.*
- *Oregon Department of Forestry's Forest Practices Act Program.*
- *Oregon Department of Agriculture's Water Quality Plans.*
- *Coos County Total Maximum Daily Load Implementation Plan.*
- *Douglas County Total Maximum Daily Load Implementation Plan.*
- *Jackson County TMDL Implementation Plan.*
- *Klamath County TMDL Implementation Plan.*

In this compliance assessment, please also note all the support documents such as design manuals, guidance documents, road permits etc. that PCGP will follow when complying with these Implementation Plans.

JORDAN COVE RESPONSE:

Appendix A in Part 2 of the 401 Water Quality Package submitted to DEQ on February 6, 2018 details PCGP's compliance with applicable water quality standards, identifies where plans have been developed for the Pipeline to ensure compliance with those standards, including compliance with TMDLs on federal and non-federal lands. Additionally, compliance with federal land management agency water quality plans will be ensured as part of the issuance of a Right-of-Way Grant from the Bureau of Land Management, which will condition the ROW on compliance with the applicable water quality plans.

ODEQ COMMENT (16):

In addition, please identify all proposed amendments to federal land and resource management plans that would necessitate amendments to current Forest Service, Bureau of Land Management, or Bureau of Reclamation Total Maximum Daily Load Implementation Plans covering the pipeline's construction and operation. Federal Water Quality Restoration Plans represent the Forest Service's and BLM's plan for activities on these federal lands serving as a source of point and nonpoint source pollutants including pollutants addressed in a Total Maximum Daily Load.

JORDAN COVE RESPONSE:

To the best of our knowledge, none of the applicable federal agencies have any current plans to amend the federal land and resource management plans with respect to TMDLs. In the Notice of Intent to prepare an EIS, which was published in the Federal Register on June 15, 2017, the United States Forest Service (USFS) provided a preliminary list of the plan amendments that would be required for the Project, one of which applies to riparian areas. *See* 82 Fed. Reg. 27473 (June 15, 2017).

As listed in the FERC Notice of Intent, those proposed amendments include:

Amendment of the Umpqua National Forest LRMP:

- UNF-1 – Project-Specific Amendment to Allow Removal of Effective Shade on Perennial Streams.
- UNF-2 – Project-Specific Amendment to Allow the Pipeline in Riparian Areas.

Amendment of the Rogue River National Forest (RRNF) LRMP:

- RRNF-5 – Project-Specific Amendment to Allow the Pipeline in Management Strategy 26, Restricted Riparian Areas.

Amendment of the Winema National Forest LRMP:

- WNF-5 – Project-Specific Amendment to Allow the Pipeline in Management Area 8, Riparian Area.

The Bureau of Land Management (BLM) has reviewed the Proposed Route and has determined that plan amendments would be required to make provision for the Pipeline where it does not conform to the approved RMPs. The BLM has identified the four following possible amendment pathways for consideration in the FERC EIS.

- Make changes to land use allocations along the Pipeline route;
- Make changes to the management direction for LSRs specifically where the route crosses LSRs, for the Pipeline only;
- Consider designating a utility corridor coinciding with the Pipeline route;
- Make changes to the right-of-way Avoidance Areas specifically where the Pipeline would cross these areas.

The BLM has indicated that additional pathways may be identified through scoping or further analysis. In addition, the BLM has identified the need to make minor design modifications to assure conformance with the approved plans.

As provided in Appendix A to Part 2 of the JPA, there are 4 streams proposed to be dry open cut on federal lands:

BLM:

- Middle Creek (Coos Bay District) at MP 27.04 listed as Cat 5 for Temperature
- Lick Creek (Medford District) at MP 140.27 listed as Cat 4A for Fecal Coliform and Cat 5 for Dissolved Oxygen and Biological Criteria

Forest Service:

- South Fork Little Butte Creek (Rogue River-Siskiyou NF) at MP 162.45 listed as Cat 4A for Fecal Coliform and Temperature, Cat 4C for Habitat Modification and Flow Modification, and Cat 5 for Sedimentation
- Spencer Creek (Fremon-Winema NF) at MP 171.07 listed as Cat 4C for Habitat Modification and Flow Modification and Cat 5 for Temperature, Biological Criteria, and Sedimentation

Appendix A to Part 2 of the JPA details the BMPs and plans PCGP will implement to avoid and minimize effects to water quality during waterbody crossings, and the analysis is organized by water quality criteria, potential pipeline effects, proposed BMPs, and the location of the BMPs and plans within the JPA.

ODEQ COMMENT (17):

Finally, for determining compliance with TMDL allocations covering federal lands, please provide for DEQ's review and approval all proposed Forest Service, Bureau of Land Management, and Bureau of Reclamation road permits and access grants or right-of-way permits.

JORDAN COVE RESPONSE:

PCGP has submitted an application to the BLM, Forest Service and Bureau of Reclamation for issuance of a right-of-way grant across federal lands. The application includes a plan of development, which contains the BMPs, and commitments that PCGP will adhere to during and after construction. PCGP will provide a revised table A.2-6 from Appendix A.2 to Resource Report 2 (Attachment C of the PCGP JPA package) that will identify best management practices for waterbodies crossed by or within 100 feet of the Pipeline. PCGP anticipates submitting the revised table to ODEQ in Q4 2018.

ODEQ COMMENT (18):

For determining compliance with TMDL allocations on non-federal lands, please provide for DEQ's review and approval all proposed easements, agreements, and access or right-of-way permits.

JORDAN COVE RESPONSE:

PCGP is currently working with private stakeholders to secure proposed easements, agreements and access or right-of-way permits. PCGP will provide a revised table A.2-6 from Appendix A.2 to Resource Report 2 (Attachment C of the PCGP JPA package) that will identify best management practices for waterbodies crossed by or within 100 feet of the pipeline. PCGP anticipates submitting the revised table to ODEQ in Q4 2018. Private agreements are not prerequisites for issuing a 401 Water Quality Certification.

ODEQ COMMENT (19, 20, 21a, 21b):

This compliance assessment must also include a summary of the steps taken to first avoid and then minimize impacts to the Designated Management Agency's riparian buffer protection areas prior to:

- *Siting Temporary Extra Work Areas for the pipeline construction*
- *Siting of the construction and the permanent right-of-way for the pipeline.*

DEQ is requesting this information in response to Pacific Connector Gas Pipeline's proposal to locate TEWAs 50 feet from a waterbody and wetland boundary (see page 25 of Resource Report 1 for the gas pipeline). For example, this setback will not comply with the Forest Service's and Bureau of Land Management's riparian buffer protection requirements as presented in their Water Quality Restoration Plans which serve as their TMDL Implementation Plans.

In Resource Report 1 noted above, PCGP notes that there are 922.64 acres of TEWAs. Please identify the location of each TEWA that PCGP will locate within one and two potential tree heights away to 50 feet from waters of the state. For streams, please indicate the distance of each TEWA from the ordinary high water mark of the stream or riverine wetland. Additionally, please note the land ownership where each TEWA is located.

In addition, on page 58 of Resource Report 1 for the gas pipeline, PCGP indicates that the pipeline – in some places – will impact riparian vegetation while paralleling streams. Specifically, this report notes that the "proposed route will avoid paralleling a waterbody within 15 feet or less, where feasible." In this report, PCGP notes that this placement is consistent with the Section V.B.2.a of FERC's Wetland and Waterbody Procedures. However, 15 feet of riparian buffer would violate DMA riparian buffer protection requirements. Moreover, based on the literature, a 15-foot riparian buffer for thermal regulation of streams may result in thermal gain to the adjacent water body. As result, please identify each segment of the pipeline's construction right-of-way and permanent right-of-way that is parallel to waters of the state and within two site potential tree heights from waters of the state.

Please provide the location and a detailed rationale for siting TEWAs closer to streams than authorized by a DMA's riparian buffer protection requirements and when siting sections of the construction and permanent right-of-way. For example, the PCGP's rationale in Resource Report 1 (page 58) for not proposing setbacks larger than 50 feet in Riparian Reserves is that larger setbacks "would render the TEWA useless for the stream

crossing." PCGP should justify its proposal for non-standard riparian buffer protections by providing the following information:

- *A description of the specific constraints at each site preventing the use of a TEWA in an area.*
- *The specific rationale why the TEWA must be closer to the stream crossing.*

Without this specific information, DEQ cannot determine that Pacific Connector Gas Pipeline attempted to first avoid and minimize riparian impacts to the maximum extent practicable before seeking to mitigate these impacts.

This compliance assessment must also identify other locations where PCGP will not comply with Designated Management Agencies' riparian protection areas when siting the following:

- *Temporary and Permanent Access Roads,*
- *Staging areas,*
- *Material storage areas, and*
- *Other components (e.g., compressor stations, metering stations) of the pipeline.*

Please include a detailed justification for seeking alternative riparian buffer protection requirements when siting these facilities within riparian areas.

Pacific Connector Gas Pipeline must evaluate the thermal impacts from all noncompliance with DMA riparian protection requirements requested above where PCGP has provided and DEQ has approved the following information:

- *Detailed information demonstrating it considered all actions to first avoid or then minimize impacts to riparian areas to the maximum extent practicable.*
- *Detail rationale for proposing nonstandard widths for riparian buffer protections.*

This evaluation must be included in PCGP's Thermal Impacts Assessment noted in the comments below on compliance with state water quality standards.

JORDAN COVE RESPONSE:

PCGP will provide a response to ODEQ regarding this comment in Q4 of 2018.

ODEQ COMMENT (22):

There is no information presented in Pacific Connector Gas Pipeline's Appendices for Timber Removal and Construction in the Transportation Management Plan (Part 2, Appendix E-8). Please provide the location of the approximately 660 miles of existing public and private roads that PCGP proposes to use to construct the gas pipeline and/or support its operation. In this updated plan, please delineate these existing public and private roads by ownership as follows:

- *Private road on land zoned for forest use*
- *Private road on land zoned for agricultural use*

- *Private road on land zoned residential/commercial/industrial use by Coos/Douglas/Jackson/Klamath County*
- *Public road owned and operated by Coos/Douglas/Jackson/Klamath County*
- *Public road on the Umpqua/Rogue-Siskiyou/Winema-Fremont National Forest*
- *Public road on land in the Bureau of Land Management Coos Bay District/Roseburg District/Medford District/Klamath Resource Area*
- *Public road on Bureau of Reclamation land*

DEQ will use this information to evaluate compliance with the Section 303 of the Clean Water Act as noted above.

JORDAN COVE RESPONSE:

Maps of access roads proposed for use for construction of the pipeline are included in Appendix B to Part 2 of the JPA (see pdf page 183 and 661 – please note that the same set of maps are provided twice, as their own attachment and as an appendix to the overall Project Description). A list of the roads is included in Table A.8-1 on pdf page 143.

Table A.2-6 is in Appendix A.2 to Resource Report 2 (Attachment C of the PCGP JPA package) lists waterbodies crossed by or within 100 feet of temporary and permanent access roads or existing access roads where improvements will be required prior to use. PCGP will provide a revised table A.2-6 is in Appendix A.2 to Resource Report 2 (Attachment C of the PCGP JPA package) that will identify best management practices for waterbodies crossed by or within 100 feet of temporary and permanent access roads. PCGP anticipates submitting the revised table to ODEQ in Q4 2018.

ODEQ COMMENT (23, 24, 25):

There is also no information presented in PCGP's Appendices for Operations and Maintenance in the Transportation Management Plan. Please provide the documentation demonstrating that PCGP inventoried these existing roads to identify necessary maintenance actions and needed improvements to protect water quality prior to their use. This documentation should also include:

- *The results of the inventory for each road segment and the recommended maintenance prescription for each segment.*
- *The road assessment protocols used (e.g., USDA Forest Service Water/Road Interaction Field Guide) and the evaluation tool (e.g. Geomorphic Road Analysis and Inventory Package) used to evaluate the surface erosion risk, gully risk, landslide risk, and stream crossing failure risk during road use.*

Please also provide a detailed maintenance and improvement plan for the approximately 660 miles of existing roads. This plan must demonstrate that PCGP will implement all maintenance actions and improvements necessary to protect water quality – identified during the road inventory – prior to road use for pipeline construction or operation. This maintenance and improvement plan must also:

- *Implement the Designated Management Agencies' DEQ-approved TMDL Implementation Plans.*
- *Comply with maintenance standards, requirements, and/or other design standards developed and used by DMAs to implement these TMDL Implementation Plans.*

Additionally, please identify the location of all existing roads that PCGP will use to access the gas pipeline during its operation. Please provide a maintenance plan for these existing roads that includes:

- *A description of the level of use these roads will experience during the pipeline's operation.*
- *A description of the maintenance practices to protect water quality and a schedule for performing these practices and supporting this level of use.*

JORDAN COVE RESPONSE:

PCGP will provide a revised table A.2-6 is in Appendix A.2 to Resource Report 2 (Attachment C of the PCGP JPA package) that will identify best management practices for waterbodies crossed by or within 100 feet of temporary and permanent access roads. PCGP anticipates submitting the revised table to ODEQ in Q4 2018.

PCGP is currently working with USFS, BLM, and BOR to provide the necessary information for the federal agencies to issue right-of-way grants for federal lands. An operations and maintenance plan will be prepared if required by the agencies during that process.

Outside of federal lands, PCGP's use of public roads are not subject to federal licensing or permitting, and therefore no certification is required under Section 401. PCGP is not required under state law to prepare operations and maintenance plans to use public roads. PCGP anticipates employing less than 15 operational staff. The operational traffic will be incidental to the existing traffic on existing roads.

ODEQ COMMENT (26):

Please provide the location of the proposed 25 miles of new Temporary and Permanent Access Roads and the selection criteria used to site these new roads to avoid and minimize impacts to water quality.

Please delineate these new roads by land ownership (e.g., private ownership on land zoned for forest use) consistent with the information request noted above. DEQ will need this delineation by land ownership to evaluate compliance with Section 303 of the Clean Water Act.

JORDAN COVE RESPONSE:

Appendix B in Part 2 (Table 1.2-2 on pdf page 329) provides a table of the ten (10) temporary and 15 permanent access roads by milepost and landownership. There are not 25 miles of Temporary and Permanent access roads; the roads total approximately 2.2 miles (and 5.96 acres), not 25 miles as stated in the comment. They are shown on the maps included in the PCGP JPA (beginning on pdf page 660). Table 2.2-5 (pdf page

1104) lists those temporary and permanent access roads within 100 feet of waterbodies, all of which are located on private lands. Four waterbodies will be crossed by permanent access roads, and three of those waterbodies are ditches. Appendix A in Part 2 of the 401 Water Quality Package issued to DEQ on February 6, 2018 outlines PCGP's compliance with all applicable water quality standards and where plans have been developed for the Pipeline to ensure compliance with those standards, including compliance with requirement for TMDLs on federal and non-federal lands.

Table A.2-6 is in Appendix A.2 to Resource Report 2 (Attachment C of the PCGP JPA package) lists waterbodies crossed by or within 100 feet of temporary and permanent access roads.

ODEQ COMMENT (27, 28):

To ensure these roads will not serve as a source of sediment to and hydromodification of waters of the state and as a source of debris flows into streams from road-related landslides, please include the design standards and specifications for constructing these roads including their drainage systems, cut-slopes, and fill-slopes. Please identify the proposed designs to stabilize fillslopes and cutslopes and manage stormwater on new temporary and permanent roads located on the steep slopes (i.e., slopes greater than 30%) and engineering support for these designs. This information is necessary for DEQ to evaluate compliance with the statewide water quality criteria for road building and maintenance (OAR 340-041-0007)(7) and for ensuring that PCGP uses the highest and best practicable treatment control (OAR 340-041-0007(1).

Additionally, please provide detailed best management practices and design standards for DEQ review and approval for decommissioning the Temporary Access Roads.

JORDAN COVE RESPONSE:

PCGP will revise table A.2-6 (Appendix A.2 to Resource Report 2 - Attachment C of the PCGP JPA package) to identify best management practices for waterbodies crossed by or within 100 feet of temporary and permanent access roads. PCGP anticipates submitting the revised table to ODEQ in Q4 2018.

Best management practices for construction of temporary and permanent access roads are contained in the Erosion Control and Revegetation Plan in Attachment A, Appendix B.1 of the PCGP JPA package.

ODEQ COMMENT (29):

DEQ has not completed this review at this time but will consult in the future with other DEQ programs and other state agencies concerning compliance with other state statutory requirements such as:

- *Oregon Revised Statute 468B.035 and 105 (Enabling Legislation for Implementing the Coastal Zone Amendments and Reauthorization Act)*
- *ORS 783.620 through 640 and 783.990 through 992 (Ballast Water Management Law)*

- *ORS 466.020, 075, 105, and 195 (Hazardous Waste Management Law)*
- *ORS 196.795 through 990 (Removal-Fill Law)*
- *ORS 496.172 – 496.192 (Oregon Threatened and Endangered Species Act)*
- *ORS 496.012, 496.138, and ORS 506.109*
  - *Fish and Wildlife Habitat Mitigation Policy*
  - *In-water Timing and In-water Blasting Permits*
- *ORS 509.585 (Fish Passage Requirements)*
- *ORS 498 (Fish Screening)*
- *ORS 497.298 (Scientific Taking Permit)*
- *ORS 537 (Water Rights Law)*
- *ORS 197 (Oregon Land Use Planning Law)*
- *ORS 390.235 (Permits for Removal of Archaeological or Historical Material)*
- *ORS 569 (Weed Control Law)*
- *ORS 527 (Forest Practices Act)*

At this time, please provide applications for Construction and Demolition Landfill Permits required under Oregon Revised Statute 459.005 through 418 (Solid Waste Management Law) for the several proposed disposal sites associated with the construction or operation of the gas pipeline.

JORDAN COVE RESPONSE:

JCEP and PCGP are actively working with the respective agencies to obtain approvals outlined to the extent required by law. There are no landfills associated with the PCGP, therefore, ORS 459.005 is not applicable.

ODEQ COMMENT (30):

DEQ is reviewing the Jordan Cove Energy Project's proposed stormwater management plan for the Liquefied Natural Gas Terminal. DEQ will provide comments in another information request.

JORDAN COVE RESPONSE:

Comment noted.

ODEQ COMMENT (31):

In compliance with OAR 340-041-0007(8), please provide for DEQ review and approval the resource and land management plans, guidance, design standards, design manuals, access permits or grants, and other programs from the U.S. Bureau of Reclamation that Pacific Connector Gas Pipeline will use to protect water quality during the following:

- *Siting Temporary and Permanent Access Roads and the construction/permanent right-of-way on U.S. Bureau of Reclamation land, over BOR water-bearing infrastructure (e.g., canals), or paralleling this infrastructure.*
- *Maintaining both Temporary and Permanent Access Roads for pipeline construction and operation.*
- *Siting other components to necessary to construct and operate such as staging areas, material storage areas, and other components (e.g., compressor stations, metering stations) of the pipeline.*

- *Installing the construction and permanent right-of-way for the gas pipeline.*
- *Operating the permanent right-of-way for the pipeline.*

Please identify any proposed amendments and changes to existing BOR resource and land management plans and other documents noted that are necessary to construct, use, or maintain access roads and the permanent right-of-way on BOR land.

JORDAN COVE RESPONSE:

Please refer to the Response to #17. The Klamath Project Facilities Crossing Plan (Appendix E.3 to Part 2 of JPA), which is specific to BOR facilities, is under review as part of the POD and, once approved, would be implemented as part of the Right-of-Way Grant. PCGP is currently working with BOR to provide the necessary information for the federal agencies to issue right-of-way grants for federal lands. An operations and maintenance plan will be prepared if required by the agencies during that process. Proposed amendments and changes to existing BOR resource and land management plans are not prerequisites for issuing a 401 Water Quality Certification.

ODEQ COMMENT (32):

The scope of work in Pacific Connector Gas Pipeline's August 31, 2017 Thermal Impacts Assessment suggests that PCGP evaluated only stream crossings for their potential to influence or regulate thermal properties of streams. Please indicate if this Thermal Impacts Assessment of the gas pipeline's construction and operation includes the following:

- *An analysis of the impacts from the 50-foot setbacks from waterbodies in riparian areas currently proposed for the Temporary Extra Work Areas.*
- *An analysis of the impacts from siting the pipeline alignment within riparian areas as close as 15 feet from streams as currently proposed when paralleling these waterbodies.*
- *An analysis of the impacts from siting Temporary and Permanent Access Roads, Staging Areas, material storage area, and other pipeline components (e.g., compressor stations, metering stations) within riparian areas.*

DEQ is requesting this clarification because the scope of work from the Thermal Impacts Assessment suggests that the estimate of solar loading for stream crossings under both the construction (i.e., 75-95 foot wide) corridor and the permanent (i.e., 30-foot wide) corridor using the Shade-A-Lator tool did not consider the impact of these TEWAs. The use of TEWAs during pipeline construction extends the construction corridor beyond 75 and 95 feet. Currently, the Pacific Connector Gas Pipelines proposes to site TEWAs 50 feet from waterbodies as noted in the comment above.

In addition, the scope of work in this assessment does not indicate PCGP evaluated the influence on stream thermal properties when the pipeline's construction and permanent corridor closely parallels streams and comes within 15 feet or less of these streams. For a comprehensive analysis of PCGP's compliance with the temperature standard, PCGP's Thermal Impact Assessment must also evaluate these impacts as well as other impacts

(e.g., roads, staging areas etc.) as requested in the comments above on compliance with Section 303 of the Clean Water Act.

JORDAN COVE RESPONSE:

The most recent version of the Draft Thermal Impact Assessment plan was provided to ODEQ as Attachment C / Appendix Q.2 of 404-10 JPA Part 2 provided as Appendix B of 2/6/18 401 WQ Package. PCGP is assessing all areas that may fall within riparian areas (one site potential tree height) that are outside the stream crossings listed in the Thermal Impact Assessment. Following receipt of ODEQ's comments on the Thermal Impacts Assessment, updates or revisions to the assessment will be completed at that time.

ODEQ COMMENT (33, 34, 35, 36):

In compliance with OAR 340-041-0007(1) and (7), please provide a post-construction stormwater management plan addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for all the road stream crossings that [Jordan] *Cove Energy Project and Pacific Connector Gas Pipeline will:*

- *Replace or improve to construct and/or operate the gas pipeline and*
- *Result in an increase in impervious surface area during the replacement/improvement process.*

This information is necessary (see OAR 340-048-0042(2)(a)) to determine whether the stormwater discharge from the pipeline's road stream crossings will contribute to or cause violations of water quality standards.

In compliance with OAR 340-041-0007(1) and (7), please provide a post-construction stormwater management plan addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for all stream crossings for the pipeline. The focus of this plan should be the drainage area for the right-of-way approaches that discharge stormwater into the stream crossing.

To ensure compliance with OAR 340-048-0042(2)(a), please evaluate if the discharge from the pipeline's permanent 30 foot right-of-way at all stream crossings for the pipeline will contribute to or cause violations of water quality standards.

In compliance with OAR 340-048-0042(2)(a), please propose the analytical model(s) (e.g., X-DRAIN) that Pacific Connector Gas Pipeline will use to evaluate if the stormwater discharge from the permanent 30 foot right-of-way with its 10 feet of compacted soil overlying the gas pipeline will contribute to or cause violations of water quality standards.

In compliance with OAR 340-041-0002(1), this evaluation must also consider the impact of the change in stormwater volume discharged to receiving waters from the vegetation conversion (i.e., from forest canopy to herbaceous vegetation) during pipeline construction. The evaluation of this impact is necessary to determine if pipeline's

permanent right-of-way will cause bed and bank erosion and, therefore, violate Oregon's biocriteria water quality standard (i.e., OAR 340-041-0011).

In compliance with OAR 340-041-0007(1) and (7), please provide a post-construction stormwater management plan addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for the 30-foot permanent right-of-way for the approximately 117 miles of the proposed pipeline right-of-way traversing steeps slopes (i.e., slopes greater than 30%). This information is necessary before Pacific Connector Gas Pipeline, in compliance with OAR 340-048-0042(2)(a), can determine whether the discharge from the pipeline right-of-way will contribute to or cause violations of water quality standards.

The information provided in PCGP's documents (e.g., 401 Application Submittal, drafts of Resource Reports) – made available to DEQ – only provides generic diagrams and erosion controls practices. DEQ can find no information on PCGP's field investigations or remote sensing for these areas to evaluate slope stability when siting the pipeline alignment. DEQ can find no information on the specific designs and practices that PCGP will use on cutslopes and fillslopes located on these steep slopes. In developing this plan in compliance with OAR 340-041-0007(1) and (7), please provide information on the designs and engineering support for these designs for the permanent controls Pacific Connector Gas Pipeline proposes to stabilize cut-slopes and fill slopes for the right-of-way sited along the steep slopes. The purpose of these controls is to prevent sediment discharge in stormwater and debris flows from landslides discharging into streams. Please note these on the post-construction stormwater plan in the information request above.

Additionally, please identify where the 117 miles of proposed pipeline noted above coincide with the 94 miles of the proposed pipeline that would be located in soils that PCGP has identified as having a high or severe erosion potential. Please provide the designs and engineering support for these designs for the permanent controls in these areas of high/severe erosion potential and steep slopes. In compliance with OAR 340-041-0007(1) and (7), the engineering support must indicate that these permanent controls are sufficient to:

- *Manage stormwater to prevent erosion on the permanent right-of-way, its cut-slope, and its fill-slope.*
- *Prevent debris flows into streams from landslides from cut-slope and fill-slope failures.*

On the post-construction stormwater management plan requested above, please also provide the location for these controls along the 117 miles of pipeline on steep slopes (>30%).

In compliance with OAR 340-041-0007(1) and (7), please provide post-construction stormwater management plans for the proposed 25 miles of new permanent and temporary roads addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines. This information is

required before Pacific Connector Gas Pipeline can determine whether the discharge from these new roads will contribute to or cause violations of water quality standards.

In compliance with OAR 340-048-0042(2)(a), please propose the analytical model(s) (e.g., X-DRAIN) that Pacific Connector Gas Pipeline will use to evaluate if the stormwater discharge from these 25 miles of proposed new roads will contribute to or cause violations of water quality standards.

JORDAN COVE RESPONSE:

The JCEP 401 Water Quality Memorandum (Part 1) and PCGP 401 Water Quality Summary Table (Part 2, Appendix A) in the application specifically address project compliance with Oregon water quality standards.

Details pertaining to post-construction stormwater management for the pipeline are provided in the PCGP Erosion Control and Revegetation Plan (Part 2 Attachment A / Appendix B.1 of 404-10 JPA Part 2 provided as Appendix B of 2/6/18 401 WQ Package). The general location maps showing proposed access roads are referenced in Appendix G.1 to Resource Report 1 (Part 2 Attachment A of 404-10 JPA provided as Part 2 Appendix B of 2/6/18 401 WQ Package, see pdf pages 183 and 661). The waterbodies within 100 feet of existing roads needing improvement are detailed in Table A.2-6 in Appendix A.2 of Resource Report 2 (Part 2 Attachment C / Appendix A.2 of 404-10 JPA provided as Part 2 Appendix B of 2/6/18 401 WQ Package). Table A.2-6 will be updated to include the water quality BMPs for each crossing and provided to ODEQ in Q4 2018.

Further, impacts associated with vegetation removal are detailed in the PCGP Revised Draft Thermal Impact Assessment (Part 2 Attachment C / Appendix Q.2 of 404-10 JPA provided as Part 2 Appendix B of 2/6/18 401 WQ Package).

ODEQ COMMENT (37):

Please provide an evaluation of compliance with water quality standards if Jordan Cove Energy Project and Pacific Connector Gas Pipeline will use dredged material in the construction of facilities in uplands and drainage from this dredge material will discharge to waters of the state. This request is to expand upon the Portland Sediment Evaluation Team's assessment (PSET Letters, January 19, 2016) that considered these constructed upland facilities to be outside federal Clean Water Act jurisdiction for the dredged material suitability determination. However, upland constructed facilities using dredged material are not outside the effects considered in a 401 Water Quality Certification of a FERC application for the construction of a gas pipeline.

JORDAN COVE RESPONSE:

The management of water quality during the construction of the LNG Terminal, APCO 2, and Kentuck, where dredge material characterized in the referenced 2016 PSET letters, will be addressed in respective 1200-C permits. As noted above, JCEP and PCGP are currently preparing respective 1200-C application materials and anticipate submitting applications to DEQ in Q4 2018.

ODEQ COMMENT (38):

Please provide a post-construction stormwater management plans addressing DEQ's Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines for North Point Workforce Housing Project noted in the Part 1, Section 404 Permit Application, Attachment F, Portland Sediment Evaluation Team Letters, Section 404 Permit Application. (If this site is not going to be used for the North Point Workforce Housing, please provide the post-construction stormwater plans for the proposed uses.)

In addition, please provide the results of the Phase II environmental assessments evaluating the potential for contaminated soils summarized in the "FEIS, Section 4.3.1.3 (Soil Limitations) as noted in these PSET Letters.

JORDAN COVE RESPONSE:

The location of workforce housing has changed from the North Spit (a.k.a. APCO Sites 1 and 2) to the South Dunes site to minimize overall project impacts. The nature of existing soil and groundwater conditions for South Dunes has been characterized in a report titled Data Gaps Investigation Report which was provided to ODEQ in August 2018. JCEP is currently preparing a 1200-Z permit application for the LNG terminal which will include South Dunes and anticipates submitting to ODEQ in Q4 2018.

ODEQ COMMENT (39, 40, 41, 43):

The 401 Water Quality Submittal package provides insufficient information concerning the dredging operations for the Marine Slip, Access Channel, and Material Offloading Facility. DEQ used a copy of Resource Report 1 (Section 1.5.5.2) for the development of an Environmental Impact Statement to obtain general information on the dredging operation. To direct the reader to additional information, this resource report references to the Dredge Material Management Plan and Resource Report 7 (Section 7.3.2.5). These two additional references provide few details regarding the water pollution control practices in the Marine Slip and Access Channel dredging operations. In compliance with OAR 340-041-0007(1) and -0036, please provide for DEQ review and approval a detailed pollution control plan for constructing the Access Channel and Marine Slip that provides at least the following information:

- *A detailed description of the sequencing of all construction dredging activities associated with the in-water Marine Slip construction, Access Channel construction, and Material Offloading Facility construction.*
- *A site map of these construction actions and location of all structural controls to protect water quality. The site maps must include the following information:*
  - *A delineation of the areas in the Marine Slip that Jordan Cove will dry excavate and dredge.*
    - *Please include the pollution controls for the dry excavation activities in response to the request above for an Erosion and Sediment Control Plan for a NPDES 1200-C Permit Application.*

- *The location of the natural earthen berm separating the upland area of the Marine Slip that Jordan Cove will dry excavate from the remaining portion of the Marine Slip adjacent to the bay that Jordan Cove will dredge.*
- *The location of the in-water dredging for the Access Channel and Material Offloading Facility.*
- *The location of the slurry/hydraulic transport pipeline(s) for the transportation of the dredged material.*
- *The location of all containment systems and/or spill response materials.*

- *A construction dredging plan providing the following:*
  - *Dredging schedule for the Marine Slip, Access Channel, and Material Offloading Facility.*
  - *Type (e.g., cutter-suction dredging) and number of dredging plants that Jordan Cove will use during the dredging of the Marine Slip, Access Channel, and the Material Offloading Facility.*
  - *A description of water pollution controls (operational controls, structural such as floating turbidity curtain etc.) that Jordan Cove will use in dredging and transporting dredged material.*
  - *Detailed spill response procedures including all emergency shut-off procedures and procedures for a spill associated with the hydraulic transport pipeline.*
  - *A description of all operational and structural water pollution controls for breaching and removing the natural earthen berm noted in Section 1.5.5.4 of the Jordan Cove's Resource Report 1.*
  - *A dredging monitoring plan for DEQ review and approval to evaluate the effectiveness of all proposed controls.*

In compliance with OAR 340-041-0007(1) and -0036, please provide for DEQ review and approval a detailed water pollution control plan presenting all practicable operational and structural control techniques that Jordan Cove Energy Project will employ when constructing the Material Offloading Facility east of the opening for the slip at the Liquefied Natural Gas Terminal.

Please include in this plan a characterization of the fill material Jordan Cove will use to construct this facility that evaluates this fill material for contamination.

JORDAN COVE RESPONSE:

Additional details regarding the construction of the Marine Slip, Access Channel and Material Offloading Facility is provided in the following areas:

- Construction Methodology: Part 1, Attachment A.1 of the 404-10 Application (included as Appendix M of the 401 Water Quality Package, issued to ODEQ on 2/6/18).
- Dredge Disposal Location at Roseburg Forest Products: Enclosures 19 - 22 of Part 1, Appendix N-5 of the 401 Water Quality Package issued to ODEQ on 2/6/18.
- Section 2.1.1.2, Dredging and Shore Protection at 2-21 - 2-26 of the Applicant Prepared Draft Biological Assessment (APDBA), Submitted 9/14/181:
- Sections 3.5.1.3 and 3.5.4.3, Turbidity Effects from Dredging in Coos Bay on North American Green Sturgeon at 3-316 – 3-320) of the APDBA, Submitted 9/14/18.

- Section 3.5.4.3, Turbidity Effects from Dredging in Coos Bay on Oregon Coast Coho Salmon at 3-522 – 3-525 of the APDBA, Submitted 9/14/18.

Further advanced engineering details regarding dredging execution will be provided to ODEQ in Q1 2019.

ODEQ COMMENT (42):

- *A maintenance dredging plan providing the following:*
  - *A site map containing the following:*
    - *The location of all areas Jordan Cove will dredge.*
    - *The location of the slurry/hydraulic transport pipeline(s) for the transportation of the dredged material.*
    - *The location of all containment systems and/or spill response materials.*
  - *Dredging schedule.*
  - *Type (e.g., cutter-suction dredging) and number of dredging plants that Jordan Cove will use during the maintenance dredging.*
  - *A description of water pollution controls (operational controls, structural controls such as floating turbidity curtain etc.) that Jordan Cove will use and the location of all structural controls to minimize the migration of turbid water from maintenance dredging activities,*
  - *Detailed spill response procedures including all emergency shut-off procedures and procedures for a spill associated with the hydraulic transport line.*
  - *A dredging monitoring plan for DEQ review and approval to evaluate the effectiveness of all proposed controls.*

JORDAN COVE RESPONSE:

The JCEP Project detailed in the 404-10 application encompasses the dredging required for the Project (Appendix M of the 401 Water Quality Package, submitted to ODEQ on 2/6/18). Any future maintenance dredging activities will be requested under a separate 404-10/401 permit application and will be subject to a separate certification from ODEQ for compliance with section 401 of the CWA, if and when, such activities are required.

ODEQ COMMENT (44):

DEQ will perform this review upon the receipt of information requested above.

In addition to these requests for information, please provide to DEQ an application for an Industrial Water Pollution Control Facility Permit for the proposed discharges of the hydrostatic testing wastewater. Please provide the location of each point of discharge.

If Jordan Cove Energy Project or Pacific Connector Gas Pipeline expects to discharge washwater to the ground from vehicle and equipment washing, please provide an application for a Water Pollution Control Facility Individual Permit for these discharges. Please provide the location of each point of discharge.

JORDAN COVE RESPONSE:

PCGP is currently preparing a Water Pollution Control Facility permit application for hydrostatic test water discharges during the construction of the pipeline and will submit to ODEQ in Q4 2018.

PCGP is also preparing a 1200-C permit application for the construction of the pipeline. PCGP anticipates submitting the application to ODEQ in Q4 2018. The Erosion Control and Revegetation Plan (ECRP) provides details for equipment cleaning in Section 12.4 (pdf page 499 in Attachment A to Appendix B to Part 2 of the JPA) and a BMP typical for these types of operations as depicted and described in Drawing 3430.34-X-0020 in Attachment C to the ECRP). Note #8 in the drawing states, "Water used for cleaning shall not be allowed to flow into any waterbody, wetland or irrigation canal/ditch."

ODEQ COMMENT (45):

DEQ will perform this review upon the receipt of information requested elsewhere in this matrix.

In addition to these requests for information, please provide a copy of the results from the first phase (i.e., desktop data review with maps) of the Shallow Groundwater Study (Revised August 24, 2017 by GeoEngineers) showing suspected locations of shallow groundwater along the pipeline right-of-way. Please expand the maps proposed in this study to include suspected locations of shallow groundwater along the proposed route for the 25 miles of Temporary or Permanent Access Roads. When complete, please provide the results from the implementation of the subsurface exploration plan proposed for phase two of this study with an analysis of how the construction and permanent right-of-way will impact shallow groundwater as well as the construction of any proposed new roads.

Moreover, please propose practices for how Pacific Connector Gas Pipeline will avoid, minimize, and, if necessary, mitigate the impacts identified in the Shallow Groundwater Study noted above.

JORDAN COVE RESPONSE:

The purpose of this plan was to aid pipeline design to account for buoyancy in areas of shallow groundwater. Please see the ECRP for how trench dewatering in shallow groundwater areas will be filtered and released for infiltration to minimize offsite sedimentation.

ODEQ COMMENT (46):

Please provide signed Land Use Compatibility Statements from Coos, Douglas, Jackson, and Klamath Counties.

JORDAN COVE RESPONSE:

Signed LUCS from Coos, Douglas, Jackson, and Klamath Counties will be provided in Q4 of 2018.