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**BEFORE COOS COUNTY PLANNING DEPARTMENT
HEARINGS OFFICER**

In the Matter of the Appeals of the Planning AP-19-002
Director's Approval of Pacific Connector Gas
Pipeline's (PCGP) Applications for
Extensions of Permits (County Order No. Appellants' Hearing Memorandum
14-09-062PL, File No. HBCU-13-06) in EXT
18-012

Appellants thought undersigned counsel submit these additional arguments (supplementing the arguments made in the statement of reasons filed with the appeal form in March) in opposition to the director's decision approving the permit extension. Appellants ask that the record be left open for additional information to be submitted and for rebuttal.

I. INTRODUCTION

Appellants Elk Lake Corp. and Carey Norman are affected landowners and pursuant to 5.8.150 they were entitled to and did receive notice of the decision and are aggrieved or have interests adversely affected by the decision because they own property for which the relevant permit provides a necessary state authorization for PCGP to condemn a right of way and build a portion of the pipeline on their property. The pipeline route crossing their property is known at the local level as the Blue Ridge Alternative; it is alternative to the original proposed alignment for a parallel stretch of miles approved in the original route permit granted by the county in 2010. The Coos County Blue Ridge Alternative is now the applicant's preferred route as submitted in its third application to FERC. It was an alternative route proposed in PCGP's first and second applications submitted to FERC in 2007 and 2013.

In all events, Appellants Elk Lake Corp. and Carey Norman's lands have been subject to the County's facilitation of PCGP's right to exercise eminent domain since 2014. They have suffered a deprivation of value and use and enjoyment of their land for 5 years now.

Appellants Natalie Ranker and Katy Dodds are affected citizens of the county and principals of an organization that has been challenging the pipeline and the associated LNG Terminal for over ten years - now called Citizens for Renewables (formally Citizens Against LNG). This organization has provided advocacy for those opposed to the pipeline including other landowners directly affected by the siting of the pipeline on their property or indirectly affected due to proximity to the various proposed pipeline alignments.

In fact, principals at CALNG have warned and argued against the dangers and damage that would result to property owners by the encumbrances the permit cause:

Alternatively, if the county does allow the pipeline company to burden property it doesn't own, without the owners' permission, we would like to ask that the County limit the duration of the approval, so that a person's property isn't burdened by a cloud on title indefinitely. Pacific Connector should be allowed no more than, say, two years to get the pipeline in the ground. If it doesn't happen by then, the County's approval should automatically lapse, so that landowners are able to sell their property without a lingering approved permit for a theoretical pipeline dragging down property values - a permit landowners would be required by law to report to potential buyers.

McCaffree correspondence dated 5/20/2010.

That burden as well as the interest that effected landowners and the citizens generally have in the county assuring the safety and welfare through the application of the recent comprehensive plan and code amendments related to flood, tsunami, wildfire, landslide, and erosion hazards present the crux of the bases for this appeal. The County shall not shirk or delegate its duty and authority under the Coastal Management Act to protect the County's citizens and resources. Extending this permit again will do that.

II. RELEVANT FACTUAL BACKGROUND

A. Basis of original county decision has been specifically rejected; FERC has again rejected the pipeline route authorized by the county permit.

In 2007, prior to seeking the relevant county permit, PCGP had sought FERC's approval of the Coos County Blue Ridge Alternative (CCBRA) pipeline route approved in the relevant permit, as an alternative alignment. In 2013, also prior to seeking the relevant county permit, PCGP sought FERC's approval of the CCBRA pipeline route, as an alternative. Both times FERC rejected the alternative. In 2016, FERC reached a decision on the second application and denied it based upon PCGP's failure to diligently pursue approval.¹

¹ On March 11, 2016, the Commission issued an order denying: (1) Pacific Connector Gas Pipeline, LP's (Pacific Connector) application to construct and operate a 234-mile-long interstate natural gas pipeline (Pacific Connector Pipeline) and (2) Jordan Cove Energy Project,

In PCGP's 2017 application, it proposed the CCBRA route as its preferred route.²

L.P.'s (Jordan Cove) application to site, construct, and operate a liquefied natural gas (LNG) export terminal and associated facilities (Jordan Cove LNG Terminal or LNG Terminal).

The bases of the denial included:

[PGCP] has presented little or no evidence of need for the Pacific Connector Pipeline. [PGCP] has neither entered into any precedent agreements for its project, nor conducted an open season, which might (or might not) have resulted in "expressions of interest" the company could have claimed as indicia of demand. As it stands, [PGCP] states that the pipeline will benefit the public by delivering gas supply from the Rocky Mountains and Canada to the Jordan Cove LNG Terminal and by providing an additional source of gas supply to communities in southern Oregon (though, again, it has presented no evidence of demand for such service).

* * *

Thus, the Commission's issuance of a certificate would allow Pacific Connector to proceed with eminent domain proceedings in what we find to be the absence of a demonstrated need for the pipeline.

41. We find the generalized allegations of need proffered by Pacific Connector do not outweigh the potential for adverse impact on landowners and communities.

154 FERC ¶ 61,190, FERC Order Denying Applications for Certificate and Section 3 Authorization (Issued March 11, 2016) Docket Nos. CP13-483-000 and CP13-492-000.

On April 8, 2016, Jordan Cove and Pacific Connector, filed a request for rehearing with the FERC. And on December 9, 2016, the FERC denied Jordan Cove/Pacific Connector's request for rehearing and affirmed their March 11, 2016 Order that denied the project. FERC found that PGCP failed to demonstrate "extraordinary circumstances" that overcome the need for finality of the litigation because:

Prior to issuing the March 11 Order, Commission staff sent four data requests to [PGCP] asking it to show that the public benefits of its proposed Pacific Connector Pipeline outweighed the project's adverse impacts, consistent with the Commission's Certificate Policy Statement. In response to each data request, [PGCP] stated that its negotiations were "active and ongoing" and provided no certainty as to when it would receive agreements for the pipeline's capacity. We afforded [PGCP] ample time - over 3.5 years - to demonstrate evidence of market demand or to contract for and submit the precedent agreements with its firm shippers prior to issuing the March 11 Order.

157 FERC 61,194, FERC Order Denying Rehearing (Issued December 9, 2016) submitted herewith. Moreover, FERC noted that to preserve the integrity of its process it was required to demand due diligence of the applicant to obtain and present evidence in a timely manner.

² On September 21, 2017 Jordan Cove and Pacific Connector filed their official formal application(s) with the FERC. As of October 2, 2018, both companies became wholly owned

And, in its March 29, 2019, draft environmental impact statement, (issued after this appeal was initiated) FERC has again rejected the CCBRA route. Appellants alerted the county to this fact, but the county has denied its significance.

B. Relevant Criteria Changed

Since 2014, the following relevant comprehensive map and code changes, among others, were adopted.³

Section 5.0.175 Application Made by Transportation Agencies, Utilities or Entities was adopted. (AM-14-10 & AM-14-11 (2015). The provision requires the applicant for a pipeline permit to demonstrate that they have the private right of property acquisition pursuant to ORS Chapter 35 before filing an application without landowner consent.

Coos County Planning Amendments to CCZLDO. (AM-15-03 Exclusive Farm Use / Forest) and (AM-15-04 Hazards) (July 2015). The provisions require, among other things, a qualified geologist or civil engineer to report that the structure can or cannot be safely constructed at the proposed site. Volume 1, Part 1, Section 5.11. Paragraphs 4 (i) and (ii). They require the county to “take reasonable measures to protect life and property to the fullest extent, from the impact of a local source Cascadia tsunami.” Volume 1, Part 1, Section 5.11. Paragraphs 5 (ii). They adopt hazards overlay zones among all of the zones in the county related to: Wildfire, Landslides, Liquefaction, Earthquake and Tsunami. Final Hazard Ordinance No.15-05-005PL and approved Hazard Maps.

Coos County Planning Text Amendments to CCZLDO / Hazard maps. (AM-16-01) (2017). The provisions adopt and implement the comprehensive plan amendments referenced above and purports to only apply to all unincorporated areas of the Coos County outside of the Coos Bay Estuary Management Plan and the Coquille River Estuary Management Plan.

subsidiaries of Pembina a Canadian corporation. On October 5, 2017 FERC issued a Formal Notice of Application re Jordan Cove Energy Project, L.P. and Pacific Connector Gas Pipeline L.P. under CP17-495 and CP17-494. This initiated the FERC National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) and Certification process. The Draft Environmental Impact Statement was issued on March 29, 2019.
<https://www.ferc.gov/industries/gas/enviro/eis/2019/03-29-19-DEIS.asp?csrt=17136630747328713862>.

³ Other amendments that should be considered as adopting new criteria include the Flood Plain Amendments adopted in AM-14-01, the legislative amendments adopted in AM-12-04.

See Landslide Hazard map adopted under AM-15-04
<http://www.co.coos.or.us/Portals/0/Planning/AM-15-04/2%20-%20Landslide%20Hazard%20Areas%20-%2008%20Apr%202015.pdf>; and Wildfire Hazard map adopted under AM-15-04:
<http://www.co.coos.or.us/Portals/0/Planning/AM-15-04/6%20-%20Wildfire%20Hazard%20Areas%20-%2008%20Apr%202015.pdf>; and the AM16-001 amendment here:
<http://www.co.coos.or.us/Portals/0/Planning/AM-16-01/AM-16-001%20signed%20order.pdf?ver=2017-05-05-132330-287>

III. ARGUMENT

The county has consistently applied OAR 660-033-0140 which is incorporated into the acknowledged CCZLDO 5.2.600(1) which implements the rule and is almost identically worded.

OAR 660-033-0140 is entitled “Permit Expiration Dates” and states:

(1) Except as provided for in section (5) of this rule, a discretionary decision, except for a land division, made after the effective date of this division approving a proposed development on agricultural or forest land outside an urban growth boundary under ORS 215.010 to 215.293 and 215.317 to 215.438 or under county legislation or regulation adopted pursuant thereto is void two years from the date of the final decision if the development action is not initiated in that period.

(2) A county may grant one extension period of up to 12 months if:

- (a) An applicant makes a written request for an extension of the development approval period;
- (b) The request is submitted to the county prior to the expiration of the approval period;
- (c) The applicant states reasons that prevented the applicant from beginning or continuing development within the approval period; and
- (d) The county determines that the applicant was unable to begin or continue development during the approval period for reasons for which the applicant was not responsible.

(3) Approval of an extension granted under this rule is an administrative decision, is not a land use decision as described in ORS 197.015 and is not subject to appeal as a land use decision.

(4) Additional one-year extensions may be authorized where applicable criteria for the decision have not changed.

The applicable acknowledged LDO is 5.2.600 and it states:

1. Extensions on Farm and Forest (Resource) Zoned Property shall comply with OAR 660-033-0140 Permit Expiration Dates which states:

- a. Except as provided for in subsection (e) of this section, a discretionary

decision,
except for a land division, made after the effective date of this section approving a proposed development on agricultural or forest land outside an urban growth boundary is void two years from the date of the final decision if the development action is not initiated in that period.

- b. Coos County may grant one extension period of up to 12 months if:
 - i. An applicant makes a written request for an extension of the development approval period;
 - ii. The request is submitted to the county prior to the expiration of the approval period;
 - iii. The applicant states reasons that prevented the applicant from beginning or continuing development within the approval period; and
 - iv. The county determines that the applicant was unable to begin or continue development during the approval period for reasons for which the applicant was not responsible.

c. Additional one-year extensions may be authorized where applicable criteria for the decision have not changed.

A. The county may not extend a void permit.

The October 21, 2014, Order No. 14-09-062PL, File No. HBCU-13-06, approving the relevant conditional use permit became effective on the date the appeal period for the approval expired pursuant to Coos County Zoning and Land development Ordinance 5.2.600.3.d, on November 11, 2014.

On Dec 28, 2016, the Coos Planning Director issued an extension of that CUP to November 11, 2017 under EXT-16-007: See, <http://www.co.coos.or.us/Portals/0/Planning/EXT16-007/EXT-16-007%20staff%20report%20w-%20attachments.pdf?ver=2016-12-28-154824-867>.

On November 11, 2017, the permit became void when PCGP failed to file an extension application on or before that expiration date. PCGP did not file an application stating the reasons that prevented it from beginning development until November 17, 2017, after the permit had become void as a matter of law. See <http://www.co.coos.or.us/Portals/0/Planning/EXT-17-015/application.pdf?ver=2018-02-28-091635-340>.

Thus, the permit is void and the county misconstrued the law and the record is insufficient to support a decision that the applicable procedures had been met to avoid the nullification of the permit on November 11, 2017, and the thus extend a void permit in 2018.

B. The county may not arbitrarily change its interpretation of the applicable criteria, again, simply to benefit PCGP

Instead of requiring PCGP to demonstrate reasons for the delay in initiating the development as it has for the last eight years (starting with the original alignment extension in 2012) - finding that not obtaining the FERC permit was sufficient reason for the delay, staff is now saying it need not apply for an extension because seeking a FERC permit is not a reason for the delay but, in fact, an “initiation of the development.” While the Board of Commissioners may change its interpretation, this interpretation is absurd in the context of the past interpretations. Staff has failed to set forth a sufficient rationale for the new interpretation. The new interpretation is even inconsistent with the recent amendment to the code provision that the Board of Commissioners adopted. In contrast to the new interpretation treating efforts to satisfy conditions of approval as “initiating development,” that amendment deems an inability to complete conditions of approval as a per se reason for which the applicant is not responsible.

The new interpretation and the amended code provision conflicts with the plain language of the rule and is inconsistent with settled state law. See, *Gould v. Deschutes County*, 272 Or. App. 666 (2015), (The rule calls for a discretionary decision and it is an implausible interpretation of the rule to deem a complex process which is a condition precedent to the permit to be a per se reason for the delay for which the applicant is not responsible). Moreover, PCGP had State and the FERC permit applications pending when the county issued the permit, so submitting applications for permits cannot be “initiating development” since the issuance of the permit. Said another way, this argument is not available. Finally, staff’s finding that “the applicant has continued to ensure compliance and permit authorizations have been maintained to apply for extension,” while confusing, it undermines the previous finding that an application for an extension is not required. And, if the finding is meant to deem the applicant to be diligent in seeking its third party permits, there is nothing in the record to support that and the county is aware that the applicant has not been diligent.

C. The county has misconstrued the applicable criteria which requires the applicant to state the but-for reason for failing to initiate development, and demonstrate that it was not responsible for the failure and the county has otherwise made findings not supported by the record.

The applicant’s stated reason is: “Applicant was prevented from beginning or continuing development within the approval period because the Pipeline has not yet obtained federal authorization to proceed.”⁴ This is not a but-for reason for the delay, because it is clear that PCGP will not obtain federal authorization to proceed with the CCBRA route.

⁴ The county’s attempt to characterize this as a statement explaining why the “project has not continued” is not supported by the applicant’s statement and is completely made out of whole cloth.

While it is true that PCGP cannot begin construction or operation of the CCBRA route until it obtains a FERC permit, it simply begs the question of why it should not be required to submit a new application when it knows what route will not be rejected by FERC. PCGP would not have had to ask for extensions (or at least not 3 extensions) if it had diligently pursued its 2014 FERC permit. That is the problem and its continued requests and the county's continued approvals to extend the permit is nothing less than allowing speculation at the expense of others. This is not a situation where PCGP owns the property for which the activity is authorized. PCGP is asking to further burden the affected landowners.

The county's extensions of the permit enables PCGP's continuing threat of eminent domain and has caused affected landowners to continue to suffer a deprivation of the full use and enjoyment of their property. Not only do they live with anxiety about the safety and hazards risks of this explosive conveyance, they have had to manage their property differently and/or curtail development of their property. They also cannot freely alienate their property at its fair market value without the a hazardous pipeline permit. They have sustained this cloud on their title, use and enjoyment for almost 5 years. The last three years have been a direct result of the County's failure to hold PCGP accountable, its failure to protect the rights of its citizens, and its concerted effort to apply distorted interpretations of applicable law and enact amendments to its code provisions to actively assist PCGP maintain its right to condemn their property under the county's permit.

PCGP has not been diligent in seeking that FERC permit resulting in a denial of its FERC application in 2016. Yet, the county has extended the permit three times, employing the methods, among others listed above. And now the county extends the permit again even knowing that the FERC has rejected PCGP's request to place its pipeline on this route. This extension thus violates the affected landowners constitutional rights because the permit causes a nuisance, condemnation blight and/or regulatory invasion that has devalued and substantially interferes with their right of possession, use and enjoyment of their property.

Moreover, the applicant's stated reason is disingenuous in the sense that it infers that the reason for its failure to initiate development is capable of curing the failure. The but for reason, is that PCGP will not even make a financial decision to begin construction until it obtains the FERC permit which cannot occur before 2020. Moreover, PCGP's parent company recently issued a press release stating that it has postponed its construction plan for one year and thus, it will not begin construction until, at best, until sometime in 2021. And, it is responsible for such decision and its prior lack of diligence.

So, PCGP's application should be rejected. It misrepresented by omission the but-for reason that it has not initiated construction and that it will not do so in the next extension period. Allowing PCGP to obtain a third extension giving it 5 years to initiate development while it knows that it will not do so until the 6th or 7th year, makes a mockery of the relevant criteria. Such an interpretation is contrary to the intent of the rule and the evidence in the record does not support a third continuance. Putting off construction until PCGP makes its FID is the reason for the delay and it will not happen for over a year. While the county disputes that the rule requires

it to consider whether the reason can be cured within a year, we believe it does, but even if it doesn't it is the only logical, rational and moral interpretation of the rule.

D. The *additional one-year* extension is not authorized because the applicable criterial has changed.

- 1. The Hazard Zoning requirements present new and important criteria that must be applied to the CCBRA pipeline to protect the citizens of Coos County from the hazards of landslides, wildfire, tsunami, floods, wind, high ground water and erosion; the County must not delegate its authority to protect its citizens and its coastal resources to any other agencies.**

Among other serious duties, the plan and code amendments require the county to: 1) restrict development by requiring that it be designed to minimize alterations of natural land forms in areas subject to slope instability, drainage issues or erosion; 2) take steps to minimize damage and facilitate rapid recovery from a local source Cascadia Subduction Zone earthquake and tsunami; and 3) address wildfire danger by adopting development standards requiring larger defensible spaces in wildfire hazard areas. The implementing land use regulations require, among other things: 1) larger fuel breaks around structures; and 2) particularized geological assessments for Geologic Hazard Special Development areas.

The county's dismissal of this argument because those amendments had application before the current application for extension was filed is misplaced. The citizens of this county and the affected landowners shall not be precluded from raising this issue as the criteria is the criteria regardless of whether it could have been raised before. The doctrine of collateral attack does not apply for several reasons, including that the affected landowner appellants have not been a party to the extension proceedings. Moreover, setting this standard is a violation of the citizen participation and planning statewide policy, goals and the county's derivative plan provisions. See, ORS 197.005 (deeming implementation and enforcement of land use regulations to be matters of statewide concern); Statewide Planning Goal 1 (requiring the county to adopt a program for citizen involvement which ensures that the general public will be involved in the on-going land-use planning process); Statewide Planning Goal 2 (requiring continual reasoned prospective effort to develop the community through application of updated and responsive policies); and CCCP 5.1 and 5.2.⁵

⁵ The plan implementation strategies of policy 5.2, Land Use and Community Development, include, among others, provisions that recognize: 1) the need to identify new planning problems and issues (1)(i.); 2) the need to select appropriate policy directives based upon the county's social, economic, energy and environmental needs (1)(iv). The plan specifically states:

This strategy is based upon the recognition that Coos County's public planning process is essential to producing rational land use and community development

The county's applicable criteria directs that OAR 660-033-0140 shall be applied and the county has acknowledged the rule's preeminence as it relates to the non-resource zones. The rule prohibits an additional year extension if the applicable criteria have changed; there is no exemption from this directive simply because the county does not want to apply them. Any attempt by the county to grandfather-in the "Pipeline" is ultra vires and preempted by the rule.

As demonstrated by the applicable maps, particularly the wildfire and landslide overlay map, sections of the CCBRA pipeline route falls within at least one or more of the hazard zones.

Permanent structures, like above ground block valve stations in wildfire zones must have greater fuel break areas. Moreover, PCGP is now proposing to increase pressure in the pipeline from 1,600 to 1950 psig and they are proposing a host of new above ground structures including 17 new mainline block valves. The county's wildfire overlay is so extensive in the county, extra precautions must be employed for construction and development in the zone and landowners should be relieved from duties and liabilities imposed by ORS 477.205 et seq. The only way to assure that protection is to require the applicant to submit a new application.

The requirement for geologic and geotechnical assessments are now governed by specific reporting requirements that did not exist in 2010 and most significantly, the reports are only deemed valid only for 5 years.

To protect the citizens of Coos County and the landowners who will be directly burdened by the pipeline PCGP ultimately builds, the county should exercise its discretion to deny the application for an extension of CCBRA pipeline permit and require PCGP to file a new application which will include a more comprehensive and up to date analysis of the hazards and required mitigation necessary. Identifying the need for new standards and then adopting new standards to address that need is the policy reason the extension rule prohibits the county from extending a permit in the resource zones if new criteria has been adopted.

2. The PCGP adopted amendment to CCZLDO 5.0.175 also constitutes

policies that are the basis of this Comprehensive Plan, and which must be the basis for future plan revisions and modifications.

The plan strategies further recognize "...the importance of revising and updating its plan and implementing ordinance in order to continue guiding "land use" in rural Coos County." CCCP 5.2 strategy 3. And, the plan identifies the moral and legal responsibility of allowing **established** non-conforming legal uses (grand-fathered uses) (5.2 strategy 9) but rightly does not identify any legal or moral obligation to allow landowners to speculate and bypass future **community development** needs by allowing **proposed approved** uses to be perpetually established/allowed.

new criteria applicable to the CCBRA

PCGP has neither landowner consent nor a current legal right to condemn the landowner's property and thus if an application was filed today, it would be rejected and this constitutes new criteria under the meaning, intent and policy of the rule. This is exactly why the county must require PCGP to come back when it has such authority; otherwise it is unnecessarily and unreasonably burdening citizens of this county and by extending the permit the county is facilitating, and aiding and abetting that unlawful conduct.

E. The county misconstrued the law and made inadequate findings regarding compliance with LDO 5.2.600(2) (non-resource zone extensions)

The applicable criteria is the acknowledged 2013 version of 5.2.600(2) & (3) relating to the non-resource CUP permitted uses. The director's decision misconstrues those provisions. They allow for one extension of up to 2 years and requires that the use or development begin within the first two years of the date of approval or a new application must be obtained. Neither the use nor the development has begun in over four years. Any changes to the provision since 2013 not applicable to the extension request. As understood it has changed since CUP application was filed and is not an applicable goal post. The extension of the permit on non-resource lands has exceeded the applicable time limit of 2 years and, for that matter, even the new limit of 4 years.

Moreover, application of Section 5.2.600(2) (as amended in 2018) is beyond the scope of the County's authority. As understood it is an attempt to avoid the application of hazard related criteria that are applicable if the application was filed today and would have been applicable at the time the CUP application was filed. The county may not legislate around the rule's prohibition of extensions when the applicable criteria has changed.

IV. CONCLUSION

For the above stated reasons, the director's grant of the permit extension should be reversed.

/s/ Tonia Moro
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Attorney for Appellants

3.4.2.2 Blue Ridge Variation

Based on comments received during scoping and concerns expressed by the BLM regarding steep topography, late-successional old-growth (LSOG), and potential impacts on threatened and endangered terrestrial species, we evaluated an alternative between about MPs 11 and 25 referred to as the Blue Ridge Variation. The 15.2-mile-long Blue Ridge Variation, which is depicted in figure 3.4-2, would deviate from the proposed route near MP 11 just south of the Coos River, continuing southwest across Catching Slough, turning south/southeast, generally co-located with an existing utility right-of-way before rejoining the proposed route near MP 25. Table 3.4.2.2-1 compares the variation to the corresponding segment of the proposed route. Additional details regarding the assessment of this variation can be found in appendix F.

When compared to the corresponding segment of the proposed route, the Blue Ridge Variation would require clearing less (about 32 acres less) LSOG forest (late-successional forest stands greater than 80 years old); would substantially reduce the number of occupied and presumed occupied (3 and 14 less, respectively) MAMU stands affected as well as acres of suitable MAMU habitat removed (about 29 acres less); and cross five fewer miles of LSRs and 0.47 mile less of NSO home range. As discussed in more detail in section 4.4.2.1, LSOG forest stands have a well-defined, multi-tiered canopy, which creates microhabitats for many species (Bingham and Sawyer, Jr. 1991; Spies and Franklin 1996), including the federally listed NSO and MAMU. Additionally, the variation would affect 3 fewer acres of designated Riparian Reserves on BLM-managed lands and about 15 acres less of NSO High NRF and NRF habitat. However, the variation is longer and would affect about 14 additional acres of land. It would also more than double the number of private parcels (24 to 53) and miles of private lands crossed (6.46 to 13.76). The variation would also increase the number of perennial waterbodies crossed by 27, and would increase the number of known and assumed anadromous fish-bearing streams crossed from 4 to 18, which would also increase the clearing of upland riparian vegetation associated with each crossing.

As indicated in the comparison table, the above discussion, and the analysis contained in appendix F, the primary trade-offs between the proposed route and the variation are between terrestrial (e.g., LSOG forest and MAMU stands/habitat) and aquatic resources (e.g., waterbody crossings and anadromous fish habitat), as well as public and private lands. With respect to terrestrial and aquatic resources, the measures that would be implemented to avoid or minimize these impacts differs considerably. Constructing and operating the pipeline along the proposed route would result in a permanent loss of LSOG forest and would adversely affect MAMU (see sections 4.4 and 4.6 for discussions regarding these resources); the applicants have very minimal options available for avoidance and minimization measures to address these permanent effects to upland resources (i.e., LSOG and MAMU), and have not proposed mitigation for these permanent effects. In contrast, some of the impacts on aquatic resources, waterbodies, and anadromous fish are expected to be temporary to short-term with implementation of Jordan Cove's and Pacific Connector's proposed impact minimization and waterbody restoration measures (e.g., Jordan Cove's *Plan, Procedures, and ECRP*), as well as our recommendations (see sections 4.3 and 4.5 for discussions regarding these resources). The applicants have also proposed some mitigation for the effects to waterbodies and anadromous fish as part of the BLM's right-of-way grant application and proposed plan amendments (see appendix F). However, some permanent unmitigated effects on waterbodies and anadromous fish would occur in the form of the permanent loss of mature riparian areas associated with affected waterbodies.

Our experience from reviewing stream crossings by FERC-regulated pipelines constructed in numerous habitats across the U.S. has confirmed that the short duration of the crossing and the prompt restoration of the stream bed and stabilization of the stream banks results in very few impacts on waterbodies that extend in time beyond the construction and initial restoration of the right-of-way. This is in part due to implementation of best management practices such as dry crossing methods, timing and duration, and restoration methods that are required by the FERC's *Plan and Procedures*, which are methods that the applicants have incorporated into their proposal. By comparison, the removal of LSOG habitat is a permanent impact for the operational right-of-way and, even in temporary work areas, recovery of the habitat would take at least 80 years.

We acknowledge that the variation would increase the number of private parcels crossed. Numerous public comments in the Commission's administrative record express concerns about how these lands would be affected. However, we note that although many additional private parcels are affected by the variation, only one residence is located within 50 feet of the construction right-of-way. This EIS addresses numerous measures to be employed during and following construction that would reduce impacts and facilitate restoration of the right-of-way.

We also acknowledge the concerns expressed by the NMFS and the COE regarding the increased impacts on waterbodies, threatened and endangered aquatic species, and adjacent riparian vegetation; and the BLM, FWS, and Tribes regarding the impacts on LSOG forest, threatened and endangered terrestrial species, and other upland managed resources. As stated previously, there are considerable trade-offs between the proposed route and the variation.

In the alternatives methodology described at the beginning of this section, we state that an alternative would be preferable if it meets the stated purpose of the Project; is technically and economically feasible and practical; and if implemented would result in a significant environmental advantage when compared to the proposed action. We also state that when making an alternatives determination we attempt to balance the overall impacts (and other relevant considerations) of the alternative and the proposed action. Therefore, recognizing the trade-offs between the proposed route and the variation; the differences between terrestrial and aquatic resource impacts in regard to temporal effects, as well as the scope of avoidance, minimization, and mitigation for these effects; and the magnitude of the effects, we have determined that the Blue Ridge Variation would result in an overall environmental advantage when compared to the corresponding segment of the proposed route. Our conclusion is based primarily on the variation's ability to reduce long-term to permanent impacts on particularly valuable LSOG habitat affected by the proposed route. Both the sensitivity and value of this habitat and the duration of the impact contribute to this finding. Therefore, we recommend that:

- **Prior to construction, Pacific Connector should file with the Secretary, for review and written approval by the Director of OEP, revised alignment sheets that incorporate the Blue Ridge Variation into its proposed route between MP 11 and MP 25.**

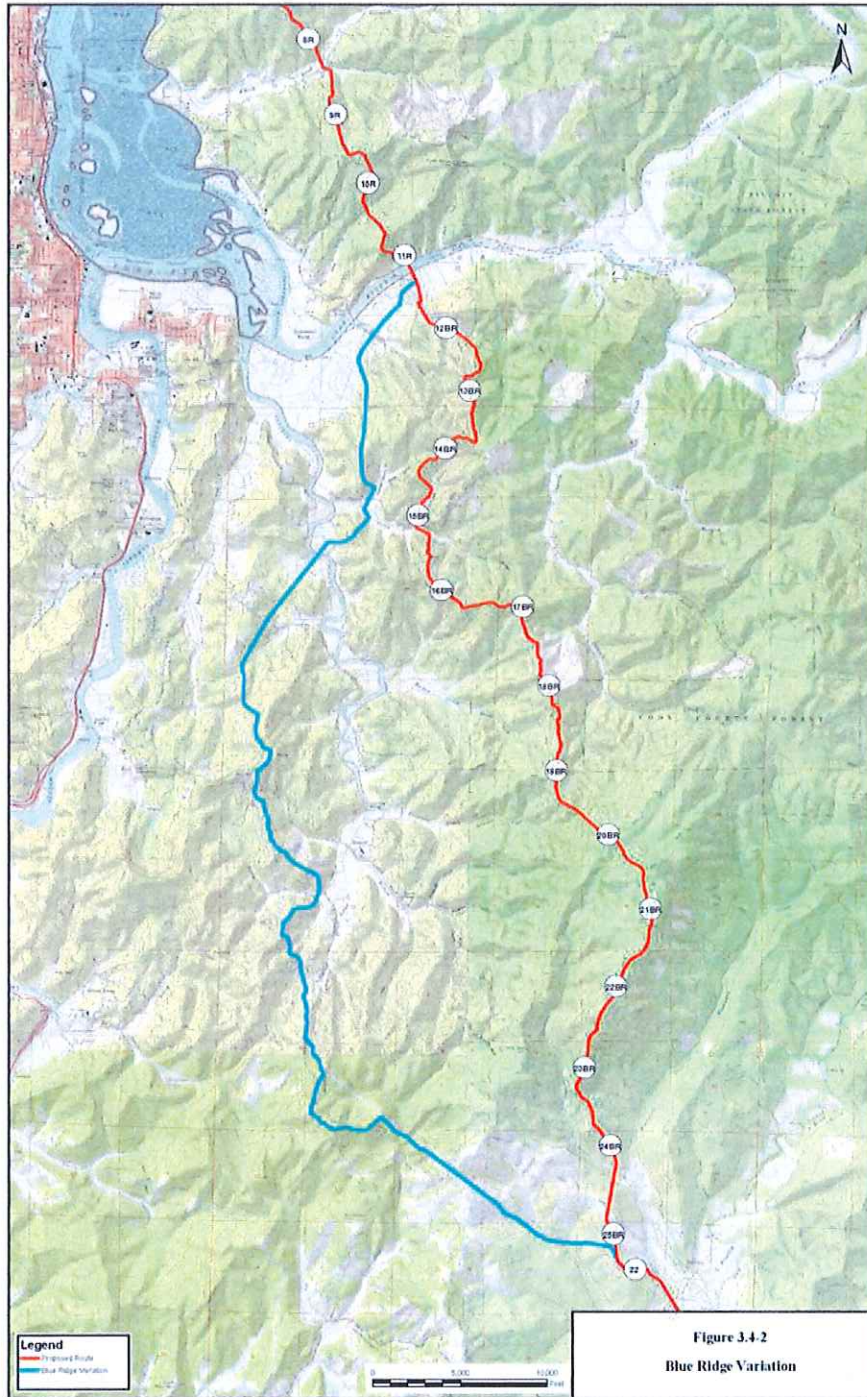


TABLE 3.4.2.2-1

Comparison of Blue Ridge Variation with the Proposed Route

Impact/Issue	Proposed Route	Blue Ridge Variation
Length (miles) ^{a/}	14.0	15.2
Construction right-of-way (acres)	161.4	175.5
Temporary extra work areas (TEWA) (acres)	37.0	57.0
Uncleared storage areas (acres)	45.4	1.5
Temporary access roads (TARs)	0	1 (TAR 13.8)
Permanent access roads (PARs)	0	1 (PAR 15.6)
Operational easement (acres) ^{b/}	85.0	92.1
Land ownership (miles)	Private	6.5
	BLM	7.5
	State	0.0
Number of landowner parcels crossed	Private	24
	BLM	11
	State	1
Number of residences within 50 feet of the construction right-of-way	0	1
Water supply wells within 50 feet of the construction right-of-way ^{c/}	0	0
Number of waterbodies crossed	Field survey data	3 perennial
		5 intermittent ^{d/ e/} (6.5 unsurveyed)
		30 perennial 29 intermittent (4.6 unsurveyed)
Length of wetland crossings (miles)	2.0	1.9
Designated Riparian Reserves on BLM-managed lands Impacted (acres)	12.3	9.1
Agricultural pastures affected (acres construction right-of-way)	8.4	11.1
Coniferous forest (acres construction right-of-way) ^{f/}	LSOG	40.5
	Mid-seral	41.8
	C – R	77.1
LSRs/ Unmapped LSRs crossed (miles/acres)	5.5 mile / 12.3 acres	0.44 mile / 5.16 acres
Northern Spotted Owl (NSO) home range (1.5-mile radii)	1 / 1.22 miles	1 / 0.75 mile
High NSO NRF and NRF habitat removed (acres) ^{g/}	23.8	8.8
Number of marbled murrelet (MAMU) stands crossed by right-of-way		3 occupied stands; 18 presumed occupied stands ^{h/}
		32.2 (5.8 acres occupied; 26.4 acres presumed)
MAMU suitable habitat removed (acres) ^{i/}		4 presumed occupied stands
Number of anadromous fish-bearing streams crossed ^{j/}	Known	4
	Assumed	0
Fisheries critical habitat (streams crossed)	Coho ^{k/}	4
	Green Sturgeon ^{l/}	0
Landslide prone areas ^{m/}	2 landslide areas (totaling 3,267 feet)	5 landslide areas (totaling 7,137 feet)
Number of known cultural resources sites	1 ^{n/ o/}	0
Number of newly identified cultural resources	1 ^{n/}	0 ^{o/}
Right-of-way adjacent to existing rights-of-way (miles and percent of route length) ^{g/}	8.3 (59 percent)	7.1 (47 percent)

General: All values are rounded (acres to nearest whole acre, miles to nearest tenth of a mile, feet to nearest whole foot).

^{a/} Route Alternative lengths are measured from the point where they deviate from and then return to the proposed route. Lengths cannot be accurately calculated by comparing mileposts due to shifts in the alignment.

^{b/} Acres of permanent easement calculated based on a 50-foot-wide permanent easement.

^{c/} OWRD (2017).

^{d/} Includes waterbodies not crossed by the centerline but within the right-of-way.

^{e/} Field surveys on BLM lands and desktop analysis on private lands.

^{f/} Evergreen Forest: LSOG (late successional/old-growth forest) = 80+ years; Mid-seral = 40 to 80 years; C-R (Clear-cut/regenerating forest) = 0 to 40 years.

^{g/} Acreage is based on 2017 updated NSO habitat coverage for the pipeline project (nesting, roosting, and foraging habitat: NRF, High NRF).

^{h/} "Presumed occupied stands" have not been surveyed following the species-specific survey protocol (Mack et al. 2003). "Occupied stands" are confirmed occupied based on the species-specific survey protocol.

^{i/} Acreage is based on 2017 updated MAMU habitat coverage for the pipeline.

^{j/} ODF (2017). Each crossing would include clearing of some riparian vegetation.

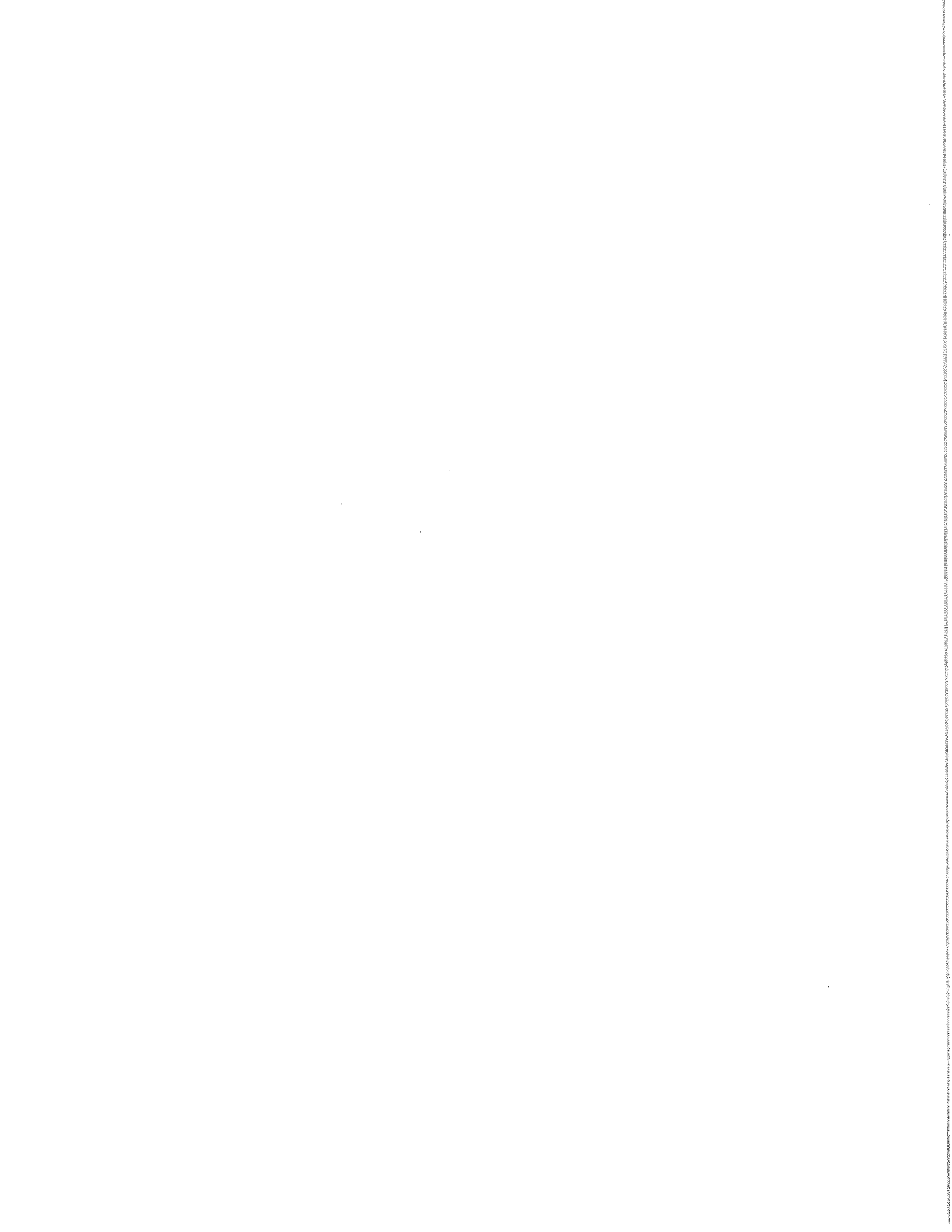
^{k/} NMFS (2008a).

^{l/} NMFS (2009).

TABLE 3.4.2.2-1 (continued)

Comparison of Blue Ridge Variation with the Proposed Route

<p><i>iv</i>/ Based on published sources, including the Oregon Department of Geology and Mineral Industries (DOGAMI) open file report 0-11-01 and Statewide Information Database for Oregon (SLIDO).</p>
<p><i>iv</i>/ Surveys are incomplete on approximately 6.0 miles (43 percent) of the route on private lands.</p>
<p><i>g</i>/ The historic Barker-Morris Families Cemetery, dating to 1872, is located on private land in Township 27 S, Range 12 W, Section 14. The historic cemetery is situated at MP 24.3 of the proposed route. The cemetery is shown on the McKinley 7.5-minute quadrangle approximately 24 meters east of the construction right-of-way. However, cultural surveys have not been conducted on this privately-owned parcel, and the exact location of the cemetery has not been verified. The cemetery is listed in the Oregon Burial Site Guide but has not been recorded as an archaeological site with the Oregon State Historic Preservation Office.</p>
<p><i>p</i>/ Surveys are incomplete on route deviations that are outside the cultural survey corridor for the 2015 FEIS Route.</p>
<p><i>g</i>/ Approximately 5.3 miles (35 percent) of the Blue Ridge Variation is co-located/adjacent to a BPA Powerline corridor, whereas the proposed route is adjacent/co-located with logging roads.</p>



2.1.2 Pacific Connector Pipeline and Associated Aboveground Facilities

The 36-inch-diameter, Pacific Connector natural gas pipeline would extend for about 229 miles across Klamath, Jackson, Douglas, and Coos Counties, Oregon and terminate at the proposed LNG export facility in Coos County (figure 1.1-1 in chapter 1). As identified in table D-1 in appendix D, the pipeline would be located adjacent to, but separated from, existing rights-of-way including powerlines, roads, and other pipelines for about 97.7 miles (43 percent).

The pipeline would have a design capacity of 1.2 Bcf/d of natural gas, with a maximum allowable operating pressure (MAOP) of 1,600 pounds per square inch gauge (psig).²⁸ The pipeline (and aboveground facilities) would be designed, constructed, tested, operated, and maintained to conform with USDOT requirements found in 49 CFR Part 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Safety Standards*; the FERC requirements at 18 CFR 380.15, *Site and Maintenance Requirements*; and other applicable federal and state regulations. The location of the proposed pipeline Project facilities is shown on detailed maps included in appendix C and described below.

2.1.2.1 Aboveground Pipeline Facilities

New aboveground facilities would include one compressor station, 3 meter stations, 5 pig launcher/receiver assemblies, 17 mainline valves (MLV), and 15 communication towers (table 2.1.2.1-1).

TABLE 2.1.2.1-1
Pacific Connector Aboveground Facilities

Facility	MP	Operational Acres ^{a/}	County	Ownership/ Jurisdiction
Jordan Cove Meter Station, MLV #1, Pig Receiver, and Communication Tower	0.0	1.7	Coos	Private
MLV #2 (Boone Creek Road)	15.1	0.1	Coos	Private
MLV #3 (Myrtle Point Stikum Road)	29.5	0.1	Coos	Private
MLV #4 and Communication Tower (Deep Creek Spur)	48.6	0.1	Douglas	BLM
MLV #5 (South of Olalla Creek)	59.6	0.1	Douglas	Private
MLV #6 and Launcher/Receiver (Myrtle Creek)	71.5	0.5	Douglas	Private
MLV #7 (Pack Saddle Road)	80.0	0.1	Douglas	BLM
MLV #8 (Highway 227)	94.7	0.1	Douglas	Private
MLV #9 (BLM Road 33-2-12)	113.7	0.1	Jackson	Private
MLV #10 and Communication Tower (Shady Cove)	122.2	0.1	Jackson	Private
MLV #11, Communication Tower, and Launcher/Receiver (Butte Falls)	132.5	0.3	Jackson	Private
MLV #12 (Heppsie Mountain Quarry Spur)	150.7	0.1	Jackson	BLM
MLV #13 (Clover Creek Road)	169.5	0.1	Klamath	Private
MLV #14 and Launcher/Receiver (Keno)	187.4	0.4	Klamath	Private
MLV #15 and Communication Tower	196.5	0.1	Klamath	Private
MLV #16 and Communication Tower	211.6	0.1	Klamath	Private
Klamath Compressor Station, Klamath-Beaver and Klamath-Eagle Meter Stations, MLV #17, Pig Launcher, and Communications Tower	228.8	21.4	Klamath	Private
Blue Ridge Communication Tower	Approx. 20	0.2	Coos	BLM
Signal Tree Communication Tower	Approx. 45	0.2	Coos	BLM

²⁸ On October 5, 2018, Pacific Connector notified the Commission that it would use thicker pipe than initially proposed in order to increase the design pressure from 1,600 psig to 1,950 psig and allow for possible increased volume in the future, however the proposed MAOP remains at 1,600 psig. Any addition or change to the proposed psig would require additional review and approval from the FERC, and is not covered within the scope of the EIS.

TABLE 2.1.2.1-1 (continued)

Pacific Connector Aboveground Facilities

Facility	MP	Operational Acres ^{a/}	County	Ownership/Jurisdiction
Sheep Hill Communication Tower	Approx. 70	0.2	Douglas	Private
Harness Mountain Communication Tower	Approx. 75	0.0	Douglas	Private
Starveout Communication Tower	Approx. 115	0.2	Douglas	Private
Flounce Rock Communication Tower	Approx. 123	0.2	Jackson	BLM
Robinson Butte Communication Tower	Approx. 159	0.2	Jackson	Forest Service
Stukel Mountain Communication Tower ^{b/}	Approx. 209	0.2	Klamath	BLM

^{a/} Values are rounded to the nearest tenth of an acre.
^{b/} Assumes that existing BLM communication Site Plan is sufficient. If not, supplemental environmental compliance may be required.

Meter Stations

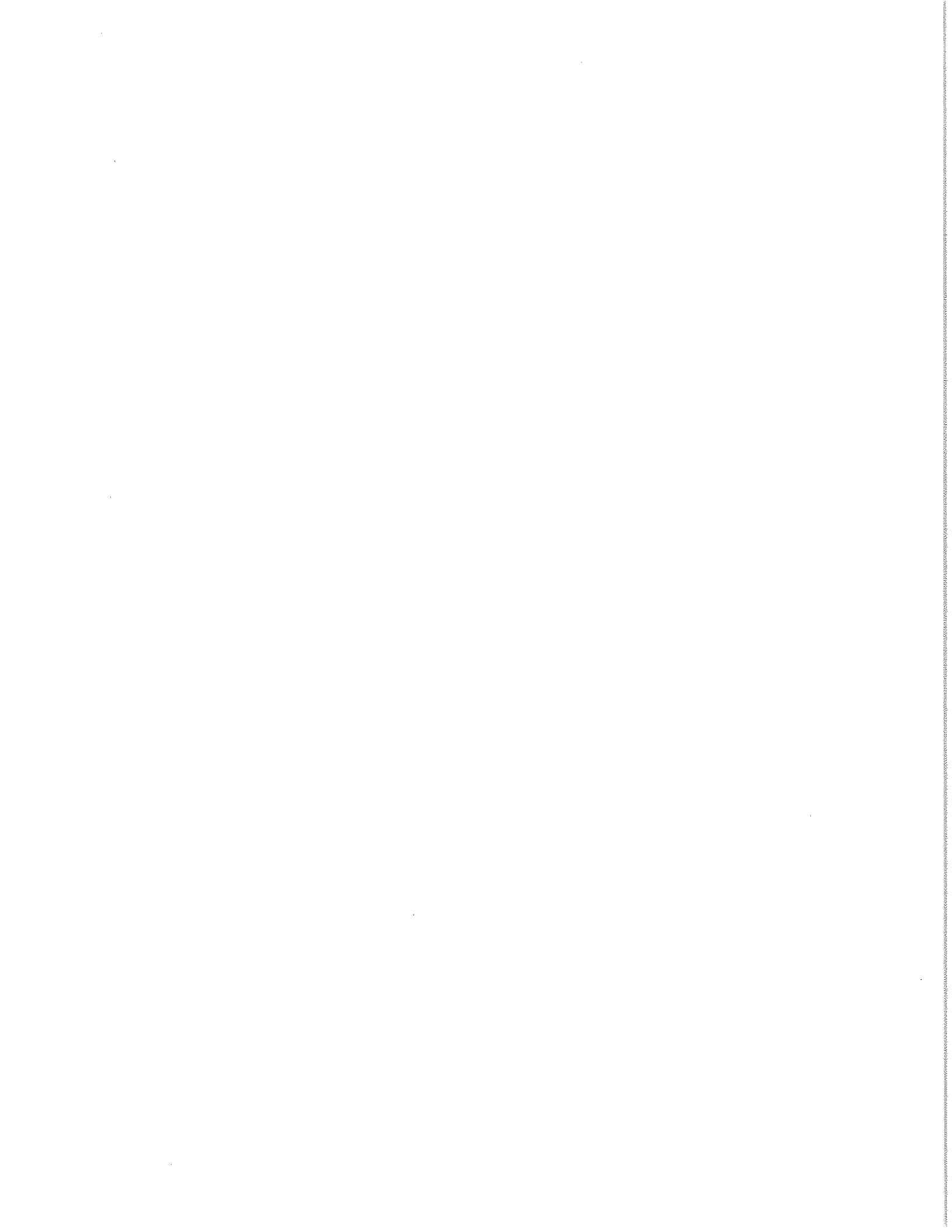
The Jordan Cove Meter Station would be located within the South Dunes portion of the terminal. The meter station would be comprised of one building which would house gas chromatographs, moisture analyzer, communication equipment, and flow computer. A canopy would also be installed to cover the control valves and ultrasonic meters. The Jordan Cove Meter Station would also include an MLV, a pig launcher/receiver, and a 140-foot-high steel communication tower. The station would be enclosed by a 7-foot-high chain-link fence, and the interior of the yard would be gravelled.

The Klamath-Beaver and the Klamath-Eagle Meter Stations would be co-located within the fenced boundaries of the Klamath Compressor Station at about MP 228.8. The Klamath-Beaver Meter Station would include an interconnection with the existing GTN pipeline system; while the Klamath-Eagle Meter Station would serve as the interconnect with the existing Ruby pipeline system.

Klamath Compressor Station

The Klamath Compressor Station would be located approximately 1.8 miles northeast of the town of Malin, at the eastern terminus of the Pacific Connector pipeline, and would be accessible from Malin Loop and Morelock Roads. The station would include the Klamath-Eagle and Klamath-Beaver Meter Stations and would be located adjacent to the existing GTN Malin/Tuscarora Gas Transmission Company (Tuscarora) Meter Station and the Ruby Turquoise Flats facility.

The compressor station would include 62,200 International Organization for Standardization (ISO) hp of new compression and a 31,100 ISO hp standby compressor unit, consisting of turbine-driven, natural gas fired centrifugal compressor units. Other facilities would include an inlet filter/separator, lube oil cooler, inlet air silencer/cleaner, exhaust system, and gas coolers. The compressor building would include skid-mounted fuel gas conditioning, measuring, and regulation equipment. Related suction and discharge headers and piping would be installed between the pipeline and the compressor units. Other buildings inside the station would include a control room/ancillary equipment building and unit valve skid buildings. The ancillary equipment building would include an air compressor system, hot water boiler, and back-up generator. A high-pressure vent system with a silencer would be installed to allow the compressor to be blown down. There would also be a small office in one of the buildings and the station would contain aboveground pig launcher/receiver equipment, an MLV, and a 140-foot-high communication tower. The compressor station would be secured by a 7-foot-high chain-link fence.



Final Environmental Impact Statement

**JORDAN COVE ENERGY AND
PACIFIC CONNECTOR GAS PIPELINE
PROJECT**

Jordan Cove Energy Project, L.P.
Pacific Connector Gas Pipeline, L.P.

Docket Nos. CP07-444-000
CP07-441-000

FERC/EIS – 0223F

Federal Energy Regulatory Commission

Office of Energy Projects

Washington, DC 20426

Cooperating Agencies

USDA Forest Service, Pacific Northwest Region
Department of the Army, Corps of Engineers, Portland District
US Environmental Protection Agency, Region 10
US Department of Homeland Security Coast Guard, Portland
US Department of Transportation Pipeline and Hazardous Materials Safety Administration
US Department of the Interior Bureau of Land Management, Oregon State Office
US Department of the Interior Bureau of Reclamation, Klamath Basin Area Office
US Department of the Interior Fish and Wildlife Service, Oregon State Office
Douglas County, Oregon

May 2009

We approve of the new proposed pipeline between MPs 0.0 and 11.36 (Route WC-1A-2A). None of the other route variations we analyzed in the Coos Bay area appear to be environmentally superior to the new proposed route. However, to ensure that impacts on resources are minimized to the extent possible, we **recommend that**:

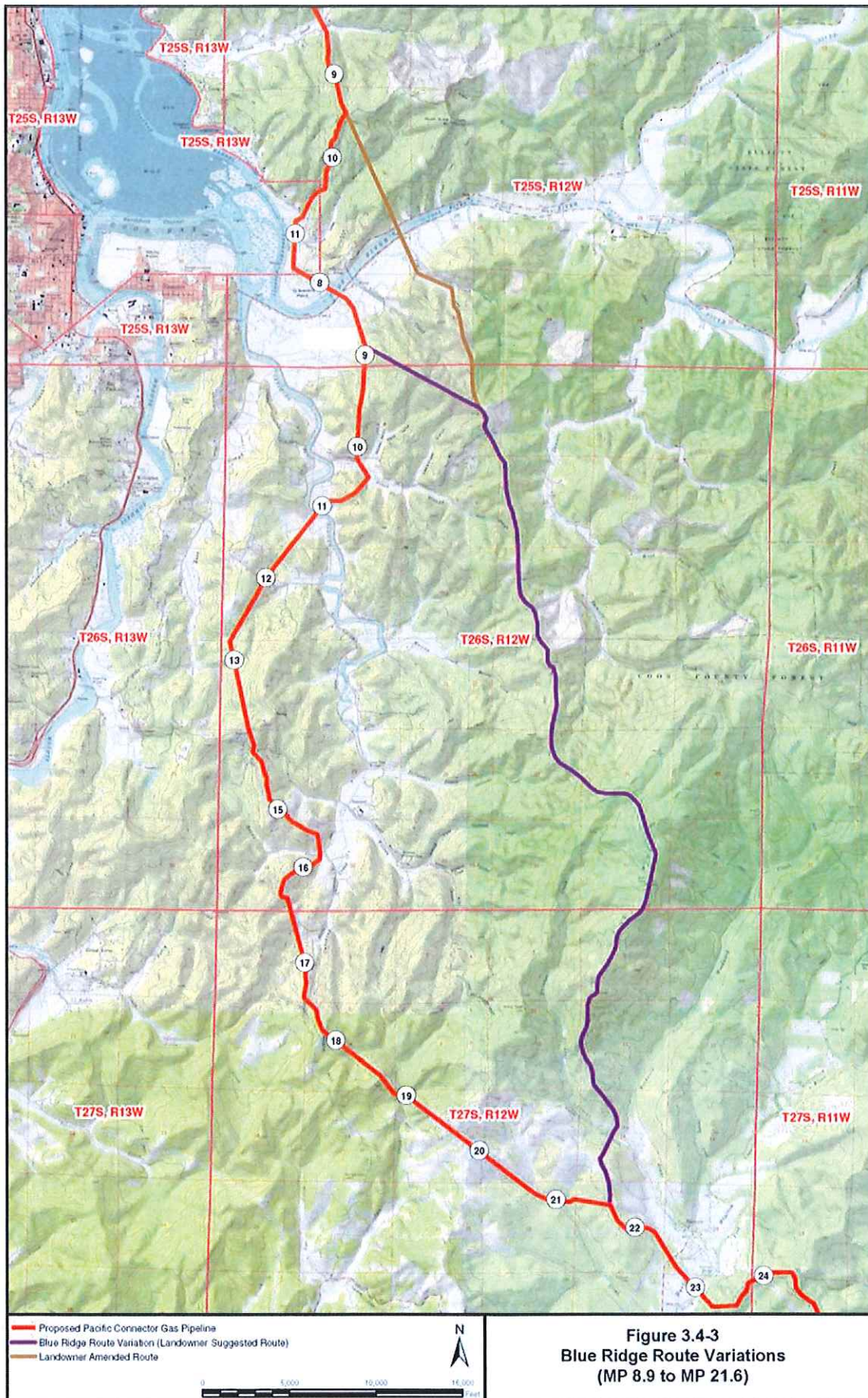
- **Pacific Connector should continue to consult with the Port and potentially affected oyster growers regarding measures that should be implemented during pipeline installation in Coos Bay to minimize impacts on Port activities and oyster raising. The results of this consultation should be filed with the Secretary prior to pipeline construction.**

The Coos Watershed Association, in a letter to the FERC dated December 4, 2008, commenting on the draft EIS, indicated concerns about Route Variation WC-1A. This variation would cross Kentuck, Wilanch, Catching, and Stock Sloughs, and Boone Creek, which the Association claims are of value to coho salmon. The route down Lilienthal Creek would cross the Brunschmid Wetland Reserve Project, which has an easement held by the USDA Farm Services Agency. These concerns would also apply to the currently proposed route because Variation WC-1A and the proposed route share the same location at the crossings of these waterbodies and wetlands. Each of the other pipeline route variations evaluated in the Coos Bay area would also potentially affect salmon as a result of in-water construction within Coos Bay or other waterbody crossings, therefore potential impact on salmon could not be avoided by using one of the other Coos Bay alternative routes. Members of the Waterbody Crossing Methodologies Subgroup of the Federal and State Task Force on ESA-related issues for the Project appeared to favor Route Variation WC-1A over the in-water route, for the reason that variation WC-1A (and also the proposed route) would reduce the length of pipeline within aquatic habitat.

We address impacts on waterbodies and wetlands in section 4.3 of this final EIS. Pacific Connector intends to use a bore to cross under both Kentuck and Catching Sloughs, thus avoiding direct impacts on those waterbodies and the fish species that may inhabit those streams. We believe that measures proposed by Pacific Connector for construction and restoration within wetlands would adequately minimize impacts on wetlands along Lilienthal Creek and the Brunschmid Wetland Reserve Project. However, we have recommended in section 4.3 that Pacific Connector work with the Coos Watershed Association and the USDA Farm Services Agency during finalization of design plans to ensure that impacts on the Wetland Reserve Project and adjacent wetlands are properly mitigated. We address impacts to federally listed salmon in section 4.6, and outline measures that would be used to avoid, reduce, or mitigate those impacts.

3.4.2.2 MPs 9 to 22 - Blue Ridge Route Variations

In filings made on October 4, 2007, both Fred Messerle & Sons, Inc. (Messerle) and the Coos County Sheep Company proposed what they called the Blue Ridge Alternative Route between about MPs 9 and 22 (figure 3.4-3). They contend that this route, shifting the pipeline further east, would place the pipeline over tracts mainly owned by the federal government and large timber companies. They state that their alternative route would be further removed from the Coos Bay estuary, and farther away from areas that would be more likely to be developed in the future for residential and commercial purposes. Their suggested route alternative would mostly follow ridgelines. They claim that their alternative route would only have one waterbody crossing, of Steinnon Creek, and would avoid crossings of Catching and Stock Sloughs, and



Boone Creek, Catching Creek, and Cunningham Creek along the proposed route. Pacific Connector believes that the alternative route would cross five waterbodies. The variation would be about 0.8 mile shorter than the corresponding segment of the proposed route.

In a November 21, 2007 filing, responding to a November 2, 2007 data request from the FERC, Pacific Connector provided the results of its desktop comparison of the Blue Ridge Route Variation with the September 2007 proposed route between about MPs 9 and 22. Pacific Connector contends that there are constructability issues along the Blue Ridge Route Variation, as two areas susceptible to landslides were identified with LiDAR. The proposed route would follow the exiting BPA powerline corridor for 5.9 miles, while the Blue Ridge Route Variation would follow a one-lane asphalt road for 4.1 miles. Pacific Connector believes it would have to install its pipeline in Blue Ridge Road along the route variation, resulting in traffic delays due to road closures, potentially impacting residences along the route, limiting access for timber extraction and recreational activities in the area, and increasing expenses related to rebuilding the road after pipeline installation. Pacific Connector is also concerned that the Blue Ridge Route Variation would follow Razor Back Ridge Top, requiring slow and expensive stove-pipe construction techniques that could add a year to the installation schedule, with limited access for construction vehicles, limited turn around space, and limited work space.

In a November 29, 2008 letter to the FERC, Laurie and Richard Potts supported the finding in the draft EIS that the proposed route was environmentally preferable to the Blue Ridge Variation. They point out that the Blue Ridge Route Variation was promoted by Messaerle to avoid impacts on his property. The variation merely shifts the burden of the pipeline route onto other landowners. Potts state that Blue Ridge is narrow, with steep drop offs, and residents driving along Blue Ridge Road have to use pullouts to avoid oncoming traffic. They are concerned about safety and buildability issues if the pipeline was rerouted along the road.

A December 1, 2008 letter to the FERC from Mark Sheldon of Coos Bay argued in favor of the Blue Ridge Route Variation because it would affect fewer landowners (by two) and cross fewer creeks (by two) in comparison to the proposed route. Messerle, in a December 1, 2008 letter, proposed the use on an Amended Blue Ridge Alternative Route between about MP 9.2 along Route Alternative WC-1A and MP 21.6. Messerle claims this new alternative route would avoid the wetland habitat restoration project on the Brunschmid property, avoid potential cultural resources at Grave Yard Point, eliminate crossings of Stock Slough and Catching Slough, and instead move the pipeline to a route within the Vogel Creek drainage. Messerle asserts that the new alternative route would reduce the length of the pipeline and reduce impacts on private property by increasing the distance crossing BLM land. The Coos Watershed Association, in a December 4, 2008 letter commenting on the draft EIS, requested a more thorough analysis of the Amended Blue Ridge Alternative Route. In a December 29, 2008 data request, we asked Pacific Connector to provide the results of a desk-top environmental analysis of the Amended Blue Ridge, and additional information was filed on January 21, 2009. Figure 3-4-3 illustrates the proposed route, Messerle's October 2007 Blue Ridge Route Variation, and his December 2008 Amended Blue Ridge Alternative Route. Table 3.4.2.2-1 compares environmental elements between the proposed route, Blue Ridge Route Variation, and Amended Blue Ridge Alternative Route. The proposed route would be longest, and affect the most landowners, while the Amended Blue Ridge Alternative Route would be 2.2 miles shorter and affect 18 fewer tracts. The proposed route would maximize following existing rights-of-way, and would cross less steep terrain.

TABLE 3.4.2.2-1

**Comparison of Pacific Connector's Proposed Route and Blue Ridge Route Variation and Amended Blue Ridge Variation
(MP 9.45 to 21.6) a/**

Impact/Issue	Proposed Route	Blue Ridge Variation	Landowner Amended Blue Ridge Variation
Individual Land Tracts	58	48	40
Total Length (miles) <u>b/</u>	15.83	14.53	13.63
Parallel/Adjoining Existing Disturbances (miles) <u>c/</u>	6.85	5.05	4.22
Timbered Land (miles)	10.63	10.73	10.75
In-Road Lay – Dirt (Gravel) – Rebuild road post-construction (miles)	1.07	1.17	0.69
In-Road Lay – Paved (Asphalt) – Rebuild road post-construction (miles)	None	4.1 <u>d/</u>	4.1 <u>d/</u>
Road Closure During Construction – Flaggers, Traffic Control & Detours (miles)	None	4.1 <u>d/</u>	4.1 <u>d/</u>
River Crossings	HDD	HDD	HDD – not feasible <u>e/</u>
Creek/Ditch Crossings <u>f/</u>	60 <u>f/</u>	12 <u>f/</u>	17 <u>f/</u>
Slough Crossing – Dry Open Cut	1	None	None
Slough Crossing – Bore (feet)	400	None	None
Unpaved Road Crossings – Cut	33	20-33	20-25
Paved Road Crossings – Cut	7	4	4
Steep Up & Down Slopes – Tie-Off Equipment, etc. (miles)	1.1	1.2	1.3
Narrow Ridge Top Construction – Only access is along easement (miles)	None	9.5 <u>g/</u>	9.5 <u>g/</u>
Razor – Back Ridge Top Construction – Stove-pipe, Sections, End haul, etc. (miles) <u>h/</u>	None	4.5 <u>h/</u>	4.5 <u>h/</u>
Concrete Weight Coating of Pipe Required (miles) <u>i/</u>	1.58	1.08	0.93
Work off Hardwood Mats/Dewater Ditch, etc. (miles)	1.58	1.08	0.93

a/ To provide a common comparison of all routes, the routes begin at MP 9.45 of the proposed route.

b/ Lengths measured Using ArcMap GIS Software.

c/ The proposed route would parallel 5.9 miles of BPA rights-of-way, whereas both variations would follow 4.1 miles of single-lane paved road as noted in Footnote 4.

d/ 4.1 miles ridge top construction is within & above a light-duty single-lane paved road; 0.50 mile of which is populated on both sides of the road.

e/ Potential Coos River HDD not feasible on Landowner Amended route because of steep slopes and lack of suitable HDD entry or exit point on north side of the Coos River.

f/ Based on Pacific Connector's wetland and waterbody surveys conducted by Jones and Stokes on the Proposed Route and from Pacific Northwest Hydrography Framework Clearinghouse (PNHFC) data layers (<http://hydro.reo.gov/>) for the variations. The Proposed Route includes 12-ditches, 11-intermittent waterbodies and 37-perennial waterbodies.

g/ Only 4 access points in 9.5 miles ridge top - Extended In/Out Travel Time for all operations along ridge top easement means short work production days.

h/ 4.5 miles razorback ridge top - extremely narrow, limited work space, limited access, limited turnaround space available.

i/ Based on Pacific Connector's wetland and waterbody surveys conducted by Jones and Stokes on the Proposed Route and NWI mapping on the variations where wetland and waterbody surveys have not been completed.

Pacific Connector identified additional areas of potentially rapidly moving landslides on slopes immediately south of MP 9.45 and north of Echo Valley, as well as on the slopes on the north side of the Coos River along the Amended Blue Ridge Alternative Route. Pacific Connector also believes that an HDD under the Coos River would not be possible along the Amended Blue Ridge Alternative Route because of the topographic conditions on the north side of the river. Therefore, a wet open-cut crossing would be required.

Because there are questions about safety and buildability along the alternative routes, we do not believe that either the Blue Ridge Route Variation or the Amended Blue Ridge Alternative Route are clearly environmentally superior, and do not recommend either. While the proposed route would follow more existing rights-of-way and less steep terrain, the alternative routes would encounter difficult construction conditions, landslide areas, access issues, and most likely result in delays for users of Blue Ridge Road. While any of the routes would cross streams that

provide habitat for salmon, we are concerned about increased impacts caused by an open-cut crossing of the Coos River along the Amended Blue Ridge Alternative Route. The desk-top analysis is adequate to support our finding that the proposed route is environmentally preferable, and we do not agree that on-the-ground surveys of the alternatives routes or additional analyses are necessary.

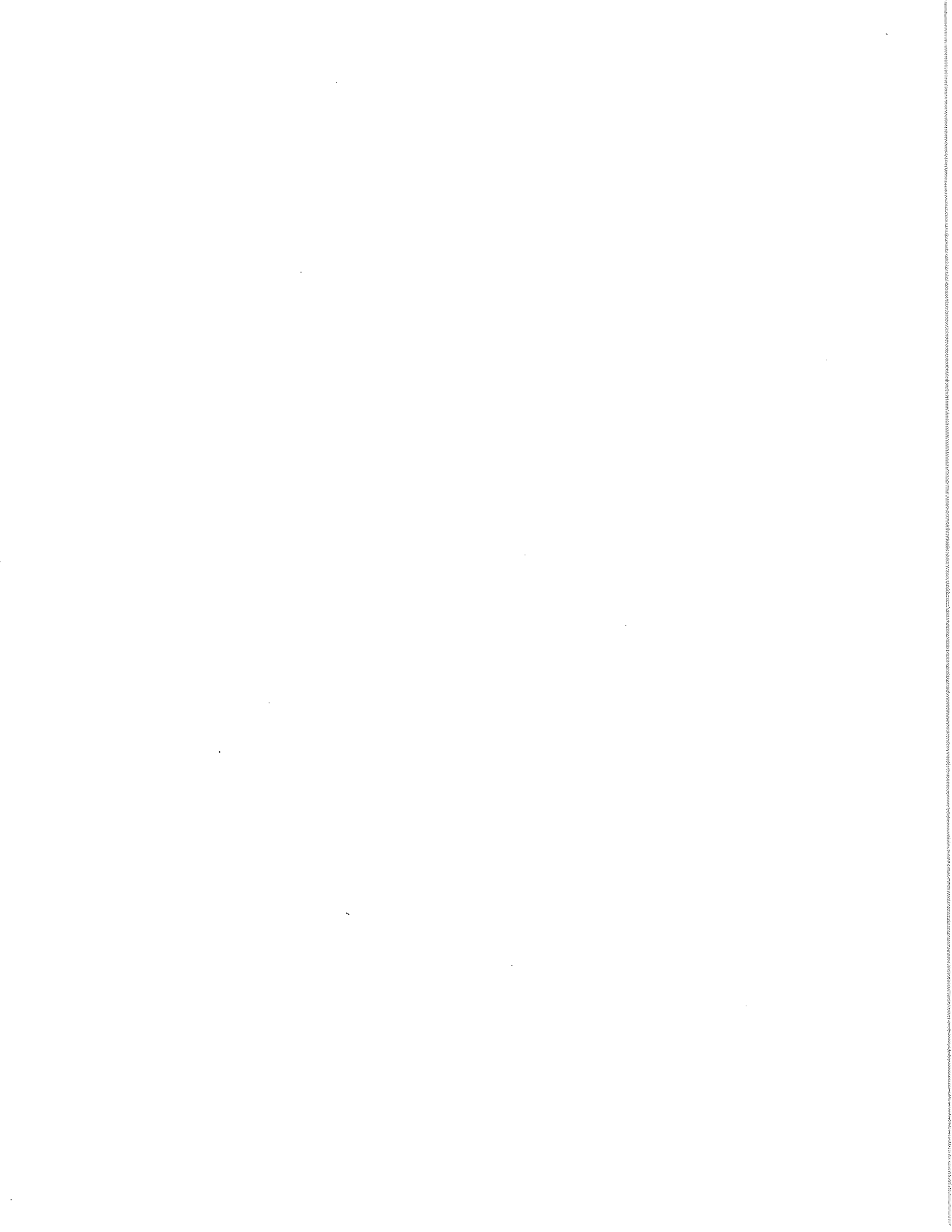
3.4.2.3 MPs 36 to 39 - Big Creek/Spirit Mountain Route Variations

On December 9, 2007, the BLM Coos Bay District requested that the FERC analyze three potential alternative routes between about MP 36 to 39 to avoid newly identified habitat for MAMU nesting sites. In a December 14, 2007 data request, the FERC asked Pacific Connector to provide desktop data comparing the suggested alternative routes (northern, southern, and intermediate variations) with the corresponding segment of proposed route (figure 3.4-4 and table 3.4.2.3-1).

The northern route variation would leave the proposed route just east of MP 36, heading northeast towards Spirit Mountain, following in a part an existing road or trail for about 1.5 miles, then rejoining the proposed route just east of MP 38. This variation would be about 0.5 mile longer than the corresponding segment of proposed route. The route variation would transverse rugged topography with steep slide-slopes (greater than 50 percent) and cross several waterbodies. The geologic hazard evaluation determined that this variation is not a reasonable alternative due to the high risk of landslides and construction difficulties on the steep slide-slopes.

The southern route variation would head southeast from the proposed route east of MP 36, crossing Big Creek, following existing roads or trails for about 1.3 miles, and rejoining the proposed route just east of an existing quarry east of MP 39. This variation would be about 0.33 mile longer than the corresponding segment of proposed route. It would require less clearing of mature forest, and would cross an area with more regenerating forest. This variation would cross Big Creek, which would be avoided by the proposed route. It would also cross tribal lands associated with the Coquille Forest that would be avoided by the corresponding segment of proposed route.

The intermediate route variation would roughly follow the first mile of the southern variation, but then turn north and rejoin the proposed route near MP 38.1. This variation was eliminated from further evaluation because it would require crossing unstable slopes composed of a landslide complex mapped and described in the Geologic Hazards Report submitted with the Pacific Connector's FERC application. This alternative would also cross Big Creek, which would be avoided by the corresponding segment of proposed route.



Final Environmental Impact Statement

**JORDAN COVE ENERGY AND
PACIFIC CONNECTOR GAS PIPELINE
PROJECT**

Jordan Cove Energy Project, L.P.
Pacific Connector Gas Pipeline, L.P.

Docket Nos. CP13-483-000
CP13-492-000

FERC/EIS – 0256F

**Federal Energy Regulatory Commission
Office of Energy Projects
Washington, DC 20426**

Cooperating Agencies

US Department of Agriculture Forest Service, Pacific Northwest Region
Department of the Army, Corps of Engineers, Portland District
US Department of Energy
US Environmental Protection Agency, Region 10
US Department of Homeland Security Coast Guard, Portland
US Department of the Interior Bureau of Land Management, Oregon State Office
US Department of the Interior Bureau of Reclamation, Klamath Basin Area Office
US Department of the Interior, Fish and Wildlife Service, Oregon State Office
US Department of Transportation, Pipeline and Hazardous Materials Safety Administration

September 2015

export point on the West Coast). LNG vessels taking cargo from Gulf Coast or East Coast terminals would have substantially longer and less direct routes to Asian markets than from the West Coast. Furthermore, Jordan Cove proposes to acquire its natural gas from western Canadian and Rocky Mountain sources, while proposed East Coast export terminals would likely receive natural gas from the Appalachian Basin, and Gulf Coast terminals would likely receive natural gas from sources in Louisiana and Texas.

We acknowledge that there are existing LNG terminals in Mexico and Alaska. If one of the existing LNG terminals on the West Coast of Mexico was converted to export, it would not meet Jordan Cove's objective of using western Canadian and Rocky Mountain natural gas. The existing LNG export terminal at Kenai, Alaska, does not have supplies or volume capacity to meet the goals of the Jordan Cove terminal. We also considered if it was possible to convert any of the existing LNG storage facilities (peak shaving plants) in the Pacific Northwest to LNG export terminals, but found they did not have adequate ports for LNG vessel access.

There are other proposals to construct and operate new LNG export terminals in British Columbia, Canada, Alaska, and in Warrenton, Oregon. In the case of the proposed British Columbia terminals, their permitting status appears uncertain and they may not be ready for construction within the same time frame as the Jordan Cove terminal. The two new proposals for LNG export terminals in Alaska would not be able to access natural gas supplies in western Canada and the Rocky Mountains, thus not meeting one of the main objectives of the Project. The Oregon LNG and Northwest Washington Expansion Project (WEP) could meet most of the Project objectives. The FERC issued a DEIS for Oregon LNG and the WEP on August 5, 2015, which appears to show that it would have similar environmental impacts as the JCE & PCGP Project.

We considered alternative designs for Jordan Cove's facilities at Coos Bay, including underground, lower, or wider LNG storage tanks. Underground, wider, or lower LNG storage tanks would be infeasible, given Jordan Cove's need for a certain amount of LNG storage for commercial viability, low groundwater, and configuration within the Ingram Yard to include the LNG vapor exclusion area.

We examined multiple pipeline route alternatives in detail. In the case of the Modified Blue Ridge 2013 Alternative Route, we requested that Pacific Connector provide additional environmental data, including the results of on-the-ground surveys where access could be obtained on BLM lands. Although fewer private parcels would be crossed, our analysis using the additional data confirmed the findings in the DEIS, that the Modified Blue Ridge 2013 Alternative Route does not have significant environmental advantages over the corresponding segment of the proposed route between mileposts (MP) 11.1 and 21.8, because the alternative would affect more old growth forest habitat for marbled murrelet and northern spotted owl. The Shasta View Irrigation District (SVID) Alternative Route would meet Reclamation's goals of avoiding impacts on the SVID facilities; however, we recommended that Pacific Connector could use its proposed route if it can reach an agreement with Reclamation, including mitigation for the SVID. We also assessed alternative locations for Pacific Connector's aboveground facilities, but found the proposed sites to be environmentally preferable.

TABLE 3.4.2.1-1

Comparison of the Proposed Route with the 2009 FEIS Route and Brunschmid WRP Easement Avoidance Alternative 1			
Alternatives Analysis	2009 FEIS Route	WRP Avoidance Alternative 1	Proposed Route
Length (miles) <i>a/</i>	2.9 <i>b/</i>	2.8	3.0
Construction Right-of-Way (acres)	31	31	33
TEWAs (acres)	23	18	19
Operational Easement (acres) <i>c/</i>	18	17	18
Number of Landowner Parcels Crossed (all private)	14	20	18
Number of Residences within 50 feet of Construction Right-of-Way	0	0	0
Number of Waterbodies Crossed	6 <i>d/</i> Coos River and 1 ditch for HDD	7 <i>d/</i> Coos River and 1 ditch for HDD	7 <i>d/</i> Coos River to be HDD'd
Length of wetland crossings (feet)	9,082 <i>e/</i> , <i>f/</i>	4,417 <i>f/</i>	6,687 <i>f/</i>
Agricultural Lands Crossed (miles)	0.33 <i>g/</i>	0.33 <i>g/</i>	1.19 <i>g/</i>
Evergreen Forest (acres construction right-of-way)	4	8	14
Regenerating Forest clearing (acres construction right-of-way) <i>h/</i>	7	7	15
Habitat for threatened or endangered species	Coos River Southern DPS Green Sturgeon River – HDD	Directly affects known bald eagle nest <i>i/</i> Coos River Southern DPS Green Sturgeon River – HDD	Coos River Southern DPS Green Sturgeon River – HDD
Number of Previously Recorded Cultural Resources	1	1	1
Number of Newly Identified Cultural Resources <i>j/</i>	0	0	0
Miles of right-of-way parallel or adjacent to existing rights-of-way (percent of alternative length)	0.8 (29.5 percent)	0.8 (27.1 percent)	0.5 (17.2 percent)
Avoids WRP Easement	No	Yes	Yes

General: All values are rounded (acres to nearest whole acre, miles to nearest tenth of a mile, feet to nearest whole foot).
a/ Route Alternative lengths cannot be accurately calculated by comparing mileposts due to shifts in the alignment.
b/ Mileage length cannot be calculated by subtracting milepost ranges because of engineering station equations included in route segments between MPs 8.59 to 9.41R.
c/ Acres of permanent easement calculated based on crossing length on private and federal timber lands. Pacific Connector proposes a 50-foot permanent easement on federal lands and a 50-foot permanent easement on private timber lands.
d/ From review of Pacific Northwest Hydrography Framework Clearinghouse data layers (<http://hydro.reo.gov/>)
e/ Field surveys identified 5,902 feet.
f/ Based on NWI mapping. Waterbodies/ditches not separated out of extensive wetlands.
g/ Agricultural lands are associated with the Coos River Floodplain and included wetland pastures and hayfields.
h/ Includes recent clear-cut forests.
i/ ORBIC (2012). Nest site confirmed during Pacific Connector October 2012 over-flight route investigation.
j/ Surveys incomplete.

3.4.2.2 Blue Ridge Alternative Routes

A group of landowners¹⁴ objected to the pipeline route filed with Pacific Connector’s June 2013 application to the FERC between about MPs 11.1R and 21.8, in Coos County, and suggested that the FERC consider an alternative route. Pacific Connector conferred with the landowners and developed the Modified Blue Ridge 2013 Alternative Route (Blue Ridge Alternative) that it believes is buildable. The June 2013 proposed route and the Blue Ridge Alternative are illustrated on figure 3.4-3. Figure 3.4-3 also shows a portion of the May 2009 FEIS route, and a Landowner Amended Route that was mostly incorporated into the Blue Ridge Alternative, and is therefore not analyzed as a separate alternative.

¹⁴ See letters to the Commission filed on July 10, August 15, 16, 20, 22, and 30, September 25, October 29, and November 13, 2013, in Docket No. CP13-492-000.

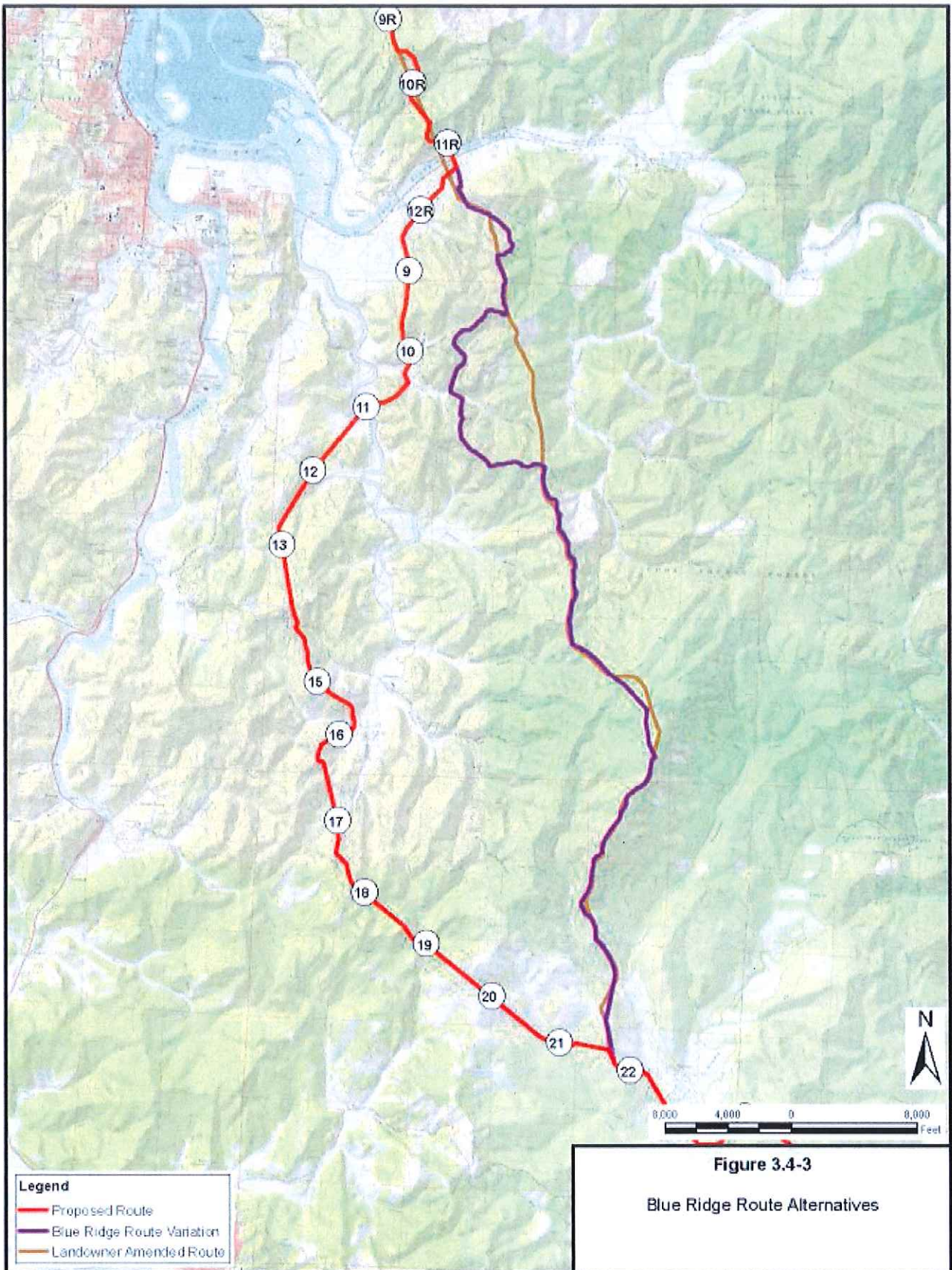


Figure 3.4-3
Blue Ridge Route Alternatives

The June 2013 proposed route would be slightly longer (14.4 miles) than the Blue Ridge Alternative (14.0 miles), and affect a greater number of landowners (table 3.4.2.2-1). Nearly 52 percent of the corresponding segment of the June 2013 proposed route would be co-located with a BPA powerline right-of-way, while 63 percent of the Blue Ridge Alternative would parallel logging roads. The Blue Ridge Alternative would shift portions of the pipeline from land owned by private individuals and timber companies to federal land managed by the Coos Bay District of the BLM. The proposed route would cross 61 privately owned parcels, while the Blue Ridge Alternative would cross 23 private parcels. The alternative route would cross about 6.5 miles of private land and 7.6 miles of federal land, while the proposed route would cross about 12.9 miles of private land and 1.5 miles of federal land. However, some landowners along the Blue Ridge Alternative object to it, believing that the alternative would affect the value of their properties, clear more forest including old growth, and impact wildlife and waterbodies, particularly Daniels Creek.¹⁵

In order to provide an equal comparison our DEIS used publicly available data for both the alternative and corresponding segment of proposed route, even though field data was available for a portion of the proposed route. Our DEIS found that the alternative did not provide a significant environmental advantage because additional clearing of LSOG forest and NSO and MAMU habitats along the Blue Ridge Alternative could cause long-term impacts and an irretrievable loss of suitable and occupied habitat that could not be easily mitigated. We received a number of comments on the DEIS that requested that we re-evaluate our assessment of the Blue Ridge Alternative.¹⁶

In response, on April 16 and May 22, 2015, we sent data requests to Pacific Connector asking for more information about the Blue Ridge Alternative in comparison to the proposed route, including data collected from on-site surveys. Pacific Connector was able to collect on-the-ground environmental information along the 7.6 miles of federal lands crossed by the alternative. The FEIS has been updated to include field data where available for the alternative, as well as field data previously collected by Pacific Connector where access was granted along the corresponding segment of proposed route. Environmental characteristics are compared in table 3.4.2.2-1, and additional details regarding the assessment for the Blue Ridge Alternative can be found in appendix Q of this EIS.

¹⁵ See letters from Cary Norman and Karen Dohler filed with the FERC on June 24, 2014, and letters from David Schmidt, Kathi Windsor, Tom Younker, Julie Eldridge, and Christine Keenan filed July 16, 2014, in Docket No. CP13-492-000.

¹⁶ E.g., letters from Mark Sheldon filed with FERC on January 26, 2015, James and Archina Davenport filed with FERC on February 2, 2015, Curtis and Mellissa Pallin filed with FERC on January 19, 2015, and Oregon Small Woodlands Association filed with FERC on February 13, 2015.

TABLE 3.4.2.2-1

Comparison of Pacific Connector's Proposed Route with the Blue Ridge Alternative

Impact/Issue	Proposed Route	Blue Ridge Alternative
Length (miles) <u>a/</u>	14.4	14.0
Construction right-of-way (acres)	166	161
Temporary extra work areas (TEWA) (acres)	62	37
Operational easement (acres) <u>b/</u>	87	85
Land ownership (miles)	Private	6.5
	BLM	1.4
	State	0.0
Number of landowner parcels crossed	Private	24
	BLM	11
	State	1
Number of residences within 50 feet of the construction right-of-way	1	0
Water supply wells within 50 feet of the construction right-of-way <u>c/</u>	0	0
Number of waterbodies crossed	Field survey data	43 perennial
		23 intermittent <u>d/</u> , <u>e/</u>
Length of wetland crossings (miles)	2.2 <u>f/</u> , <u>g/</u>	1.2 <u>g/</u>
Riparian Reserves Impacted (acres)	14	17
Agricultural pastures affected (acres construction right-of-way) <u>h/</u>	8	8
Coniferous forest (acres construction right-of-way) <u>i/</u>	9	41
	LSOG	50
	Mid-seral	42
	C - R	77
LSRs/Unmapped LSRs crossed (miles/acres)	0 miles / 0 acres	0.4 mile / 7 acres
Northern Spotted Owl (NSO) home range (1.5 mile radii)	1 NSO Home Range crossed (42310)	1 NSO Home Ranges crossed (42310)
High NRF and NRF habitat remover (acres) <u>j/</u>	7	66
Confirmed occupied Marbled Murrelet (MAMU) stands intersected by the alignment (based in NWFP criteria)	0	9 occupied stands (12 based on FWS criteria)
Potentially occupied MAMU stands intersected by the alignment (based in NWFP criteria)	3	1 (12 based on FWS criteria)
Marbled Murrelet suitable habitat removed	3	48
Fish-bearing streams crossed <u>k/</u>	Known	4
	Assumed	0
Fisheries critical habitat (streams crossed)	Coho <u>l/</u>	4
	Green Sturgeon <u>m/</u>	0
Geologic hazards (number, feet) <u>n/</u>	Previously mapped: SLIDO, other published	5 slides, 7,137 feet
	LIDAR identified	2 slides, 3,257 feet
	Total	7 slides, 10,397 feet
Number of known cultural resources sites	0	1 <u>o/</u>
Number of newly identified cultural resources	0	0 <u>o/</u>
Miles of right-of-way parallel or adjacent to existing rights-of-way (percent of route length) <u>p/</u>	7.4 (52 percent)	8.3 (59 percent)

General: All values are rounded (acres to nearest whole acre, miles to nearest tenth of a mile, feet to nearest whole foot).

a/ Route Alternative lengths cannot be accurately calculated by comparing mileposts due to shifts in the alignment.

b/ Acres of permanent easement calculated based on a 50-foot permanent easement.

c/ OWRD (2013)

d/ <http://hydro.reo.gov/>, and field survey data

e/ Includes waterbodies not crossed by the centerline but within the right-of-way.

f/ Field surveys identified 2.0 miles.

g/ Based on NWI mapping.

h/ Only acres associated with the construction right-of-way are provided for comparison, as TEWAs have not been designed for the Modified Blue Ridge Route Variation.

i/ Evergreen Forest: LSOG (late successional/old-growth forest) = 80+ years; Mid-seral = 40 to 80 years; C-R (Clear-cut/regenerating forest) = 0 to 40 years.

j/ Nesting, Roosting, Foraging

k/ ODFW (2012a)

l/ NMFS (2008a)

m/ NMFS (2009)

n/ See GeoEngineers (2013a).

o/ Surveys incomplete.

p/ Approximately 5.6 miles (39 percent) of the proposed route is co-located/adjacent to a BPA Powerline corridor, whereas the Blue Ridge Alternative is adjacent/co-located with logging roads.

Based on field-collected data, the Blue Ridge Alternative would cross four perennial streams and four intermittent streams, all on BLM lands, while the corresponding segment of proposed route would cross 43 perennial streams and 23 intermittent streams. The Blue Ridge Alternative would cross 1.2 miles of wetlands compared to 2.2 miles crossed by the corresponding segment of the proposed route.

The DEIS identified three stands crossed by the proposed route that may be occupied by MAMU and we have no new information regarding these stands, therefore we continue to assume that the proposed route would cross three stands that may be occupied by MAMU and no stands that are confirmed as occupied. Construction of the Blue Ridge Alternative would result in removal of 48 acres of MAMU suitable habitat compared to 3 acres by the corresponding segment of proposed route.

The information that we had at the time of the DEIS indicated that there were three stands crossed by the Blue Ridge Alternative that were known to be occupied by MAMU, and seven additional stands that may be occupied by MAMU. The recently completed surveys along the Blue Ridge Alternative confirmed that six of the seven stands are occupied by MAMU (based on NWFP criteria). One additional stand crossed by the alternative route may be occupied; however, a second-year survey would be needed to confirm occupancy.

Based on our assessment, we conclude that the Blue Ridge Alternative would not offer significant environmental advantages over the proposed route. The additional clearing of LSOG forest, NSO and MAMU habitats, and Riparian Reserves along the Blue Ridge Alternative would cause long-term impacts and loss of suitable and occupied habitat that could not be easily mitigated, while impacts on waterbodies and their associated aquatic resources crossed by the proposed route would primarily be short-term occurring only during construction, and could be reduced or mitigated.

3.4.2.3 Weaver Ridge Alternative Routes

The BLM requested that Pacific Connector consider route alternatives in the vicinity of Weaver Ridge between MPs 42.7 and 49.8 to avoid MAMU and NSO critical habitat. Several alternative routes were identified: Deep Creek Variation Alternative Route, the May 2009 FEIS Alternative Route, Weaver Ridge Alternative 1 Route, Weaver Ridge Alternative 2 Route, Weaver Ridge Alternative 2a Route, Weaver Ridge Alternative 3 Route, Weaver Ridge Alternative 3a Route, and the proposed route. These routes are illustrated on figure 3.4-4 and compared in table 3.4.2.3-1.

The Weaver Ridge Alternative 1 Route would leave the proposed route around MP 46.0 crossing the logging spur road north of a reservoir and head almost due east on the north side of a tributary of Wildcat Creek over ridges, reconnecting with the proposed route at about MP 49.8. This alternative would be slightly shorter than the proposed route. However, the Weaver Ridge Alternative 1 Route would cross more miles of critical habitat for MAMU and NSO, and would cross two MAMU occupied stands (compared to one along the proposed route) and five NSO home ranges (compared to four along the proposed route).

The Weaver Ridge Alternative 2 Route would leave the Alternative 1 Route east of the proposed route at about MP 46, crossing a logging spur road, pass the Signal Tree Quarry, then follow Signal Tree Road for about 3 miles. It would head south over ridges, then join the Alternative 3 along Wildcat Creek. The Weaver Cove Alternative 2a Route would deviate from Alternative 2

