

**VIA EMAIL**

Kate McGuire, Planning Division Manager  
Deborah Jacob, Senior Planner  
Columbia County Land Development Services  
445 Port Avenue  
St. Helens, OR 97051

February 17, 2026

**Re: Columbia County Application CU 25-169**

Dear Ms. McGuire and Ms. Jacob:

Northwest Natural Gas Company (“NW Natural”), the applicant in the above-referenced matter is seeking approval from Columbia County (“County”) to develop and operate well pads, wells, and related equipment in connection with processing natural gas (“Proposed Use”) on four sites in Columbia County (“County”) in the PF-80 zone. To facilitate the Proposed Use, NW Natural is proposing to drill twelve wells on four well pads (three new pads and one existing pad that will be expanded) (the “Project”). The Project is being developed in the context of NW Natural’s existing Mist Underground Natural Gas Storage Facility (“Mist Facility”), which has been permitted by the Oregon Energy Facility Siting Council (“EFSC”) and safely operating for decades.

In August 2025, NW Natural filed its initial application with the County, seeking approval of the Project. NW Natural subsequently provided an updated application and additional materials, and the County deemed the application complete on December 4, 2025. The Project was initially set for hearing on February 2, 2026. Because the Planning Commission did not have a quorum at that hearing, the hearing has been rescheduled for March 9, 2026. NW Natural provides this additional information to support the County in preparing its staff report for the upcoming hearing.

**Background**

The Mist Facility is an existing underground natural gas storage facility in Columbia County. It plays a critical role in balancing seasonal energy demands across NW Natural’s service territory and the broader Pacific Northwest region. During periods of low natural gas demand, gas is injected into underground storage reservoirs. This injection process requires increasing the gas pressure above standard pipeline levels to ensure effective storage. When demand rises, the stored gas is produced (or withdrawn) from the reservoirs and then processed by removing moisture from the gas and mitigating against hydrate formation in the withdrawn gas. ORS 520.005(14) (pertaining to gas and oil resources) defines “underground storage” as “the process of injecting and storing natural gas within and withdrawing natural gas from an underground reservoir.”

The vast majority of components within the existing Mist Facility are subject to EFSC’s exclusive siting jurisdiction and have been permitted through the Mist Facility’s Site Certificate, issued by EFSC in 1981, and subsequent Requests for Amendment (“RFAs”), issued by EFSC over the past four decades. Within the last

ten years, NW Natural expanded the Mist Facility by adding a second central compressor station, called the North Mist Compressor Station (“Compressor Station”), and developing the Adams reservoir for underground gas storage (“RFA 11”). The Compressor Station was authorized by the EFSC and included, among other things, two triethylene glycol gas dehydration systems that “following withdrawal from the underground storage reservoir, [] process wet natural gas through contact towers and dehydrate the gas with lean glycol for pipeline distribution of dry gas.” See EFSC, Final Order on Request for Contested Case and Mist Facility Amendment No. 11 (April 21, 2016) at 151.<sup>1</sup>

However, wells and wellhead equipment are expressly exempt from EFSC’s jurisdiction pursuant to ORS 469.300(11)(a)(I)(ii). Accordingly, as part of that recent expansion, NW Natural has previously sought, and the County has issued, two conditional use permits (“CUPs”) under CCZO § 505.2 authorizing six additional wells at the Mist Facility. In 2015, the County issued CU 15-12, authorizing the “drilling and operations of four new natural gas injection/withdrawal wells” at a single well pad location, and one nearby monitoring well. Exhibit A (CU 15-12, Final Order & Staff Report). In 2017, the County issued CU 17-04, authorizing the conversion of an unused well into an observation/monitoring well. (Exhibit B, CU 17-04, Final Order & Staff Report). In both prior approvals, the County concluded that the proposed development and operation of the wells and associated wellhead equipment and well pad were authorized as “[e]xploring, mining and processing of oil, gas, or other subsurface resources, as defined in ORS Chapter 520” and, therefore, a conditional use authorized in the PF-80 zone. These approvals are consistent with both the County’s and EFSC’s historical treatment of wells and well pads at the Mist Facility as the “exploration, mining, and processing of \* \* \* subsurface resources” since at least the 1990s. See, e.g., Exhibit C (CU 2-97, Final Order & Staff Report) (authorizing NW Natural’s development of four new wells and associated equipment at nearby Calvin Creek gas field pursuant to previous version of CCZO § 505.2).

Last year, EFSC authorized NW Natural’s Mist Resiliency Project, which includes expanding the Compressor Station by installing, among other things, three reciprocating gas fired compressors and two dehydration contact towers and glycol regenerating skids with reboilers for use in connection with utilizing additional reservoirs for gas storage (“RFA 13”). EFSC, Final Order on Request for Amendment No. 13 (Jan. 17, 2025) at 1, 17.<sup>2</sup> EFSC concluded that “[c]onsistent with OAR 660-006-0025(4), which implements Statewide Planning Goal 4, these improvements relate to the processing of gas resources and therefore are allowed conditional uses under CCZO Section 505.2.” *Id.* at 75.

Because wells and wellhead equipment are exempt from EFSC’s jurisdiction, NW Natural filed this application with the County for a CUP pursuant to CCZO § 505.2. As noted, the Project proposes to construct and operate twelve wells. Seven of the new wells will be “injection/withdrawal” (“IW”) wells that will inject gas into and produce (or withdraw) gas from three reservoirs. Five of the new wells will be observation and monitoring (“OM”) and/or pressure monitoring (“KI”) wells. The Project’s twelve wells will be located on four well pads. See Exhibit D (Updated Vicinity Plan). Three of the well pads (Medicine, Medicine OM, and Newton) will be

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<sup>1</sup> Available at [https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/FINAL%20ORDER%20MIST%20FACILITY%20RFA%2011\\_2016-4-21.pdf](https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/FINAL%20ORDER%20MIST%20FACILITY%20RFA%2011_2016-4-21.pdf).

<sup>2</sup> Available at <https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2025-01-17-MSTAMD13-Final-Order-w-Site-Cert-and-Attachments.pdf>.

new. The fourth well pad, the existing Stegosaur well pad, will be modified to accommodate the new wells. Project equipment to be located at the wellheads on these well pads include initial processing equipment for moisture removal and hydrate mitigation and small RTU (remote terminal unit) buildings containing monitoring and control equipment.

The Project, including the number and type of wells and RTU buildings proposed for each well pad is summarized below:

**Table 1: Project Summary**

Well Pad	New or Existing	IW Wells	OM/KI Wells	RTU Buildings	Notes
Medicine	New	2	1	1	See Exhibit E (Updated Medicine Site Plan).
Medicine OM	New	0	1	0	See Exhibit F (Updated Medicine OM Site Plan).
Newton	New	3	1	1	See Exhibit G (Updated Newton Site Plan).
Stegosaur	Existing (to be expanded)	2	2	1	See Exhibit H (Updated Stegosaur Site Plan).
<b>Total</b>		<b>7</b>	<b>5</b>		<b>12 Total Wells</b>

The Project will serve a fundamental role in producing the gas stored in existing underground reservoirs at the Mist Facility and then processing that gas so it can be injected into pipelines for distribution and use. See Exhibit I (Letter from David Weber). Every time gas is injected into or produced (or withdrawn) from the underground reservoirs, it must pass through a well. When gas is being withdrawn, initial gas processing occurs at the wellhead, including removing moisture and heating to prevent ice-like blockages, known as “hydrate formation,” in the gas. See *id.* The gas is then sent to the Compressor Station for further gas processing to ensure that it meets the specific quality measures before being injected into pipelines for distribution and use. *Id.* Without the wells and associated wellhead equipment, natural gas cannot be injected into or withdrawn from the underground reservoir, nor can it be processed for distribution and use. *Id.*

With that background in mind, NW Natural offers the following supplemental information regarding the Project and its compliance with applicable approval criteria.

## **Supplemental Project Information**

### **1. The Proposed Use is allowed in the PF-80 zone under applicable state and local land use regulations.**

The Proposed Use is a conditionally allowed use in the PF-80 zone because state and local land use regulations expressly authorize the production and processing of natural gas. CCZO § 505.2 implements the state standards in OAR 660-006-0025 by identifying the resource-zone uses permitted in the PF-80 zone. Both CCZO § 505.2 and OAR 660-006-0025(4)(g) authorize “exploring, mining, and processing of subsurface resources as defined in ORS Chapter 520” in the PF-80 zone. CCZO § 505.2 (authorizing, as a conditional use, “mining and processing of ... gas”); *see also* OAR 660-006-0025(4)(g) (allowing “mining and processing of ... gas, or other subsurface resources, as defined in ORS chapter 520” including “e.g. compressors, separators, and *storage serving multiple wells*” (emphasis added)). The Project is an essential part of the “processing of subsurface resources.” As outlined in Exhibit I (Letter from Dave Weber), the Project is an integral component of the processing of gas both before it is injected and when it is withdrawn from the underground reservoir. The Project therefore clearly falls within the use category defined at CCZO § 505.2 and OAR 660-006-0025(4)(g), as the Project operates as an integral component of a natural-gas processing system.

As noted above, the County has previously reached this conclusion in multiple prior CUPs. *See* Exhibits A through C. This conclusion is also consistent with EFSC’s jurisdictional determinations in its Final Order on RFA 13 for the Mist Resiliency Project.<sup>3</sup>

### **2. CCZO § 1193 (A)–(B) do not apply because that standard only applies to residential development.**

The Project is not subject to CCZO § 1193(A)–(B) because, by their express terms those provisions apply only to residential development and residential uses. Because the Project is not a residential use, these standards do not apply.

### **3. The Proposed Use will not force a significant change in or significantly increase the cost of accepted forest practices under CCZO § 508.1 and OAR 690-006-0025(5).**

CCZO § 508.1 implements OAR 690-006-0025(5). As noted, the vast majority of components within the existing Mist Facility are subject to EFSC’s exclusive siting jurisdiction and have already been evaluated for external impacts through the Site Certificate and Request For Amendment process. Thus, the County’s scope of review under this criterion is extremely minimal and limited to evaluating external impacts from the “Proposed Use.” The Proposed Use is the development and operation of the proposed well pads, wells, and

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<sup>3</sup> See note 2.

related wellhead equipment to process natural gas, which constitutes the “exploring, mining, and processing of subsurface resources,” under CCZO § 505.2 and OAR 660-006-0025(4)(g).

The Proposed Use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agricultural or forest land for the following reasons.

First, the Proposed Use is located on forest, not agricultural land. The Project is located in an area that has long been developed and actively used for natural gas production, processing, and storage operations for decades. Throughout decades of Mist Facility operations, NW Natural’s forest management partners have raised no concerns that these uses have interfered with forest practices, contaminated groundwater or soil, or degraded air quality. Indeed, as reflected by the approval letters from Weyerhaeuser Timber Holdings, Inc. and Evenson Timberland Agency, Inc. in the record, NW Natural’s forest management partners are supportive of the Project. Natural gas operations and active forest management have coexisted without issue for years without a significant change in, or significant increase in the cost of, accepted forest practices.

Second, accepted forest practices include long-term forest management for timber and reproduction. Removal of trees and other vegetation will be strictly limited to the immediate well pads. The approximate clearance areas for the well pads include 87,120 square feet for the Newton well pad, 87,120 square feet for the Stegosaur well pad, 65,340 square feet for one of the Medicine well pads, and 21,780 square feet for the other Medicine well pad. This totals just six acres.

As noted above, broader concerns about the Mist Facility fall outside the scope of this standard. CCZO § 508.1 is not a general “significant impact” test; instead, the analysis is limited to whether the use subject to the County’s review will cause significant changes in, or significantly increase the cost of, accepted forest practices. See *Oregon Pipeline Company v. Clatsop County*, 71 Or LUBA 246 (2015). The same general land uses have operated at the Project site for decades without increasing the cost of, or forcing changes to, ongoing forest practices, and the Project will not do so now.

Even if the County has questions about impacts associated with the Mist Facility as a whole, EFSC has already evaluated those concerns during its prior reviews and approvals. EFSC’s approvals in RFA 11 and RFA 13 included a comprehensive analysis of potential fire, explosion, groundwater, and air-quality impacts and imposed appropriate mitigation.

Within the County’s limited scope of review, the record demonstrates that the Proposed Use will not force a significant change in or significantly increase the cost of accepted forest practices.

**4. The Proposed Use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.**

CCZO § 508.2 implements OAR 690-006-0025(5). As with CCZO § 508.1, the County’s scope of review under this criterion is extremely minimal and limited to evaluating external impacts from the “Proposed Use”: the development and operation of the proposed well pads, wells, and related wellhead equipment to process natural gas.

The Proposed Use will not significantly increase fire hazard, significantly increase fire suppression costs, or significantly increase risks to fire suppression personnel. The Project is located within an existing, developed natural-gas storage area that has been operating safely for decades. The Mist Facility currently includes 38 well pads, 25 injection/withdrawal wells, and 25 observation wells. The new well pads reduce fire risk by serving as a buffer between the wells and related wellhead equipment and the surrounding area. The wells themselves are designed with modern safety features that further limit potential hazards, including but not limited to Emergency Shutdown Valves (“ESD”) designed to instantly isolate the wellhead from pipelines and processing equipment during potential emergencies like fires, overpressure, or leaks.

The four Project well pads are within the Mist-Birkenfeld Rural Fire Protection District (RFPD). The Fire Chief for the Mist-Birkenfeld RFPD does not anticipate that the Project will have a significant adverse impact on their ability to provide fire protection and EMS services. See Exhibit J (Letter from Mist-Birkenfeld RFPD Chief Kaczenski). The history of safe operation of the Mist Facility, of which the Project will be a part, and this statement from the Fire Chief for the Mist-Birkenfeld RFPD demonstrate that the Proposed Use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

Concerns raised about hypothetical failures of the broader Mist Facility are not before the County. The relevant inquiry is the Proposed Use’s impact, *i.e.*, the Project’s plan to develop and operate, for processing natural gas, seven injection/withdrawal wells and five monitoring wells. Consideration of previously approved components of the Mist Facility, whether permitted by the County or EFSC, falls outside the scope of this review. See, *e.g.*, *Marks v. Land Conservation and Development Comm’n*, 327 Or App 708, 727–28, 536 P3d 995 (2023) (analysis of significant impacts is based on the impacts that would occur “as a result of the decision”).

To the extent the County has any concerns about fire risks associated with the broader Mist Facility, EFSC has already evaluated and required that NW Natural implement mitigation for those risks. For example, EFSC’s approval of RFA 13 analyzed seismic, wildfire, and explosion risks associated with the underground storage facility and imposed appropriate mitigation measures. See, *e.g.*, Exhibit K (Selected Excerpts from EFSC RFA 13 Final Order). We would be happy to provide additional relevant portions of EFSC’s Final Order and the Mist Facility’s Site Certificate Agreement at the County’s request.<sup>4</sup>

Within the County’s limited scope of review, the record demonstrates that the Proposed Use will not significantly increase fire hazards, suppression costs, or risks to fire personnel.

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<sup>4</sup> EFSC’s additional analysis of these issues appears in EFSC’s Final Order on Request for Amendment No. 13 (Jan. 17, 2025). That complete document is also available on the Oregon Department of Energy’s (“ODOE”) website and is hyperlinked in note 2.

## 5. The project complies with applicable development standards.

As explained above, the Project under the County's review is extremely limited. The Project consists of three new well pads and modification of one existing well pad, 12 new wells and associated wellhead equipment, which includes three new RTU buildings at three of the well pads. The County has previously determined on multiple occasions that well pads, wells, and associated wellhead equipment (other than RTU buildings) do not meet the County's definition of a "structure" at CCZO § 100.114. See Exhibit A at 4 ("Sections 506 and 507 are not applicable because this application does not seek to site any dwellings or structures."); Exhibit B at 4 (same).<sup>5</sup> CCZO § 100.114 defines a "structure" as

"[a] building or other major improvement that is built, constructed or installed, not including minor improvements, such as fences, utility poles, flagpoles or irrigation system components, that are not customarily regulated through zoning ordinances."

The County's prior analysis is correct, because well pads, wells, and associated wellhead equipment (other than RTU buildings) are clearly not "buildings," nor are they "major improvements." Commonly understood examples of "major improvements" are buildings, towers, turbines, substations, pump stations, etc.—*i.e.*, developed land features that have a significant, above-ground presence appropriate to regulate for setbacks, height, massing, and neighborhood impacts. Wells are mostly subsurface improvements, and well pads are flat, graded areas with minimal to no above-ground impacts. Meanwhile, wellheads and associated wellhead equipment are essentially above-ground pipes with extremely minimal above-ground impacts to the subject property or neighboring properties. See, *e.g.*, Attachment 1 to Exhibit I, Letter from David Weber (providing representative images of wellheads and associated equipment to be constructed and operated as part of the Project).

Accordingly, well pads, wells, and associated wellhead equipment (other than RTU buildings) do not qualify as "structures" subject to any requirements of CCZO §§ 507, 509, and 510. However, to the extent the County concludes otherwise, these Project components comply with CCZO §§ 507, 509, and 510 for the reasons described below. The RTU buildings are "structures," and the RTU buildings also comply with CCZO §§ 507, 509, and 510 for the reasons explained below.

### A. CCZO § 507 Siting of Dwellings and Structures (OAR 660-006-0029)

*.1 All new dwellings and structures are subject to the siting standards in this section. Relevant physical and locational factors including, but not limited to, topography, prevailing winds, proximity to existing roads, access, surrounding land use and source of domestic water shall be used to identify a site which:*

**Response:** There is no dispute that no Project components qualify as a "dwelling," as no Project components will serve as a residence for any person. See CCZO § 100.22–26 (defining related terms "Dwelling Unit,"

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<sup>5</sup> Exhibits D through H reflect that fences are the only other permanent development proposed under the Project, and CCZO § 100.114 expressly exempts "fences" from the definition of "structure."

“Dwelling, One-Family or Single Family,” “Dwelling, Duplex or Two-Family,” and “Dwelling, Apartment”). The following responses address the provisions of CCZO § 507, to the extent the County concludes they apply to the RTU buildings and any other Project component the County considers to be a “structure.”

*A. Has the least impact on nearby or adjacent lands zoned for forest or agricultural use;*

**Response:** This criterion implements OAR 660-006-0029(1)(a). As explained in NW Natural’s previously submitted application materials, all Project components will be developed in an area already developed with other natural gas facilities that have been permitted separately through EFSC. The total area to be disturbed by Project development and operation will be just six acres. This criterion is satisfied.

*B. Ensures that forest operations and accepted farming practices on the tract will not be curtailed or impeded by locating dwellings and structures as near to each other and to existing developed areas as possible considering topography, water features, required setbacks and firebreaks;*

**Response:** This criterion implements OAR 660-006-0029(1)(b). As explained in NW Natural’s previously submitted application materials, all Project components will be developed in an area already developed with other natural gas facilities that have been permitted separately through EFSC. The Project has been designed to minimize the total ground disturbance area to the maximum extent practicable. This criterion is satisfied.

*C. Minimizes the amount of forest lands used for building sites, road access and service corridors;*

**Response:** This criterion implements OAR 660-006-0029(1)(c). As explained in NW Natural’s previously submitted application materials, all Project components will be developed in an area already developed with other natural gas facilities that have been permitted separately through EFSC. The Project has been designed to minimize the total ground disturbance area to the maximum extent practicable. This criterion is satisfied.

*D. Is consistent with the provisions of Section 510 related to Fire Siting Standards and minimizes the risk associated with wildfire; and*

**Response:** This criterion implements OAR 660-006-0029(1)(d). As explained further in response to CCZO § 510, Section 510 applies only to new “dwellings.” No Project component qualifies as a “dwelling” and, therefore, the provisions of Section 510 do not apply. However, wildfire risks have been thoroughly evaluated, and the Project has been designed to minimize these risks, as discussed further below.

EFSC completed an extensive evaluation of wildfire risks associated with the larger Mist Facility during the RFA 13 process. See, e.g., Exhibit K at 168–86. There, EFSC concluded that NW Natural had thoroughly characterized wildfire risks associated with Mist Facility development and operations and that the Mist Facility could be safely developed and operated by implementing appropriate conditions. Those conditions imposed by EFSC require NW Natural to perform construction and operations at the Mist Facility pursuant to a Construction Wildlife Mitigation Plan and an Operational Wildfire Mitigation Plan, both reviewed and approved

by EFSC. See Exhibit L (Mist Facility's Construction Wildfire Mitigation Plan); Exhibit M (Mist Facility's Operational Wildfire Mitigation Plan).

In addition, all operations at the Mist Facility are inspected annually by the Mist-Birkenfeld RFPD to confirm fire safety. These annual inspections include a review of the Mist Facility's fire suppression equipment, emergency plans, emergency access, and on-site fire equipment. The RFPD's most recent annual inspection letter, confirming that the Mist Facility meets current fire safety access requirements, is attached. See Exhibit N (Mist-Birkenfeld RFPD 2025 Annual Inspection Letter).

*E. Is consistent with other requirements contained in the Comprehensive Plan or implementing ordinances, including, but not limited to, regulations which apply to flood, steep slopes, and landslide hazard areas, development within the Willamette River Greenway, development in forested areas or development in significant resource and natural areas, such as wetland riparian and slide-prone areas.*

**Response:** To the extent the County concludes that this criterion applies to the RTU buildings or any other Project component the County considers to be a "structure," the Project is consistent with all applicable requirements in the Comprehensive Plan and the CCZO for the reasons identified in NW Natural's application materials, the January 26, 2026 Staff Report, and this submittal. This criterion is satisfied.

*.2 The applicant shall provide evidence consistent with OAR 660-006-0029(3) that domestic water supply is from a source authorized in accordance with the Department of Water Resources' administrative rules for the appropriation of ground water or surface water in OAR Chapter 690 and not from a Class II stream as defined in the Forest Practices Rule in OAR Chapter 629. If the water supply is unavailable from public sources or sources located entirely on the subject property, then the applicant shall provide evidence that a legal easement has been obtained permitting domestic water lines to cross the properties of affected owners.*

**Response:** This criterion implements OAR 660-006-0029(3)(a)–(c). To the extent the County concludes that this criterion applies to the RTU buildings or any other Project component the County considers to be a "structure," CCZO § 507.2 and OAR 660-006-0029(3)(a)–(c), by their express terms, do not apply to the Project, because the Project will not utilize a "domestic water supply."

*.3 As a condition of approval, if road access to the dwelling is by a road owned and maintained by a private party or by the Oregon Department of Forestry or the U.S. Bureau of Land management, then the applicant shall provide proof of a long-term road access use permit or agreement. The road use permit may require the applicant to agree to accept responsibility for road maintenance.*

**Response:** This criterion implements OAR 660-006-0029(4). CCZO § 507.3 and OAR 660-006-0029(4), by their express terms, do not apply to the Project, because these criteria apply only to road access to a "dwelling." No Project components qualify as a "dwelling."



*.4 Pursuant to OAR 660-006-0029(5), approval of a dwelling shall be subject to the following requirements:*

- A. The owner of the tract shall plant a sufficient number of trees on the tract to demonstrate that the tract is reasonably expected to meet Department of Forestry stocking requirements at the time specified in the Department of Forestry administrative rules;*
- B. Land Development Services shall notify the Columbia County Assessor of the above condition at the time the dwelling is approved;*
- C. If the property is over 10 acres the owner shall submit a stocking survey report or a Forest Land Assessment and Stocking Compliance Application to the Columbia County Assessor and the Assessor shall verify that the minimum stocking requirements have been met by the time required by the Department of Forestry administrative rules;*
- D. Upon notification by the Assessor, the Department of Forestry shall determine whether the tract meets minimum stocking requirements of the Forest Practices Act. If the Department determines that the tract does not meet those requirements, the Department shall notify the owner and the Assessor that the land is not being managed as forest land. The Assessor shall then remove the forest land designation pursuant to ORS 321.359 and impose additional tax pursuant to ORS 321.372; and*
- E. A waiver of remonstrance shall be recorded with the County Clerk certifying that the owner will not remonstrate against or begin legal action or suit proceeding to cause or persuade the owner or operator of any farm and forest lands to modify the conduct of legal and accepted farm and forest operations*

**Response:** These criteria implement OAR 660-006-0029(5)(a)–(e). CCZO § 507.4.A–E and OAR 660-006-0029(5)(a)–(e), by their express terms, do not apply to the Project, because these criteria apply only to “approval of a dwelling.” No Project components qualify as a “dwelling” and, therefore, these criteria do not apply.

*.5 Dwellings and other structures to be located on a parcel within designated Big Game Habitat areas pursuant to the provisions of Section 1190 are subject to the additional siting criteria contained in Section 1190.*

**Response:** To the extent the County concludes that this criterion applies to the RTU buildings or any other Project component the County considers to be a “structure,” the siting criteria contained in CCZO § 1190 still do not apply. By their terms, the Development Siting Standards of CCZO § 1193 only apply to “new residential development and uses.” The Project does not qualify as “new residential development” or a “new residential \* \* \* use.” Additionally, as County staff previously found in the January 26, 2026 Staff Report, staff notified ODFW of the Project on January 13, 2026, and ODFW has not responded with any concerns.

ODFW also reviewed and commented on the larger Mist Facility through the EFSC process, and any issues related to potential impacts to big game have been addressed and mitigated through that process. EFSC completed an extensive evaluation of potential habitat impacts, including big game big game habitat impacts, associated with the larger Mist Facility during the RFA 13 process.<sup>6</sup> EFSC specifically addressed the Mist Facility's compliance with CCZO § 509.5 and stated:

"[ODOE] notified and coordinated with ODFW on the review of RFA13. The proposed RFA13 changes are located within the County's designated Big Game Habitat Overlay zone. However, ODFW did not have any specific comments or concerns related to the impacts of the proposed RFA13 changes within Big Game Habitat."<sup>7</sup>

As part of RFA 13, EFSC also reviewed and approved the Mist Facility's Habitat Mitigation Plan, which addresses big game habitat impacts and mitigation measures within the broader Mist Facility site. See Exhibit O (Mist Facility's Habitat Mitigation Plan).

#### **A. CCZO § 509 Standards of Development**

*.1 The minimum average lot or parcel width and minimum average lot or parcel depth shall be 100 feet for all activities except farming or forestry.*

**Response:** The Project will not result in the creation of any new lots or parcel and, therefore, this criterion does not apply. Additionally, as reflected on Exhibits D through H, all parcels where Project development and operations are proposed to occur satisfy minimum parcel size requirements.

*.2 Access to parcels in this zone shall meet Fire Safety Design Standards for Roads in the County Road Standards and access standards found in Section 510 of the Zoning Ordinance.*

**Response:** The Project does not include any new roads, road expansions, or new access proposal and, therefore, this criterion does not apply. Additionally, the RFPD's most recent annual inspection letter, confirming that the Mist Facility meets current fire safety access requirements, is attached. See Exhibit N, Mist-Birkenfeld RFPD 2025 Annual Inspection Letter. This criterion is satisfied.

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<sup>6</sup> EFSC's full analysis of potential big game habitat impacts appears in EFSC's Final Order on Request for Amendment No. 13 (Jan. 17, 2025). That complete document is also available on ODOE's website and is hyperlinked in note 2.

<sup>7</sup> *Id.* at 82.

*.3 There shall be no height limitation for forest operation and management- related structures unless otherwise permitted in the Primary Forest Zone. The maximum building height for all non-farm, non-forest structures shall be 50 feet or 2 ½ stories, whichever is less.*

**Response:** To the extent the County concludes that this criterion applies to the RTU buildings or any other Project component the County considers to be a “structure,” no Project components will exceed 50 feet or 2 ½ stories. This criterion is satisfied.

*.4 The standards and requirements described in Section 1300 of the Zoning Ordinance shall apply to all signs and name plates in the Primary Forest Zone.*

**Response:** The Project does not include any proposed signage and, therefore, this criterion does not apply.

*.5 The Oregon Department of Fish & Wildlife shall be notified and provided with the opportunity to comment on any development within major and peripheral Big Game Habitat.*

**Response:** As County staff previously found in the January 26, 2026 Staff Report, staff notified ODFW of the Project on January 13, 2026 and did not receive a response. This criterion is satisfied.

*.6 Setbacks:*

*A. There shall be a minimum setback of 50' for front, side, and rear yards for all development in the Primary Forest Zone.*

**Response:** As demonstrated on Exhibits D through H, all development subject to the Project meets this 50-foot setback requirement. This criterion is satisfied.

*B. When this Ordinance or any other ordinance requires a greater or lesser setback than is required by this subsection, the greater setback shall apply.*

**Response:** NW Natural has not identified any ordinance requiring a special setback. This criterion does not apply.

*C. All structures are subject to any special setbacks when adjacent to arterial or collector streets designated in the County Transportation Systems Plan.*

**Response:** The Project area is not adjacent to any designated arterial or collector street. To the extent the County concludes that this criterion applies to the RTU buildings or any other Project component the County considers to be a “structure,” this criterion does not apply.

- D. No structure or use shall be established in a manner likely to cause contamination of a stream, lake or other body of water. Riparian and natural hazard setbacks set forth in Sections 1170 and 1180 of the Zoning Ordinance shall apply.*

**Response:** As reflected on Exhibit D (Updated Vicinity Plan), development and operation of the Project will avoid all streams, lakes, and other bodies of water. Accordingly, this criterion is satisfied.

- E. When land divisions create parcels of less than 40 acres for uses listed in Subsection 511.2A., provided those uses have been approved pursuant to this Ordinance, required building setbacks for these parcels will be determined on a case-by-case basis by the Director or the hearings body.*

**Response:** The Project will not result in any land division. This criterion does not apply.

- F. The owner shall provide and maintain primary fuel-free fire break and secondary fire break areas on land surrounding the dwelling and primary fuel-free break areas surrounding accessory structures in the Primary Forest Zone pursuant to the provisions in Subsections 510.2 and .3.*

**Response:** As explained further in response to CCZO § 510, Section 510 applies only to new “dwellings.” No Project component qualifies as a “dwelling” and, therefore, the provisions of Section 510 do not apply. Additionally, the well pads serve as fire breaks around the wells and related wellhead equipment.

*.7 Approval Period for Use Permits. For all uses approved under sections 504 and 505, the approval period shall be valid for four (4) years. At a minimum, a development construction permit must be issued by the Land Development Services within the approval period. If a construction permit is not issued within the approval period, the land use permit expires. An extension of two years on the approval period may be granted by the Director if a written request is received prior to its expiration and the reason for the delay is beyond the control of the owner.*

**Response:** In the January 6, 2026 Staff Report, staff’s recommended Condition of Approval 1 satisfies this criterion. Condition of Approval 1 is consistent with conditions of approval previously adopted by the County in CU 15-12 and 17-04. See Exhibits A & B. With staff’s recommended Condition of Approval 1, this criterion is satisfied.

## **B. CCZO § 510 Fire Siting Standards for Dwellings, Structures and Roads**

*The following fire siting standards or their equivalent shall apply to new dwellings in this zone:*

*.1 If a water supply is available, suitable and acceptable for fire protection by the fire protection district, such as a swimming pool, pond, stream, or lake, then road access to within 15 feet of the water’s edge shall be provided for pumping units. The road access to the dwelling and access to the on-site water supply shall accommodate the turnaround of fire fighting equipment during the fire*



*season. The applicant shall provide verification from the Water Resources Department that any permits or registrations required for water diversion or storage have been obtained or that permits or registrations are not required for the use. Permanent signs shall be posted along the access route to indicate the location of the emergency water source.*

**Response:** This criterion does not apply to the Project, because this criterion applies only to “new dwellings.” No Project components qualify as a “dwelling.” However, NW Natural does maintain two fire trailers with its fire suppression water supply at the Mist Facility, and these will be available during all Project development and operations.

*.2 The owner of the dwelling shall establish and maintain a primary fuel-free fire break surrounding the dwelling and accessory structure(s) no less than 30 feet wide in accordance with the provisions in "Protecting Your Home From Wildfire" published by the National Fire Protection Association. The owner may be required to increase the primary fuel-free fire break if the dwelling or structure is located on a 10% or greater slope. The primary fuel-free fire break could include a lawn, low ornamental shrubbery less than 24" in height and/or individual or groups of trees separated by a distance equal to the diameter of the crowns adjacent to each other, or 15 feet, whichever is greater. All existing tree limbs shall be pruned from the base to at least eight feet in height. Dead fuels shall also be removed.*

**Response:** This criterion does not apply to the Project, because this criterion applies only to “new dwellings.” No Project components qualify as a “dwelling.” Additionally, the well pads serve as fire breaks around the wells and related wellhead equipment.

*.3 A secondary fire break of 100 feet outside the primary fuel-free fire break, or its equivalent allowed by Columbia County Board Order No. 239-97 Firebreak Equivalents, shall also be provided and maintained for the dwelling in accordance with the provisions in "Protecting Your Home From Wildfire" published by the National Fire Protection Association. All existing trees shall be pruned from the base to at least 8 feet in height. Dead fuels shall be removed from the secondary fire break area. If the placement of the proposed dwelling cannot meet the secondary fire break due to physical constraints of the land or parcel size, the applicant may apply to obtain a secondary fire break easement from a neighbor or build the structure to a Class 1 or 2 Ignition Resistance Construction as allowed by Board Order No. 239-97, Firebreak Equivalents.*

**Response:** This criterion does not apply to the Project, because this criterion applies only to “new dwellings.” No Project components qualify as a “dwelling.” Additionally, the well pads serve as fire breaks around the wells and related wellhead equipment.

*.4 All roads in this zone, except private roads and bridges for commercial forest uses, shall be constructed so as to provide adequate access for fire fighting equipment according to the standards*

*provided by the local rural fire protection district, the County Road Department, or the State Department of Forestry.*

**Response:** This criterion does not apply to the Project, because this criterion applies only to “new dwellings.” No Project components qualify as a “dwelling.” Additionally, the Project does not include any new proposed road construction. However, as discussed in response to CCZO § 507.1(D), the RFPD’s most recent annual inspection letter, confirming that the Mist Facility meets current fire safety access requirements, is attached. See Exhibit N, Mist-Birkenfeld RFPD 2025 Annual Inspection Letter.

*.5 No portion of a tree or any other vegetation shall extend to within 15 feet of the outlet of a stove pipe or chimney.*

**Response:** This criterion does not apply to the Project, because this criterion applies only to “new dwellings.” No Project components qualify as a “dwelling.” Additionally, the Project does not include any proposed stove pipe or chimney. This criterion does not apply.

*.6 A dwelling shall meet all of the following requirements:*

- A. The dwelling shall have a fire retardant roof;*
- B. The dwelling shall not be sited on a slope of greater than 40 percent;*
- C. If the dwelling has a chimney or chimneys, each chimney shall have a spark arrester; and*
- D. The dwelling shall be located upon a parcel within a fire protection district unless the applicant meets the criteria of subsection 510.7.*

**Response:** By its express terms, this criterion only applies “dwellings.” The Project does not include any proposed “dwelling.” This criterion does not apply.

*.7 If the dwelling is not within a fire protection district, the applicant shall provide written documentation to the County of residential fire protection. The applicant shall provide evidence that the applicant has asked to be included within the nearest such district. If the County determines that inclusion within a fire protection district or contracting for residential fire protection is impracticable, the County and fire protection district may provide an alternative means for protecting the dwelling from fire hazards which may include a fire sprinkling system, onsite equipment and water storage or other methods that are reasonable given the site conditions.*

**Response:** By its express terms, this criterion only applies “dwellings.” The Project does not include any proposed “dwelling.” This criterion does not apply. Additionally, the Project is located within the Mist-Birkenfeld RFPD and, for that additional reason, this criterion does not apply.

**Conclusion**

In short, the Project satisfies the applicable standards in the PF-80 zone. NW Natural appreciates the County's careful review of its application materials and is available to answer any questions or provide additional materials, including the EFSC Final Order and Site Certificate Agreement, should the County find them helpful. NW Natural respectfully requests approval of its application.

Sincerely,



Austin Mann  
Engineering Manager – Underground Gas Storage  
NW Natural

Enclosures:

- Exhibit A – CU 15-12, Final Order & Staff Report
- Exhibit B – CU 17-04, Final Order & Staff Report
- Exhibit C – CU 2-97, Final Order & Staff Report
- Exhibit D – Updated Vicinity Plan
- Exhibit E – Updated Medicine Site Plan
- Exhibit F – Updated Medicine OM Site Plan
- Exhibit G – Updated Newton Site Plan
- Exhibit H – Updated Stegosaur Site Plan
- Exhibit I – Letter from David Weber
- Exhibit J – Letter from Mist-Birkenfeld RFPD Chief Kaczinski
- Exhibit K – Selected Excerpts from EFSC RFA 13 Final Order
- Exhibit L – Mist Facility's Construction Wildfire Mitigation Plan
- Exhibit M – Mist Facility's Operational Wildfire Mitigation Plan
- Exhibit N – Mist-Birkenfeld RFPD 2025 Annual Inspection Letter
- Exhibit O – Mist Facility's Habitat Mitigation Plan

**Exhibit A – CU 15-12, Final Order & Staff Report**

COLUMBIA COUNTY  
LAND DEVELOPMENT SERVICES

COURTHOUSE  
230 STRAND  
ST. HELENS, OREGON 97051  
(503)397-1501

RECEIVED

APPEAL INFORMATION for  
FINAL ORDER CU 15-12

JUN 08 2015 *dj1*  
STOEL RIVES LLP

Applicant: NW Natural Gas

Notice Date: 6-3-15

Appeal Body:

- Planning Commission**, for appeal of an administrative decision; file this appeal in the Land Development Services office, ground floor, Courthouse Annex, St. Helens, OR 97051. The appeal must be filed **within 12 calendar days** of the above Notice Date, the date this notice was mailed to the applicant and to other persons entitled to notice. The appeal must be accompanied by the appropriate appeal fee.
- Board of County Commissioners**, for appeal of this Planning Commission decision; file this appeal in the Office of the County Clerk, second floor, Courthouse Annex, St. Helens, OR 97051. The appeal must be filed **within 7 calendar days** of the above Notice Date, the date this notice was mailed to the applicant and to other persons entitled to notice. The appeal must be accompanied by the appropriate appeal fee.
- Land Use Board of Appeals (LUBA)**, for appeal of this Planning Commission or Board of Commissioner decision. File a Notice of Appeal with the Land Use Board of Appeals; PUC Building, 550 Capitol Street NE, Salem, OR 97310. The appeal must be filed with the Land Use Board of Appeals **within 21 calendar days** of the above Notice Date, the date this notice was mailed to the applicant and to other persons entitled to notice.

Attached is the FINAL ORDER on the application listed above. This decision, or any part of it, or any condition attached to it, may be appealed to the **Appeal Body** noted above.

If a local appeal is filed, and after notice is given to those persons entitled to notice, a public hearing will be held by the Appeal Body at its earliest available regular meeting. At the hearing, all interested parties will have an opportunity to appear and be heard.

The applicant and other interested persons should contact the Planning Department after the applicable appeal period has run to determine whether an Appeal has been filed. Applicants are cautioned against beginning development if an Appeal has been filed.

**PLEASE NOTE:** An appeal may be filed only by persons who appeared in person or in writing before the Planning Department, the Planning Commission or the Board of County Commissioners. You have "appeared" if you supplied information or argument in favor of or opposed to the application listed above.

If any of the above is not clear, or you have questions or require additional information, please contact Glen Higgins at (503) 397-1501, or FAX to his attention at (503) 366-3902.

**BEFORE THE COLUMBIA COUNTY  
PLANNING COMMISSION  
ST. HELENS, OREGON**

In the Matter of the Application of Northwest )  
Natural Gas Co. for a Conditional Use Permit )  
to Drill Four Injection/Withdrawal Gas Wells )  
in the Primary Forest PF-80 Zone )

**Final Order CU 15-12**

This matter came before the Columbia County Planning Commission on the application of Northwest Natural Gas Company for a Conditional Use Permit to drill four injection/withdrawal Gas Wells and one Monitoring Well on property identified by Tax Map No.7N5W00-5000. The well sites are in the vicinity of a proposed new Adams Underground Storage Reservoir for the Mist Gas Field, north of the Bruer/Flora Underground Storage Area and northwest of the Miller Station.

Notice of the land use application was provided to the Mist Birkenfeld CPAC, the Upper Nehalem Watershed Council, Columbia Soil & Water Conservation, ODFW, Mist-Birkenfeld Fire District, Oregon State Forestry, DOGAMI, the County Road Master and surrounding property owners. A public hearing was held on June 1, 2015 at which time the Planning Commission reviewed the application, heard the presentation from the applicant, and considered written materials including the Staff Report dated May 21, 2015.

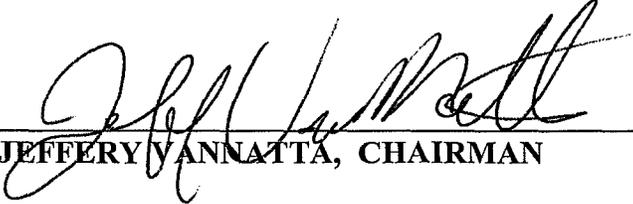
After due consideration, the Columbia County Planning Commission hereby adopts the findings, conclusions and recommendations of the Staff Report and **APPROVES** CU 15-12 with the following conditions:

**Conditions of Approval:**

1. This permit shall become void 4 years from the date of the final decision if well drilling has not begun on the property in substantial compliance with the conditions herein set out. Extensions of time may be granted by the Planning Director if requested in writing before the expiration date and if the applicant was not responsible for the failure to develop.
2. Prior to operations, the applicant shall obtain the proper permits from DOGAMI and the Oregon State Forestry Department.
3. This permit will not be valid unless the applicant meets fire safety requirements as determined by the Mist-Birkenfeld Rural Fire Protection District (RFPD). The applicant shall have the well site inspected by the Mist-Birkenfeld Rural Fire Protection District prior to any drilling operations, and the applicant shall notify the RFPD as to the exact date and location of drilling operations at least three days prior to the commencement of said activities. The applicant shall notify the Fire District when they have vacated the site.
4. If the completed well(s) is not or can not be used for its purpose, well site(s) shall be abandoned in accordance with DOGAMI's regulations and the well site returned to its original condition.
5. The applicant shall assume responsibility for any damages from wildlife to the gas well development and the site.

6. The applicant shall closely follow and implement the Emergency Management Plan developed with Mist-Birkenfeld Fire District and emergency responders.

**COLUMBIA COUNTY PLANNING COMMISSION**

  
\_\_\_\_\_  
**JEFFERY VANNATTA, CHAIRMAN**

6/2/15  
\_\_\_\_\_  
**DATE**

**COLUMBIA COUNTY PLANNING COMMISSION**

**STAFF REPORT**

**May 21, 2015**

**Conditional Use Permit - PF-80 Zone**

**HEARING DATE:** June 1, 2015

**FILE NUMBER:** CU 15-10 - Natural Gas Wells

**APPLICANT:** Northwest Natural Gas Company  
220 N W Second Avenue  
Portland, OR. 97209

**OWNER:** Claruth Inc, Willna Inc &  
Franbea Inc EA 1/3

**TAX MAP NO:** Township 7N, Range 5W, Tax Lot 5000 (7N5W00 5000)

**LOCATION:** The site is located approximately two and a half miles northwest of the Miller Station, NW  
Natural Gas control/processing/distribution center; and 4 miles northeast of Birkenfeld;

**REQUEST:** Drilling of Four injection/withdrawal gas wells and One observation/monitoring well;

**ZONING:** Primary Forest (PF-80)

**APPLICATION COMPLETE:** April 10, 2015

**150 DAY DEADLINE:** September 7, 2015

**APPLICABLE REVIEW CRITERIA:**

<u>Columbia County Zoning Ordinance</u>	<u>Page</u>
Section 505 Conditional Uses	4
Section 508 General Review Standards	4
Section 1190 Big Game Range Overlay	6
Section 1503 Conditional Uses	7

<u>Columbia County Comprehensive Plan</u>	<u>Page</u>
Part IV Forest Lands	9
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Part XVI Goal 5: Open Space, Scenic and Historic Areas and Natural Resources	10
Part XVIII Air, Land and Water Resources	11

## **BACKGROUND:**

Northwest Natural Gas Company (NWN) has submitted a Conditional Use Permit application to allow for the drilling and operations of four new natural gas injection/withdrawal wells at a single pad location, and one monitoring well at a close, but different location, all within the greater Mist Gas Field area. The Mist Gas Field consists of numerous existing gas production wells in the Nehalem Valley formation and two natural gas storage areas. According to the Oregon Department of Geology and Mineral Industries (DOGAMI) the Mist Gas Field has "produced over 65 billion cubic feet of gas since its discovery in 1979." These proposed new gas wells will become a part of a new NWN Mist Underground Natural Gas Storage Facility. The current Mist Storage Facility is comprised of a couple underground storage locations: the Bruer/Flora area and the Calvin Creek area. The storage areas are used by injecting the excess flow of gas (at low demand times) into selected underground caverns or a storage reservoirs, and using the stored gas to serve customers at times of high demand, throughout their service area and intrastate. The four injection/withdrawal wells, of this application, are located over a new storage reservoir site called the Adams Storage Reservoir.

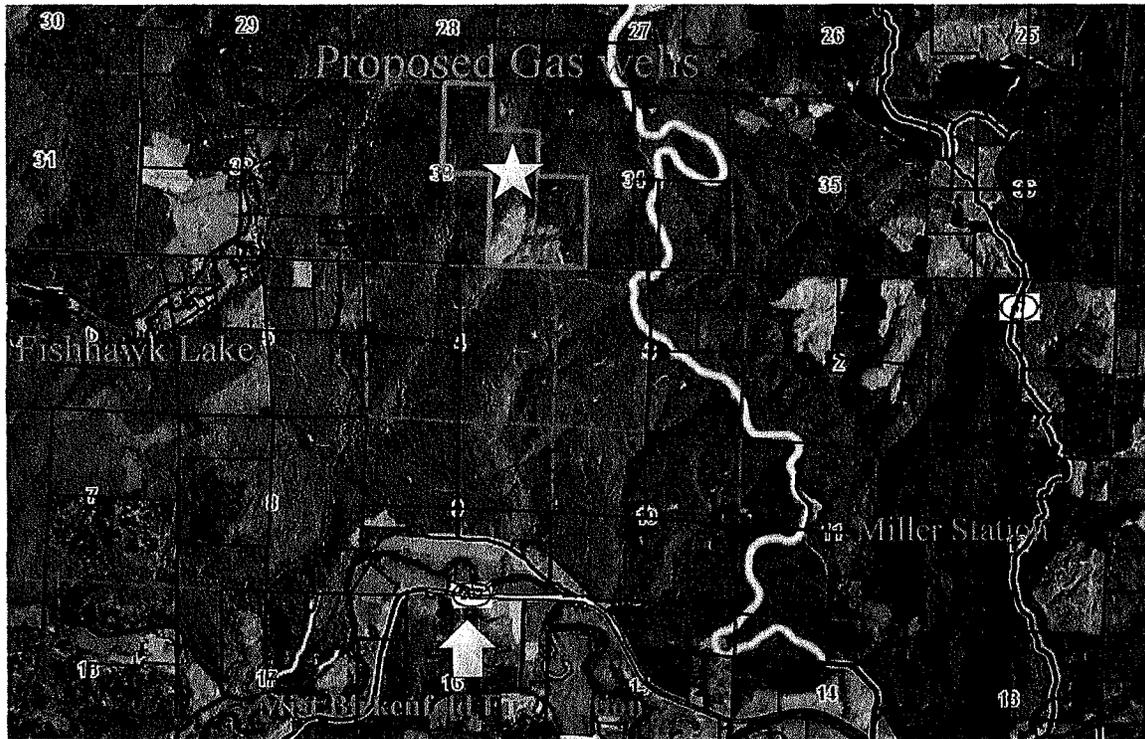
This conditional use permit (CU 15-12) is part of a larger project. NWN is seeking to expand the Mist Underground Natural Gas Storage Site Certificate (Site Certificate) boundary, by extending it to the north. The Adams Storage reservoir is the first of three the potential storage areas of this extension. The Energy Facilities Siting Council (EFSC) has the jurisdiction for permitting of this facility expansion through the Site Certificate Amendment #11. The only portion of this larger project that Columbia County Planning Commission will be reviewing is the Conditional Use Permit CU 15-12 for the drilling the four gas wells themselves. The State Department of Geology and Mineral Industries (DOGAMI) has the permitting authority for subsurface gas well drilling. The State Department of Energy (DOE) administers and provides staff for the EFSC, within the guiding law of the Code of Federal Regulation for siting of regional energy facilities. At this time by amending the Site Certificate, through Amendment #11, NWN proposes to develop the Adams reservoir as a new underground storage area, to install injection/withdrawal wells, transmission lines to and build a new compressor facility, located nearby the injection/withdrawal wells, and to construct an approximately 13 mile, up to 24", natural gas transmission pipeline between the new compressor station and Port Westward Industrial Park near Clatskanie. These overall gas facilities, the new wells, new underground storage reservoir, piping, compressor stations, transmissions lines and other related improvements are all permitted separately through EFSC. The County Board of Commissioners and the Planning Division are reviewing the application (EFSC Site Certificate Amendment #11) and will provide comments to DOE prior to June 8, 2015.

The site for these proposed gas wells, serving the proposed Adams Storage Reservoir, is located in an area that does not have any farm use parcels within miles. Adjacent properties are all large timber properties used for forest management. The area is mountainous with steep slopes, any streams in this area are very small in deep ravines near their head-waters. The drilling site is at an elevation of approximately 1200 feet above sea level. There are no floodplain or wetlands near the subject site, as per FIRM Map # 41009C0125D November 26, 2010 and National Wetlands Inventory NWI, Marshland Map. This area has little to no public facilities available, no public roads but is within the Mist-Birkenfeld Fire Protection District. The Planning Commission has reviewed other gas wells in the remote areas near Birkenfeld and has set usual conditions that have been imposed on other gas well applications. Those conditions of approval generally included obtaining a State DOGAMI drill permit and coordination activities with various state and local agencies for oversight and emergency preparedness.

**Zoning Map - Columbia County Web Maps (GeoMoose, 2014)**



**Aerial Photo (GEOMoose, 2009)**



**REVIEW CRITERIA & FINDINGS:**

**COLUMBIA COUNTY ZONING ORDINANCE:**

**Section 500 PRIMARY FOREST - 80**

505 Conditional Uses. The following conditional uses may be allowed subject to the general review standards and process in Sections 1503 and 1603 of the Zoning Ordinance. All authorized uses and permanent structures shall also meet the applicable standards listed in Sections 506, 507, and 508 of the Zoning Ordinance and all other local, state, and federal laws pertaining to these uses.

- .2 Exploring, mining and processing of oil, gas, or other subsurface resources, as defined in ORS Chapter 520 and the mining and processing of mineral and aggregate resources as defined in ORS Chapter 517.

**Finding 1:** Natural gas is a subsurface resource in Columbia County. Mining, extracting and processing subsurface resources (natural gas) may be permitted in the PF-80 Zone through approval of a Conditional Use Permit by the Planning Commission, subject to Section 508 General Review Standards. Note: Sections 506 and 507 are not applicable because this application does not seek to site any dwellings or structures.

**Zoning Ordinance Section 508 requires the following:**

508 General Review Standards The Planning Director or hearings body shall determine that a use authorized by Sections 504 and 505 meets all of the following requirements:

- .1 The proposed use will not force significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;

**Finding 2:** The proposed use should not increase the cost, force a change in, nor interfere with farming or forest uses on adjacent lands, if the applicant proceeds professionally and the recommended/imposed conditions are satisfied. The subject property is located in west Columbia County in the Nehalem River valley formation, in an area developed with other natural gas wells (hundreds) and gas storage projects, all of which were approved through siting permits. To the county's knowledge none of these existing gas facilities have forced significant changes in farming or forestry for nearby property owners. Despite the historic drilling of any or all of these older gas wells, dating back to 1979, forest and farm management practices adjacent to the existing sites have been and will be continued. In the Mist and Birkenfeld areas, gas well sites have become a norm and most of the farmers and loggers have grown to operate their farms or forestry with the wells on their land. There is no evidence presented that gas well use precludes the opportunity to use surrounding parcels for the primary forest purposes of the PF-80 District.

Surrounding property owners, all large timberland holding companies, were notified of this request, and non have responded with any concerns. The four injection/withdrawal wells pad and site improvements (all one drilling pad) will remove a minimal amount of land from production, 3.6 acres, at most, and the monitoring well pad will be just one acre in size. The well pad sites will be fenced and the immediate surrounding area will continue to grow trees.

The access for the new well sites will be from existing logging roads to the extent practical. A new 100 foot road will be constructed to access the proposed monitoring well site from the nearest existing logging road. The applicant has stated in the application that temporary activities associated with the drilling of the well are coordinated with landowners conducting farm or forestry activities to ensure, that from a timing standpoint, there are no conflicts with adjoining forest or farm operations. The applicant states there will be no discharge of waste into the air, water or soil, and the "proposed operations will not require the use of any hazardous or poisonous materials." The drillsite and drilling facilities are self-sustaining and temporary. Furthermore, ORS 527.722(2)(e), the Oregon Forest Practices Act, permits local governments to allow physical alterations of the land for purposes of exploration or mining. The drilling and operation of natural gas wells is, therefore, consistent with forest and farm uses and the intent and purpose set forth in the Oregon Forest Practices Act. Staff finds that the criterion is met.

**Continuing with Section 508 General Review Standards**

- .2 The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel;

**Finding 3:** The proposed use will not significantly increase fire hazard, suppression costs or risk to firefighting personnel. The applicant shall take appropriate measures to ensure that the drilling and operating of the new gas wells will not create a fire hazard risk as various state permits require. To ensure fire safety, the Mist Birkenfeld Rural Fire Protection District (RFPD) requires the drill site supervisor to inform the fire district or its key personnel as to the date that the site will be occupied, the date that operations will commence, and the date that the drilling area has been vacated. This information must be provided for each well drilled. The purpose of this coordination is to give the fire district an opportunity to locate and inspect the site and to inspect the equipment operating on the site for fire safety. Once the inspection has been completed the fire district compiles the information into a packet to help fire district personnel know where to respond and what to expect in the case of an emergency. In the past the Assistant Fire Chief confirmed that gas drilling companies have been cooperative in supplying the requested information to the District for past well projects. Notification of start and stop drilling operations as required by the Mist Birkenfeld RFPD are addressed through the conditions of approval. Staff finds that the criterion is met subject to conditions.

**Continuing with Section 508 General Review Standards**

- .3 A waiver of remonstrance shall be recorded with the County Clerk certifying that the owner will not remonstrate against or begin legal action or suit proceeding to cause or persuade the owner or operator of any farm or forest lands to modify the conduct of legal and accepted farm or forest operations; and

**Finding 4:** The applicant, Northwest Natural Gas Company (NWN), is not the owner of the property on which the wells will be drilled. All operations conducted by NWN, however, are done so with the full agreement and participation of the effected landowner(s). Landowners are not anticipated to remonstrate against or cause legal action to modify their own forest and/or farm practices. A waiver of remonstrance is not applicable to the request as submitted. Staff finds that the criterion does not apply.

**Continuing with Section 508 General Review Standards**

- .4 The proposed use is consistent with requirements contained in the Comprehensive Plan or implementing ordinances, including, but not limited to, regulations which apply to flood hazard areas, development within the Willamette River Greenway, development in forested areas or development in significant resource areas, such as riparian, wetlands or slide-prone areas.

**Finding 5:** Columbia County's Zoning Ordinance provides land use regulations and standards to implement the goals and policies of the Comprehensive Plan. The proposal's consistency with applicable sections of the County's Zoning Ordinance are addressed through findings in this staff report. Such findings address uses permitted in the PF-80 zone, standards of development of the underlying zone, as well as standards of development relevant to overlay zones such as flood hazard areas, riparian corridors, and big game habitat. There are no flood hazards or riparian corridors with the area of the proposed gas wells. The well sites are roughly at 1200 feet elevation on ridges and hills well above any small drainage ways in this mountainous area. As such, as long as the proposal is found to comply with all applicable sections of the Zoning Ordinance, it will also comply with the requirements of the Comprehensive Plan. Consistency with the Comprehensive Plan is discussed in Findings 13-17 of this Staff Report. Staff finds that the criterion is met subject to conditions.

**Continuing with Sections of the Columbia County Zoning Ordinance**

**Zoning Ordinance Section 1190 requires the following:**

**Section 1190 BIG GAME RANGE OVERLAY**

1193 Development Standards:

All new development located in Major and Peripheral Big Game Habitat shall implement the following siting standards:

- .1 Dwellings and structures shall be located as near each other and existing developed areas as possible considering topography, water features, required setbacks and firebreaks.
- .2 Dwellings and structures shall be located to avoid habitat conflicts and utilize least valuable habitat areas.
- .3 Road development shall be minimized to that which is necessary to support the proposed use and the applicant shall utilize existing roads as much as possible.
- .4 The owner/occupant of the resource parcel shall assume responsibility for protection from damage by wildlife.

**Finding 6:** The project site is within a Major Big Game Habitat Area as shown on the *Clatskanie-Quincy BEAK, Wildlife Game Habitat Map*. According to the applicant, no dwellings or permanent structures will be constructed, and very minimal road building will occur. Existing logging roads will be used for access to the extent practical.

One new short road will be built to access the new monitoring well site. During operations of the Adams Storage Reservoir only limited access by NWN staff will be needed. The well sites will be fenced for security and to protect big game from possible injury from the piping and equipment used in transferring gas to the constructed pipelines. The applicant is proposing to locate these new wells in the existing Mist Gas Field, an area already committed natural gas production and numerous gas wells. Initial drilling and set up of the wells may temporarily disrupt big game activities, but should not result in any long-term impacts to the big game range and/or big game behavior. Once in place, impacts to habitat from the well and gas recovery system will be minimal. The overall area proposed for these new gas wells have been used for natural gas exploration, storage and extraction for almost 30 years and is among other gas producing wells. Impacts to the area from an additional natural gas wells and facilities will be minimal. The applicant shall assume responsibility for any damages to the site from wildlife. Staff finds that the criterion is met.

### **Continuing with Section 1190 Big Game Development Standards**

- .6 Columbia County shall notify the Oregon Department of Fish and Wildlife (ODFW) of all proposed uses or activities located within the Big Game Range Habitat. The County will consider the comments and recommendations of ODFW before making a decision concerning the requested use or activity.

**Finding 7:** The subject property is located within an area of Major Big Game Range Habitat as designated on the Wildlife Maps for the Clatskanie-Quincy area. The County notified the Oregon Department of Fish and Wildlife (ODFW) of the proposed request and received as response of "no comments at this time." The applicant shall be required, however, to coordinate with the Oregon Department of Fish and Wildlife in conjunction with the State DOGAMI permitting of said wells as a Condition of Final Approval. Staff finds that the criterion is met subject to conditions.

### **Zoning Ordinance Section 1500, Discretionary Permits, requires the following:**

#### **"1503 Conditional Uses:**

- .5 **Granting a Permit:** The Commission may grant a Conditional Use Permit after conducting a public hearing, provided the applicant provides evidence substantiating that all the requirements of this ordinance relative to the proposed use are satisfied and demonstrates the proposed use also satisfies the following criteria:
  - A. The use is listed as a Conditional Use in the zone which is currently applied to the site;"

**Finding 8:** "Exploring, mining and processing of oil, gas, or other subsurface resources..." are a Conditional Use in the PF-80 zone under Section 505.2 of Columbia County's Zoning Ordinance (See Finding 1). Gas well drilling and extraction of gas is considered a conditional use in this zone. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"B. The use meets the specific criteria established in the underlying zone:"

**Finding 9:** Compliance with the criteria of the PF-80 Zone is discussed in Findings 1 through 5 of this report. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"C. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements, and natural features;"

**Finding 10:** The drilling activity will be in the area generally known as the Mist Gas Field where there are other gas production wells, well heads and gas storage projects. Most properties located within this area are used for resource use (commercial timber management, small farms, natural gas storage and extraction, etc...) and are not developed to any extent with residential uses. The proposed drilling site provided by the applicant for the location of the gas wells are located in an area that appears remote and relatively secluded from human activity. The applicant states, "The site characteristics are suitable for the proposed use. Gas well drilling has been conducted in the area for many years. Drilling activities will not permanently affect any topographic feature, improvement or other natural feature." As discussed previously in this report, the proposed gas well sites are in a remote mountainous area between the Nehalem River and Columbia River valleys. There are no streams, riparian areas or floodplains within miles of the proposed well sites. The existing natural features, existing uses, and the remote nature of this part of the County make this site suitable for the proposed gas well use. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"D. The site and proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use."

**Finding 11:** The proposed activity will not require new public facilities or services. Existing County roads and/or State Highway will be used for access into the Mist-Birkenfeld area. Existing private logging roads will be used to access the new drill sites. Where public roads are used, the small number of vehicle trips associated with the use will not place an inappropriate burden on the roadways. Water will be provided by and sewage disposed of by the applicant. According to the applicant, "Water for this project will be contracted for and trucked to location from outside the drilling area...Portable chemical toilets will be utilized for sewage handling..." The proposed natural gas operations will not require improvements to existing transportation or public facilities and services in the area. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"E. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs, or precludes the use of surrounding properties for the primary

uses listed in the underlying district;"

**Finding 12:** The PF-80 zoning district allows a number of uses, with primary uses (uses permitted outright) focused on the propagation, harvesting and management of forest and farm products and uses associated with soil, air and water conservation and fish and wildlife management. Other uses are allowed subject to administrative review, including single family dwellings and fire stations. Specific uses permitted in the PF-80 zone are outlined in Chapter 215 of Oregon Revised Statutes (ORS) and in Sections 503, 504 and 505 of Columbia County's Zoning Ordinance. The proposed gas wells would not seem to alter the character of the overall west county natural gas field area. Huge investments have been made for the extraction of this energy source, and property use is already developed for natural gas production and storage activities. Forestry, farming and natural gas operations have existed (together) in this area for many years. Staff finds that this criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"F. The proposal satisfies the goals and policies of the Comprehensive Plan which apply to the proposed use;"

**COLUMBIA COUNTY COMPREHENSIVE PLAN:**

**PART IV FOREST LANDS**

**GOAL:** To conserve forest lands for forest uses.

**Finding 13:** This application conserves forest lands for forest uses because it uses an existing/designated area that is already approved for resource drilling and subsurface natural gas storage. Furthermore, the proposed use deals with a subsurface resource and will have little impact on above ground forest resources. The operation will not result in the withdrawal of forest lands or forest uses on a permanent basis. Upon retirement of the Mist Gas Field, the small areas of above ground improvements will be removed and the well sites returned to timber production. Staff finds that this plan goal is met.

**Continuing with the Columbia County Comprehensive Plan**

**PART X ECONOMY**

**GOALS:**

1. To strengthen and diversify the economy of Columbia County and insure stable economic growth.
2. To utilize Columbia County's natural resources and advantages for expanding and diversifying the economic base.

**POLICIES:** It shall be a policy of the County to:

7. Protect identified aggregate resources until they are extracted, and plan for the reclamation and future productive uses of those sites.

**Finding 14:** According to DOGAMI, the Mist Gas Field has been of significant economic importance to the County, producing over 65 billion cubic feet of gas since its discovery in 1979, with a value of about \$125 million. (Not updated figures) Currently, there are multiple gas producing wells and two underground natural gas storage projects in the Mist Gas Field. Northwest Natural Gas delivers energy to more than 650,000 customers from the gas reservoirs and storage projects located in the area. The continuing expansion of natural gas extraction in the County creates jobs and provides energy to the region. Additionally, a percentage of the income generated through production of a natural gas well is returned to the owner of the mineral rights. New natural gas wells in this area will satisfy the goals and policies of Part X (Economy) of the Comprehensive Plan by using a natural resource to expand and diversify the County's economic base. Staff finds that this plan policy is met.

**Continuing with the Columbia County Comprehensive Plan**

**PART XIV PUBLIC FACILITIES AND SERVICES**

**GOAL:**

To plan and develop a timely, orderly, and efficient arrangement of public services as a framework for urban and rural development.

**Finding 15:** Only minimal use of public facilities will be necessary to accommodate drill equipment and infrastructure improvements. With the exception of travel on county roadways and state highways to and from the well sites, drilling and production operations associated with the proposed gas wells will not require the use of public facilities and/or services. Staff finds that this plan policy is met.

**Continuing with the Columbia County Comprehensive Plan**

**PART XVI GOAL 5: OPEN SPACE, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES**

**ENERGY SOURCES**

**GOAL:**

To protect deposits of energy materials in the County and prevent injury to surrounding lands and residents.

**POLICIES:** It is the policy of the County to:

1. Rely on ODOGAMI to require that wells are drilled, cased, and plugged in such a manner as to ensure public safety.
2. Coordinate with ODOGAMI to conduct a comprehensive inventory of energy sources in the County, including those oil and coal deposits determined as (1B). Upon completion of this study, the County shall complete the Goal 5 process for newfound resources, and up-date zoning and other implementary ordinances to accommodate them.

**Finding 16:** The proposed activities are subject to the conditional use criteria outlined in Columbia County's Zoning Ordinance and to the regulations of DOGAMI. The Oil, Gas and Geothermal Regulatory and Reclamation Program at DOGAMI regulates activities associated with oil and gas operations to ensure that these activities are done in a manner which ensures "conservation of the resource, protects the environment including groundwater resources, and allocates revenue from production among owners of mineral rights in an equitable manner." Protection of energy materials and prevention of injury to surrounding lands and residents are handled through required permits conforming to federal, state and local regulations. Staff finds that these plan policies are met subject to conditions.

### **Continuing with the Columbia County Comprehensive Plan**

#### **PART XVIII AIR, LAND, AND WATER RESOURCES**

##### **GOAL:**

To maintain and improve land resources and the quality of the air and water of the County.

**Finding 17:** Columbia County's Comprehensive Plan identifies the potential for environmental consequences, including disruption of sensitive ecosystems by land disturbance and water source pollution, from gas well drilling. The proposed gas wells are not in the immediate vicinity of sensitive and protected water resources, as mentioned earlier in Finding 5. As far as air quality, it does not appear from evidence submitted that the proposed gas well drilling or production will impact air quality. The only possible impact to air quality could be a remote possibility of a gas well head explosion and fire. The applicant in conjunction with the Fire district has an emergency plan in place for such an occurrence. Generally, the County minimizes and/or prevents such impacts by relying on federal and state agency's safety standards, specifically DOGAMI, to require compliance with gas drilling regulations and through this conditional use permit process. Approval of this application and the resulting exploration activities will have little to no effect on air and water quality if regulatory permit conditions are met, and will result in no permanent surface damage. The applicant has stated that at which point natural gas production ceases, the wells will be abandoned and the site returned to its original state. Staff finds that this plan goal is met with conditions.

### **Continuing with Zoning Ordinance Section 1503.5**

"G. The proposal will not create any hazardous conditions."

**Finding 18:** The proposed drilling and operation activities will not be hazardous if precautions are taken in accordance with regulations set forth by the Oregon State Forestry Department, DOGAMI, the Mist Birkenfeld Rural Fire Protection District and recommendations set forth by the Oregon Department of Fish and Wildlife. According to the applicant, the proposed operations will not require the use of any hazardous or poisonous materials; in addition, the operations will not create undue hazardous conditions and will be governed by and conducted under the oversight and control of the aforementioned agencies.

The location will be graded and rockered to control and/or prevent any drainage or soil erosion. A mud pit conforming to DOGAMI specifications will be constructed and adequately lined as part of a 'closed' mud system which adequately controls any water/fluids utilized and or produced during drilling. No toxic chemicals are used in the drilling fluids and any additives are food grade and non-toxic. All materials brought to the surface during drilling are non-toxic and will have no effect on the environment. Operations will have no effect on any streams or wetlands or their riparian zones within proximity to the drillsite. When the well construction is complete the drilling rig will be moved off the site, the drilling fluid will be disposed of and/or treated in accordance to DEQ guidelines.

Finally, the applicant states that regular visits by operations personnel will be made to the site to ensure that all operations are running safely and efficiently. Staff finds that the criterion is met subject to conditions.

**Continuing with Zoning Ordinance Section 1503.6:**

"6 Design Review: The Commission may require the Conditional Use be subject to a site design review by the Planning Commission."

**Finding 19:** Staff does not recommend a Site Design Review.

**COMMENTS:**

**Mist Birkenfeld CPAC:** No Comment received.

**Mist-Birkenfeld Rural Fire Protection District:** Letter submitted April 27, 2015, See Attached Letter. "...there will be no significant adverse impacts of construction and operation of the North Mist Expansion Project on the ability of the Mist-Birkenfeld RFPD to provide fire and EMS services."

**Oregon State Forestry:** Date received April 20, 2015; We have reviewed the application and have no objection to its approval.

**Soil and Water Conservation District:** Date received April 22, 2015; We have reviewed the application and have no objection to its approval.

**Upper Nehalem Watershed Council:** No Comment

**Oregon Department of Fish and Wildlife:** Date received April 27, 2015; We have no comments at this time.

**DOGAMI:** No Comment

**County Roadmaster:** Date received April 28, 2015; No Objection to its approval.

**County Counsel:** No Comment

**Building Official:** No Comment

**Notified Property Owners:** No Comment received.

No other comments have been received from government agencies or nearby property owners as of the date of the initial hearing of this staff report (May 21, 2015).

#### **CONCLUSION AND RECOMMENDATION:**

Based on the above findings, staff recommends **APPROVAL** this request for a natural gas wells (CU 15-01) with the following conditions:

1. This permit shall become void 4 years from the date of the final decision if well drilling has not begun on the property in substantial compliance with the conditions herein set out. Extensions of time may be granted by the Planning Director if requested in writing before the expiration date and if the applicant was not responsible for the failure to develop.
2. Prior to operations, the applicant shall obtain the proper permits from DOGAMI and the Oregon State Forestry Department.
3. This permit will not be valid unless the applicant meets fire safety requirements as determined by the Mist-Birkenfeld Rural Fire Protection District (RFPD). The applicant shall have the well site inspected by the Mist-Birkenfeld Rural Fire Protection District prior to any drilling operations, and the applicant shall notify the RFPD as to the exact date and location of drilling operations at least three days prior to the commencement of said activities. The applicant shall notify the Fire District when they have vacated the site.
4. If the completed well(s) is not or can not be used for its purpose, well site(s) shall be abandoned in accordance with DOGAMI's regulations and the well site returned to its original condition.
5. The applicant shall assume responsibility for any damages from wildlife to the gas well development and the site.
6. The applicant shall closely follow and implement the Emergency Management Plan developed with Mist-Birkenfeld Fire District and emergency responders.

**Attachments**

Application  
Maps (as submitted by the applicant)  
Zoning Map  
Vicinity Map  
Mist Gas Field Map

**Exhibit B – CU 17-04, Final Order & Staff Report**

COLUMBIA COUNTY  
**LAND DEVELOPMENT SERVICES**

COURTHOUSE  
230 STRAND  
ST. HELENS, OREGON 97051  
(503)397-1501

**APPEAL INFORMATION for  
FINAL ORDER CU 17-04**

**Applicant: Northwest Natural Gas Co.**

**Notice Date: 1/20/17**

**Appeal Body:**

- Planning Commission**, for appeal of an administrative decision; file this appeal in the Land Development Services office, ground floor, Courthouse Annex, St. Helens, OR 97051. The appeal must be filed **within 12 calendar days** of the above Notice Date, the date this notice was mailed to the applicant and to other persons entitled to notice. The appeal must be accompanied by the appropriate appeal fee.
- Board of County Commissioners**, for appeal of this Planning Commission decision; file this appeal in the Office of the County Clerk, second floor, Courthouse Annex, St. Helens, OR 97051. The appeal must be filed **within 7 calendar days** of the above Notice Date, the date this notice was mailed to the applicant and to other persons entitled to notice. The appeal must be accompanied by the appropriate appeal fee.
- Land Use Board of Appeals (LUBA)**, for appeal of this Planning Commission or Board of Commissioner decision. File a Notice of Appeal with the Land Use Board of Appeals; PUC Building, 550 Capitol Street NE, Salem, OR 97310. The appeal must be filed with the Land Use Board of Appeals **within 21 calendar days** of the above Notice Date, the date this notice was mailed to the applicant and to other persons entitled to notice.

Attached is the FINAL ORDER on the application listed above. This decision, or any part of it, or any condition attached to it, may be appealed to the **Appeal Body** noted above.

If a local appeal is filed, and after notice is given to those persons entitled to notice, a public hearing will be held by the Appeal Body at its earliest available regular meeting. At the hearing, all interested parties will have an opportunity to appear and be heard.

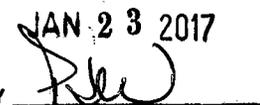
The applicant and other interested persons should contact the Planning Department after the applicable appeal period has run to determine whether an Appeal has been filed. Applicants are cautioned against beginning development if an Appeal has been filed.

**PLEASE NOTE:** An appeal may be filed only by persons who appeared in person or in writing before the Planning Department, the Planning Commission or the Board of County Commissioners. You have "appeared" if you supplied information or argument in favor of or opposed to the application listed above.

If any of the above is not clear, or you have questions or require additional information, please contact Glen Higgins at (503) 397-1501, or FAX to his attention at (503) 366-3902.

RECEIVED  
STOEL RIVES LLP

JAN 23 2017

BY 

**BEFORE THE COLUMBIA COUNTY  
PLANNING COMMISSION  
ST. HELENS, OREGON**

In the Matter of the Application of Northwest )  
Natural Gas Co. for a Conditional Use Permit )  
to Convert an Old Gas Well to a Monitoring )  
Well for Adams Storage Reservoir )

**Final Order CU 17-04**

This matter came before the Columbia County Planning Commission on the application of Northwest Natural Gas Company for a Conditional Use Permit to convert an old production gas well into an observation/monitoring well on property identified by Tax Map No.7N5W00-5000. The well site is in the vicinity of the new Adams Underground Storage Reservoir for the Mist Gas Field, northwest of the Miller Station.

Notice of the land use application was provided to the Mist Birkenfeld CPAC, the Upper Nehalem Watershed Council, Columbia Soil & Water Conservation, ODFW, Mist-Birkenfeld Fire District, Oregon State Forestry, DOGAMI, the County Road Master and surrounding property owners. A public hearing was held on January 9, 2017 at which time the Planning Commission reviewed the application, heard the presentation from the applicant, and considered written materials including the Staff Report dated December 29, 2016.

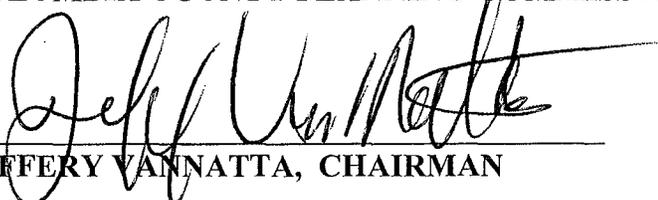
After due consideration, the Columbia County Planning Commission hereby adopts the findings, conclusions and recommendations of the Staff Report and **APPROVES** CU 17-04 with the following conditions:

**Conditions of Approval:**

1. This permit shall become void 4 years from the date of the final decision if well monitoring has not begun on the property in substantial compliance with the conditions herein set out. Extensions of time may be granted by the Planning Director if requested in writing before the expiration date and if the applicant was not responsible for the failure to develop.
2. Prior to operations, the applicant shall obtain the proper permits from DOGAMI and the Oregon State Forestry Department.
3. The applicant shall assume responsibility for any damages from wildlife to the gas well development, equipment and the site.
4. The applicant shall closely follow and implement the Emergency Management Plan developed with Mist-Birkenfeld Fire District, State Forestry Department and emergency responders.

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**COLUMBIA COUNTY PLANNING COMMISSION**

  
\_\_\_\_\_  
JEFFERY VANNATTA, CHAIRMAN

1/19/17  
\_\_\_\_\_  
DATE

# COLUMBIA COUNTY PLANNING COMMISSION

## STAFF REPORT

December 29, 2016

Conditional Use Permit - PF-80 Zone

**HEARING DATE:** January 9, 2017

**FILE NUMBER:** CU 17-04 - Gas Well, Monitoring

**APPLICANT:** Northwest Natural Gas Company  
220 N W Second Avenue  
Portland, OR. 97209

**OWNER:** Claruth Inc, Willna Inc &  
Franbea Inc EA 1/3

**TAX MAP NO:** Township 7N, Range 5W, Tax Lot 5000 (7N5W00 5000)

**LOCATION:** The site is located approximately two and a half miles northwest of the Miller Station; and 4 miles northeast of Birkenfeld;

**REQUEST:** Conversion of an old production gas well into an observation/monitoring well; this old well has no land use permit of record;

**ZONING:** Primary Forest (PF-80)

**APPLICATION COMPLETE:** November 30, 2016    **150 DAY DEADLINE:** April 29, 2017

### APPLICABLE REVIEW CRITERIA:

#### Columbia County Zoning Ordinance

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Section 505 Conditional Uses	4
Section 508 General Review Standards	4
Section 1190 Big Game Range Overlay	6
Section 1503 Conditional Uses	7

#### Columbia County Comprehensive Plan

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<del>Part IV Forest Lands</del>	<del>9</del>
Part X Economy	9
Part XIV Public Facilities & Services	10
Part XVI Goal 5: Open Space, Scenic and Historic Areas and Natural Resources	10
Part XVIII Air, Land and Water Resources	11

## BACKGROUND:

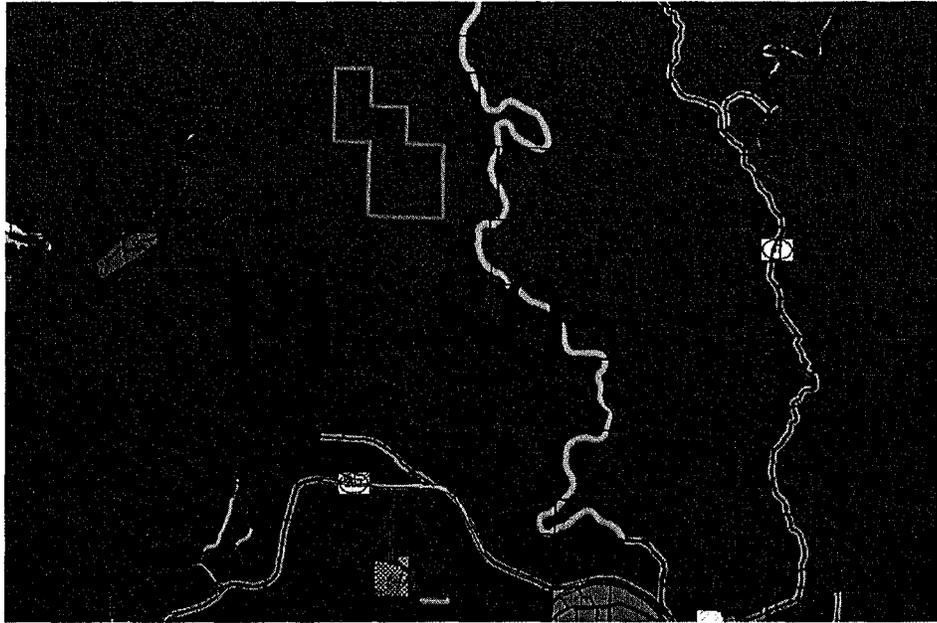
Northwest Natural Gas Company (NWN) has submitted a Conditional Use Permit application to convert an old depleted and unused production well into an observation/monitoring well for a new Mist Underground Natural Gas Storage area. NWN determined that this old well was drilled sometime around 1982. This predates the adoption of Columbia County Zoning and Conditional Use Permits for such uses. Having no land use authorization, NWN is applying for a Conditional Use permit to ensure consistency in land use planning for all gas wells they plan to use in conjunction with the new underground storage facility. The overall Mist Gas Field consists of numerous existing gas production wells in the Nehalem Valley formation and two existing natural gas storage areas. NWN is in the process of developing a third underground storage area to the north of Miller Station. The proposed use of this well will monitor static reservoir pressure in the new Mist Underground Natural Gas Storage Facility. The current Mist Storage Facility is comprised of a couple underground storage locations: the Bruer/Flora area and the Calvin Creek area. The storage areas are used by injecting the excess flow of gas (at low demand times) into selected underground caverns or a storage reservoir, and using the stored gas to serve customers at times of high demand, throughout their service area and intrastate. This application for a monitoring well is located over a new storage reservoir site called the Adams Storage Reservoir.

This conditional use permit and others already heard by the Commission (CU 15-12) are part of a larger project. NWN is getting necessary permitting for expanding the Mist Underground Natural Gas Storage Site Certificate (Site Certificate) boundary, by extending it to the north. The Energy Facilities Siting Council (EFSC) has the jurisdiction for permitting of this facility expansion through the Site Certificate Amendment #11, which was approved. The only portion of this larger project that Columbia County Planning Commission will be reviewing is the conditional use permits for the gas wells involved in the storage facility. The State Department of Geology and Mineral Industries (DOGAMI) has the permitting authority for subsurface gas well drilling. The State Department of Energy (DOE) administers and provides staff for the EFSC, within the guiding law of the Code of Federal Regulation for siting of regional energy facilities. EFSC approved the Site Certificate Amendment #11. NWN is now developing this new Adams Storage Reservoir as an underground storage area by installing injection/withdrawal wells, transmission lines and building a new compressor facility, located nearby the injection/withdrawal wells, and constructing approximately 13 miles of 24" transmission pipeline between the new compressor station and Port Westward Industrial Park near Clatskanie. These overall natural gas storage facilities and the infrastructure for its use and other related improvements are all reviewed and approved separately through EFSC. The County Board of Commissioners and the Planning Division reviewed the application (EFSC Site Certificate Amendment #11) and provided comments to DOE in their fact finding process.

The site of this existing well for proposed gas pressure monitoring, serving the proposed Adams Storage Reservoir, is located in an area that does not have any farm use parcels within miles. Adjacent properties are all large timber properties used for forest management. The area is mountainous with steep slopes, any streams in this area are very small in deep ravines near their head-waters. There are no floodplain or wetlands near the subject site, as per FIRM Map # 41009C0125D dated November 26, 2010 and National Wetlands Inventory NWI, Marshland Map. This area has little to no public facilities available, no public roads, but is within the Mist-Birkenfeld Fire Protection District. The Planning Commission has reviewed other gas wells in the remote areas near Birkenfeld and has set usual conditions that have been imposed on other gas well applications. Those conditions of approval generally included obtaining a State DOGAMI drill permit and

coordination activities with various state and local agencies for oversight and emergency preparedness.

**Zoning Map - Columbia County Web Maps (GeoMoose, 2014)**



**Aerial Photo (GEOMoose, 2009)**



## REVIEW CRITERIA & FINDINGS:

### COLUMBIA COUNTY ZONING ORDINANCE:

#### Section 500 PRIMARY FOREST - 80

505 Conditional Uses. The following conditional uses may be allowed subject to the general review standards and process in Sections 1503 and 1603 of the Zoning Ordinance. All authorized uses and permanent structures shall also meet the applicable standards listed in Sections 506, 507, and 508 of the Zoning Ordinance and all other local, state, and federal laws pertaining to these uses.

- .2 Exploring, mining and processing of oil, gas, or other subsurface resources, as defined in ORS Chapter 520 and the mining and processing of mineral and aggregate resources as defined in ORS Chapter 517.

**Finding 1:** Natural gas is a subsurface resource in Columbia County. Mining, extracting and processing subsurface resources (natural gas) may be permitted in the PF-80 Zone through approval of a Conditional Use Permit by the Planning Commission, subject to Section 508 General Review Standards. Note: Sections 506 and 507 are not applicable because this application does not seek to site any dwellings or structures.

As a matter of explanation, the subject gas well and its drilling pad are existing. The application refers to it as a production well No. 13-34-75, probably drilled in 1982. Columbia County has no permit or record for the well. Assuming that DOGAMI or other state agency, at the time, issued a permit for its drilling, we could deduct that the well is probably a legal non-conforming use under our Zoning Ordinance. NWN is not asking the County to make a non-conforming use determination; instead, the applicant is seeking a conditional use approval for this well to ensure consistency with land use standards with all its facilities. In terms of the larger project, although the gas storage, gas pump station and gas transport through pipelines are all part of processing and subject to conditional use, the Energy Facility Siting Council (EFSC) took jurisdiction of this energy facility because of its domain and interstate use. (See background section)

#### Zoning Ordinance Section 508 requires the following:

508 General Review Standards The Planning Director or hearings body shall determine that a use authorized by Sections 504 and 505 meets all of the following requirements:

- .1 The proposed use will not force significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;

**Finding 2:** The proposed use to convert an exhausted gas well into a monitoring well should not increase the cost, force a change in, nor interfere with farming or forest uses on adjacent lands, if the applicant proceeds professionally and the recommended/imposed conditions are satisfied. The subject property is located in west Columbia County in the Nehalem River valley formation, in an area developed with other natural gas wells (hundreds) and gas storage projects. To the county's knowledge none of these existing gas facilities have forced significant changes in farming or forestry for nearby property owners. Despite the historic drilling of any or all of these older gas wells, dating back to 1979, forest and farm management practices adjacent to the existing sites have been and will be continued. In the Mist and Birkenfeld areas, gas well sites have become a norm and most of the

farmers and loggers have grown to operate their farms or forestry with the wells on their land. There is no evidence presented that gas well use precludes the opportunity to use surrounding parcels for the primary forest purposes of the PF-80 District.

Surrounding property owners, all large timberland holding companies, were notified of this request, and none have responded with any concerns. The existing well to be converted to a monitoring well is already constructed and the existing well pad is rocked. Access to the 0.18 acre well site is from an existing logging road. The applicant has stated in the application that temporary construction activities associated with the converting the well to a monitoring device will be coordinated with neighboring landowners to ensure, that from a timing standpoint, there are no conflicts with adjoining forest or farm operations. The applicant states there will be no discharge of waste into the air, water or soil, and the "proposed operations will not require the use of any hazardous or poisonous materials." The old site and monitoring facilities are self-sustaining and temporary. Furthermore, ORS 527.722(2)(e), the Oregon Forest Practices Act, permits local governments to allow physical alterations of the land for purposes of exploration or mining. The operation of a natural gas well for monitoring of the Adams Underground Storage Facility is, therefore, consistent with forest and farm uses and the intent and purpose set forth in the Oregon Forest Practices Act. Staff finds that the criterion is met.

### **Continuing with Section 508 General Review Standards**

- .2 The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel;

**Finding 3:** The proposed use will not significantly increase fire hazard, suppression costs or risk to firefighting personnel. The applicant shall take appropriate measures to ensure that the conversion and operating of the new monitoring well will not create a fire hazard risk as various state permits require. To ensure fire safety, the applicant has a good working relationship with the Mist Birkenfeld Rural Fire Protection District (RFPD); as per agreement, the applicant informs the fire district or its key personnel as to the date that the site will be occupied, the date that operations will commence, and the date that the site has been vacated. The purpose of this coordination is to give the fire district an opportunity to locate and inspect the site and to inspect the equipment operating on the site for fire safety. Once the inspection has been completed the fire district compiles the information into a packet to help fire district personnel know where to respond and what to expect in the case of an emergency. In the past the Assistant Fire Chief confirmed that gas drilling companies have been cooperative in supplying the requested information to the District for past well projects. Notification of start and stop of equipment installation and operations as required by the Mist Birkenfeld RFPD are addressed through the conditions of approval. Staff finds that the criterion is met subject to conditions.

### **Continuing with Section 508 General Review Standards**

- .3 A waiver of remonstrance shall be recorded with the County Clerk certifying that the owner will not remonstrate against or begin legal action or suit proceeding to cause or persuade the owner or operator of any farm or forest lands to modify the conduct of legal and accepted farm or forest operations; and

**Finding 4:** The applicant, Northwest Natural Gas Company (NWN), is not the owner of the property on which

the well is located. All operations conducted by NWN, however, are done so with the full agreement and participation of the effected landowner(s). Landowners are not anticipated to remonstrate against or cause legal action to modify their own forest and/or farm practices. A waiver of remonstrance is not applicable to the request as submitted. Staff finds that the criterion does not apply.

### **Continuing with Section 508 General Review Standards**

- .4 The proposed use is consistent with requirements contained in the Comprehensive Plan or implementing ordinances, including, but not limited to, regulations which apply to flood hazard areas, development within the Willamette River Greenway, development in forested areas or development in significant resource areas, such as riparian, wetlands or slide-prone areas.

**Finding 5:** Columbia County's Zoning Ordinance provides land use regulations and standards to implement the goals and policies of the Comprehensive Plan. The proposal's consistency with applicable sections of the County's Zoning Ordinance are addressed through findings in this staff report. Such findings address uses permitted in the PF-80 zone, standards of development of the underlying zone, as well as standards of development relevant to overlay zones such as flood hazard areas, riparian corridors, and big game habitat. There are no flood hazards or riparian corridors with the area of the proposed monitoring well. The well site is roughly at 1200 feet elevation on ridges and hills well above any small drainage ways in this mountainous area. As such, as long as the proposal is found to comply with all applicable sections of the Zoning Ordinance, it will also comply with the requirements of the Comprehensive Plan. Consistency with the Comprehensive Plan is discussed in Findings 13-17 of this Staff Report. Staff finds that the criterion is met subject to conditions.

### **Continuing with Sections of the Columbia County Zoning Ordinance**

#### **Zoning Ordinance Section 1190 requires the following:**

##### **Section 1190 BIG GAME RANGE OVERLAY**

##### 1193 Development Standards:

All new development located in Major and Peripheral Big Game Habitat shall implement the following siting standards:

- .1 Dwellings and structures shall be located as near each other and existing developed areas as possible considering topography, water features, required setbacks and firebreaks.
- .2 Dwellings and structures shall be located to avoid habitat conflicts and utilize least valuable habitat areas.
- .3 Road development shall be minimized to that which is necessary to support the proposed use and the applicant shall utilize existing roads as much as possible.
- .4 The owner/occupant of the resource parcel shall assume responsibility for protection from

damage by wildlife.

**Finding 6:** The project site is within a Major Big Game Habitat Area as shown on the *Clatskanie-Quincy BEAK, Wildlife Game Habitat* Map. According to the applicant, no dwellings or permanent structures will be constructed, and very minimal road building will occur. Existing logging roads will be used for access to the extent practical. During operations of the Adams Storage Reservoir, only limited access by NWN staff will be needed. The monitoring well site will be fenced for security and to protect big game from possible injury from the piping and equipment used in transferring gas to the constructed pipelines. The new monitoring well is in an area already committed to natural gas production and numerous gas wells. Initial equipment installation and set up of the monitoring well will not disrupt big game activities, and will not result in any long-term impacts to the big game range and/or big game behavior. Once in place, impacts to habitat from the monitoring devices will be minimal. The overall area proposed for this monitoring facility has been used for natural gas exploration, storage and extraction for almost 30 years and is among other gas producing wells. Impacts to the area from this facility will be minimal. The applicant shall assume responsibility for any damages to the site from wildlife. Staff finds that the criterion is met with a condition.

### **Continuing with Section 1190 Big Game Development Standards**

- .6 Columbia County shall notify the Oregon Department of Fish and Wildlife (ODFW) of all proposed uses or activities located within the Big Game Range Habitat. The County will consider the comments and recommendations of ODFW before making a decision concerning the requested use or activity.

**Finding 7:** The subject property is located within an area of Major Big Game Range Habitat as designated on the Wildlife Maps for the Clatskanie-Quincy area. The County notified the Oregon Department of Fish and Wildlife (ODFW) of the proposed request and received as response of "we have reviewed the application and have no objection to its approval." The applicant shall be required, however, to coordinate with the Oregon Department of Fish and Wildlife in conjunction with the State DOGAMI permitting of said wells as a Condition of Final Approval. Staff finds that the criterion is met subject to conditions.

### **Zoning Ordinance Section 1500, Discretionary Permits, requires the following:**

#### **"1503 Conditional Uses:**

- .5 **Granting a Permit:** The Commission may grant a Conditional Use Permit after conducting a public hearing, provided the applicant provides evidence substantiating that all the requirements of this ordinance relative to the proposed use are satisfied and demonstrates the proposed use also satisfies the following criteria:

- A. The use is listed as a Conditional Use in the zone which is currently applied to the site;"

**Finding 8:** “Exploring, mining and processing of oil, gas, or other subsurface resources...” are a Conditional Use in the PF-80 zone under Section 505.2 of Columbia County’s Zoning Ordinance (See Finding 1). Gas well drilling, extraction and processing of gas is considered a conditional use in this zone. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"B. The use meets the specific criteria established in the underlying zone:"

**Finding 9:** Compliance with the criteria of the PF-80 Zone is discussed in Findings 1 through 5 of this report. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"C. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements, and natural features;"

**Finding 10:** The existing well site to be used for underground storage monitoring is in the area generally known as the Mist Gas Field where there are other gas production wells, well heads and gas storage projects. Most properties located within this area are used for resource use (commercial timber management, small farms, natural gas storage and extraction, etc...) and are not developed to any extent with residential uses. The proposed monitoring site is located in an area that appears remote and relatively secluded from human activity. The applicant states, “The site characteristics are suitable for the proposed use. Gas well drilling has been conducted in the area for many years. Drilling activities will not permanently affect any topographic feature, improvement or other natural feature.” As discussed previously in this report, the proposed gas monitoring well site is in a remote mountainous area between the Nehalem River and Columbia River valleys. There are no streams, riparian areas or floodplains within miles of the proposed well sites. The existing natural features, existing uses, and the remote nature of this part of the County make this site suitable for the proposed use. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"D. The site and proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use."

**Finding 11:** The proposed activity will not require new public facilities or services. Existing County roads and/or State Highway will be used for access into the Mist-Birkenfeld area. Existing private logging roads will be used to access the new storage facility and monitoring devices. Where public roads are used, the small number of vehicle trips associated with the use will not place an inappropriate burden on the roadways. The proposed natural gas operations will not require improvements to existing transportation or public facilities and services in the area. Staff finds that the criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"E. The proposed use will not alter the character of the surrounding area in a manner which

substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying district;"

**Finding 12:** The PF-80 zoning district allows a number of uses, with primary uses (uses permitted outright) focused on the propagation, harvesting and management of forest and farm products and uses associated with soil, air and water conservation and fish and wildlife management. Other uses are allowed subject to administrative review, including single family dwellings and fire stations. Specific uses permitted in the PF-80 zone are outlined in Chapter 215 of Oregon Revised Statutes (ORS) and in Sections 503, 504 and 505 of Columbia County's Zoning Ordinance. The proposed monitoring well would not seem to alter the character of the overall county natural gas field area. Huge investments have been made for the extraction of this energy source, and property use is already developed for natural gas production and storage activities. Forestry, farming and natural gas operations have existed (together) in this area for many years. Staff finds that this criterion is met.

**Continuing with Zoning Ordinance Section 1503.5**

"F. The proposal satisfies the goals and policies of the Comprehensive Plan which apply to the proposed use,"

**COLUMBIA COUNTY COMPREHENSIVE PLAN:**

**PART IV FOREST LANDS**

**GOAL:** To conserve forest lands for forest uses.

**Finding 13:** This application conserves forest lands for forest uses because it uses an existing well and well pad that is part of an already approved resource drilling and subsurface natural gas storage. Furthermore, the proposed use deals with a subsurface resource and will have little impact on above ground forest resources. The operation will not result in the withdrawal of forest lands or forest uses on a permanent basis. Upon retirement of the Mist Gas Field, the small areas of above ground improvements will be removed and the well sites returned to timber production. Staff finds that this plan goal is met.

**Continuing with the Columbia County Comprehensive Plan**

**PART X ECONOMY**

**GOALS:**

1. To strengthen and diversify the economy of Columbia County and insure stable economic growth.
2. To utilize Columbia County's natural resources and advantages for expanding and diversifying the economic base.

**POLICIES:** It shall be a policy of the County to:

7. Protect identified aggregate resources until they are extracted, and plan for the reclamation and

future productive uses of those sites.

**Finding 14:** According to DOGAMI, the Mist Gas Field has been of significant economic importance to the County, producing over 65 billion cubic feet of gas since its discovery in 1979, with a value of about \$125 million. (Not updated figures) Currently, there are multiple gas producing wells and three underground natural gas storage projects in the Mist Gas Field. Northwest Natural Gas delivers energy to more than 650,000 customers from the gas reservoirs and storage projects located in the area. The continuing expansion of natural gas extraction in the County creates jobs and provides energy to the region. Additionally, a percentage of the income generated through production of a natural gas well is returned to the owner of the mineral rights. New monitoring well in this area will satisfy the goals and policies of Part X (Economy) of the Comprehensive Plan by using a natural resource to expand and diversify the County's economic base. Staff finds that this plan policy is met.

### **Continuing with the Columbia County Comprehensive Plan**

#### **PART XIV PUBLIC FACILITIES AND SERVICES**

##### **GOAL:**

To plan and develop a timely, orderly, and efficient arrangement of public services as a framework for urban and rural development.

**Finding 15:** Only minimal use of public facilities will be necessary to accommodate monitoring equipment and infrastructure improvements. With the exception of travel on county roadways and state highways to and from the general area of the monitoring well site, the use will not require the use of public facilities and/or services. Staff finds that this plan policy is met.

### **Continuing with the Columbia County Comprehensive Plan**

#### **PART XVI GOAL 5: OPEN SPACE, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES**

##### **ENERGY SOURCES**

##### **GOAL:**

To protect deposits of energy materials in the County and prevent injury to surrounding lands and residents.

**POLICIES:** It is the policy of the County to:

1. Rely on ODOGAMI to require that wells are drilled, cased, and plugged in such a manner as to ensure public safety.
2. Coordinate with ODOGAMI to conduct a comprehensive inventory of energy sources in the County, including those oil and coal deposits determined as (1B). Upon completion of this study, the County shall complete the Goal 5 process for newfound resources, and up-date zoning and other

implementary ordinances to accommodate them.

**Finding 16:** The proposed activities are subject to the conditional use criteria outlined in Columbia County's Zoning Ordinance and to the regulations of DOGAMI. The Oil, Gas and Geothermal Regulatory and Reclamation Program at DOGAMI regulates activities associated with oil and gas operations to ensure that these activities are done in a manner which ensures "conservation of the resource, protects the environment including groundwater resources, and allocates revenue from production among owners of mineral rights in an equitable manner." Protection of energy materials and prevention of injury to surrounding lands and residents are handled through required permits conforming to federal, state and local regulations. Staff finds that these plan policies are met subject to conditions.

### **Continuing with the Columbia County Comprehensive Plan**

#### **PART XVIII AIR, LAND, AND WATER RESOURCES**

##### **GOAL:**

To maintain and improve land resources and the quality of the air and water of the County.

**Finding 17:** Columbia County's Comprehensive Plan identifies the potential for environmental consequences, including disruption of sensitive ecosystems by land disturbance and water source pollution, from gas well drilling. The proposed gas wells are not in the immediate vicinity of sensitive and protected water resources, as mentioned earlier in Finding 5. As far as air quality, it does not appear from evidence submitted that the proposed monitoring well will impact air quality. The only possible impact to air quality could be a remote possibility of a gas well head explosion and fire. The applicant in conjunction with the Fire district has an emergency plan in place for such an occurrence. Generally, the County minimizes and/or prevents such impacts by relying on federal and state agency's safety standards, specifically DOGAMI, to require compliance with gas drilling regulations and through this conditional use permit process. Approval of this application and the resulting exploration activities will have little to no effect on air and water quality if regulatory permit conditions are met, and will result in no permanent surface damage. The applicant has stated that at which point natural gas production ceases, the wells will be abandoned and the site returned to its original state. Staff finds that this plan goal is met with conditions.

### **Continuing with Zoning Ordinance Section 1503.5**

"G. The proposal will not create any hazardous conditions."

**Finding 18:** The proposed monitoring activities will not be hazardous if precautions are taken in accordance with regulations set forth by the Oregon State Forestry Department, DOGAMI, the Mist Birkenfeld Rural Fire Protection District and recommendations set forth by the Oregon Department of Fish and Wildlife. According to the applicant, the proposed operations will not require the use of any hazardous or poisonous materials; in addition, the operations will not create undue hazardous conditions and will be governed by and conducted under the oversight and control of the aforementioned agencies.

**Continuing with Zoning Ordinance Section 1503.6:**

"6 Design Review: The Commission may require the Conditional Use be subject to a site design review by the Planning Commission."

**Finding 19:** Staff does not recommend a Site Design Review.

**COMMENTS:**

**Mist Birkenfeld CPAC:** No Comment received.

**Mist-Birkenfeld Rural Fire Protection District:** Returned a Referral and Acknowledgment form to the County on December 6, 2016. They have reviewed the application and have no objections to its approval as submitted.

**Oregon State Forestry:** No comment received.

**Soil and Water Conservation District:** No comment received.

**Upper Nehalem Watershed Council:** No Comment received.

**Oregon Department of Fish and Wildlife:** Date received December 12, 2016; We have reviewed the application and have no objection to its approval.

**DOGAMI:** No Comment

**County Roadmaster:** No comment receive.

**County Counsel:** No Comment

**Building Official:** No Comment

**Notified Property Owners:** No Comment received.

No other comments have been received from government agencies or nearby property owners as of the date of the initial hearing of this staff report (December 29, 2016).

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## **CONCLUSION AND RECOMMENDATION:**

Based on the above findings, staff recommends **APPROVAL** this request for a monitoring well (CU 17-04) for a new underground storage facility, with the following conditions:

1. This permit shall become void 4 years from the date of the final decision if well monitoring has not begun on the property in substantial compliance with the conditions herein set out. Extensions of time may be granted by the Planning Director if requested in writing before the expiration date and if the applicant was not responsible for the failure to develop.
2. Prior to operations, the applicant shall obtain the proper permits from DOGAMI and the Oregon State Forestry Department.
3. The applicant shall assume responsibility for any damages from wildlife to the gas well development, equipment and the site.
4. The applicant shall closely follow and implement the Emergency Management Plan developed with Mist-Birkenfeld Fire District, State Forestry Department and emergency responders.

### **Attachments**

Application  
Maps (as submitted by the applicant)  
Zoning Map  
Vicinity Map

**CONDITIONAL USE PERMIT APPLICATION**

**PROPOSED USE:** Observation/Monitoring Well

**APPLICANT: Name:** Northwest Natural Gas Company

Mailing address: 220 NW Second Avenue

Portland OR 97209  
City State Zip Code

Phone No.: Office 503-226-4211 Home \_\_\_\_\_

Are you the \_\_\_\_\_ property owner?  owner's agent?

**PROPERTY OWNER:** same as above, OR:

Name: Evenson Timberland Agency, Inc.

Mailing Address: P.O. Box 127

Clatskanie OR 97016  
City State Zip Code

Phone No.: Office \_\_\_\_\_ Home \_\_\_\_\_

**PROPERTY ADDRESS (if assigned):** N/A

City 7500 000 05600 State \_\_\_\_\_ Zip Code \_\_\_\_\_

**TAX MAP NO.:** 7N 5W 0050000 Acres: 280 Zoning: PF80

\_\_\_\_\_ Acres: \_\_\_\_\_ Zoning: \_\_\_\_\_

\_\_\_\_\_ Acres: \_\_\_\_\_ Zoning: \_\_\_\_\_

**PRESENT USES:** (farm pasture, forest, residential, etc.)

Use: \_\_\_\_\_ Approx. Acres

Commercial Timberland, with existing natural gas wells and 280  
gathering lines in immediate area

Total acres (must agree with above): 280

File No. CU \_\_\_\_\_

WATER SUPPLY: N/A Private well. Is the well installed? \_\_\_ Yes \_\_\_ No  
N/A Community system. Name \_\_\_\_\_

METHOD OF SEWAGE DISPOSAL: \_\_\_\_\_ Community Sewer. Name \_\_\_\_\_  
 Not applicable.  
\_\_\_\_\_ Septic System.

If Septic, does the subject property already have a system? \_\_\_ Yes \_\_\_ No  
If no, is the property approved for a Septic System? \_\_\_ Yes \_\_\_ No

ELECTRICITY SUPPLIER: Western Oregon Electric Cooperative

CONTIGUOUS PROPERTY: List all other properties you own which have boundary lines touching this property:

<u>Tax Account No.</u>	<u>Acres</u>	<u>Co-owners (if any)</u>
_____	_____	_____
_____	_____	_____

ACCESS CONSULTATION: The applicant has consulted with the local Rural Fire Protection District regarding emergency apparatus access.

Fire Official's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**CERTIFICATION:**

I hereby certify that all of the above statements, and all other documents submitted, are accurate and true to the best of my belief and knowledge.

Date: 10/29/2016 Signature: [Handwritten Signature]

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Planning Department Use Only

Date Rec'd. 11-1-16 Hearing Date: \_\_\_\_\_

Receipt No. 18668 895272 Or: Administrative \_\_\_\_\_

Zoning: \_\_\_\_\_ Staff Member: \_\_\_\_\_

Previous Land Use Actions: \_\_\_\_\_

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**CONDITIONAL USE PERMIT FACT SHEET**

Please attach extra pages if necessary.

1. New Uses: What new uses will occur on the property if this Conditional Use Permit is approved? Describe your project.

If approved, the Applicant will convert one existing production well to an observation/  
\_\_\_\_\_ monitoring well and operate the well. The well will allow the Applicant to monitor the  
\_\_\_\_\_ underground storage reservoir. The well is under the jurisdiction of the Department of  
\_\_\_\_\_ Geology and Mineral Industries, so the Applicant is only seeking local approval of the well  
\_\_\_\_\_ pad.  
\_\_\_\_\_  
\_\_\_\_\_

2. Suitability: Why is the property suitable for this use (considering lot size, shape and location, access and roads, natural features and topography, existing improvements, etc.)?

As explained in detail in the attached document, the existing well site is suitable for the  
\_\_\_\_\_ proposed use because it is in close proximity to other gas wells. No tree removal or  
\_\_\_\_\_ vegetative removal will be required.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Compatibility: How will the use be compatible with surrounding uses?

As described in detail in the attached document, conversion and operation of the existing  
\_\_\_\_\_ well will be compatible with existing commercial timberland operations on the property.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Impact: What impact will the proposed use have on existing public facilities, or on your neighbors' use of their land? Why?

The well will have no impact on public facilities. The Applicant will access the site via an existing logging road. No permanent structures will be erected, and the well is not located near any residential dwellings.

5. Hazards: Does the proposed use create any hazardous conditions such as fire hazards, traffic hazards, slope stability hazards or use any poisonous materials? Please describe them.

As described in greater detail in the attached documents, the Applicant has operated the Mist Underground Storage Facility since 1988 without causing any fires or other hazards. Northwest Natural's wells have numerous safety features, including relief valves and automatic shutdown systems.

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**Submission: All of the following must be completed and submitted for a complete application:**

1. The attached CONDITIONAL USE PERMIT APPLICATION.
2. Answers to the above questions.
3. An accurate site plan of your property including property lines and dimensions, all existing and proposed structures, septic tank and drainfield and well locations, prominent natural features (slopes, cliffs & streams, etc.), roads, easements, and forested areas.
4. Proof of legal usable access to your property (unless you can show an unobstructed frontage on a public or county road or on a state highway).
5. A vicinity map.
6. The application fee.
7. Please also address the criteria (on a separate sheet of paper) of Section 1503, Conditional Uses, from the Columbia County Zoning Ordinance. (See below.)

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**Section 1503, Conditional Uses:**

- .5 Granting a Permit: The Commission may grant a Conditional Use Permit after conducting a public hearing, provided the applicant provides evidence substantiating that all the requirements of this ordinance relative to the proposed use are satisfied and demonstrates the proposes use also satisfies the following criteria:
  - A. The use is listed as a Conditional Use in the zone which is currently applied to the site;
  - B. The use meets the specific criteria established in the underlying zone;
  - C. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements, and natural features;
  - D. The site and proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use;
  - E. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying district;
  - F. The proposal satisfies the goals and policies of the Comprehensive Plan which apply to the proposed use;
  - G. The proposal will not create any hazardous conditions.

# Supplemental Information for Northwest Natural's Columbia County Conditional Use Permit Application

## I. Introduction

Northwest Natural Gas Company ("NWN" or "Applicant") proposes to convert an existing shut-in production well (No. 13-34-75) into an observation/monitoring well. The well is located in Township 7N, Range 5W, Tax Parcel 5000 in Columbia County ("County"). See **Exhibit A**. This well will become part of NWN's Mist Underground Natural Gas Storage Facility ("Mist Facility"), and relates to NWN's development of a new underground storage reservoir and other related improvements, all of which have been permitted separately through the Oregon Energy Facility Siting Council ("EFSC"). The well will be used to monitor static reservoir pressure."<sup>1</sup>

NWN records indicate that the well was drilled on or around 1982, which predates the Columbia County Zoning Ordinance ("CCZO") and Columbia County Comprehensive Plan ("CCCP"). Although the date of development and absence of a permit suggests that the well itself is a legal nonconforming use under the CCZO, NWN is seeking conditional use approval to ensure consistency with current land use standards.

The Mist Facility provides NWN with a means of balancing relatively constant pipeline gas supplies with widely fluctuating market requirements. NWN injects gas into storage during off-peak periods and withdraws it when demand exceeds available supplies from other sources. Existing components of the Mist Facility, including the adjacent injection and withdrawal wells and North Mist Compressor Station, are permitted through either the County or EFSC.

Conversion and operation of the well will conform to the requirements of the Department of Geology and Mineral Industries ("DOGAMI"), which has exclusive jurisdiction over the non-pipeline subsurface elements of the Mist Facility, and NWN will secure all other permits required by federal, state, and local government agencies. The well is located in a 0.18-acre cleared area. Because the well and well pad are existing, removal of trees and other vegetation is not necessary.

## II. Applicable Criteria

*1503.5 Granting a Permit. The Commission may grant a Conditional Use Permit after conducting a public hearing, provided the applicant provides evidence substantiating that all the*

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requirements of this ordinance relative to the proposed use are satisfied and demonstrates the proposed use also satisfies the following criteria:

A. The use is listed as a Conditional Use in the zone which is currently applied to the site;

**Response:** The existing well proposed for conversion to an observation/monitoring well pertains to the processing of gas resources and therefore are allowable as conditional uses within the County's Primary Forest ("PF-80") zone. Accordingly, this criterion is met.

B. The use meets the specific criteria established in the underlying zone;

**Response:** The specific criteria applicable to conditional uses within the PF-80 zone are found at CCZO 508 and addressed below:

*508 General Review Standards. The Planning Director or hearings body shall determine that a use authorized by Sections 504 and 505 meets all of the following requirements:*

*.1 The proposed use will not force significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;*

**Response:** The well is located in an area developed with other natural gas production and storage facilities, all of which were previously approved by the County or EFSC. Despite a history of natural gas production and storage uses in the area, forest management practices have continued, and the Applicant and the forest landowners have had a longstanding cooperative relationship. As demonstrated by nearly three decades of Mist Facility operations, the proposed use does not preclude the continued management of the surrounding area for the primary purposes of the PF-80 zone.

As shown on **Exhibit B**, the well is located in a 0.18-acre cleared area. The well pad is covered with crushed aggregate. The Applicant will access the well site from an existing logging road. Because the well pad is existing, no tree removal is necessary. Temporary construction activities associated with converting the well will be coordinated with the landowner to ensure that there are no conflicts with ongoing forest practices. The proposed use will not result in the withdrawal of forest lands from forest use on a permanent basis: upon retirement of the Mist Facility, all above-ground improvements will be removed and the well sites will be returned to timber production. There will be no discharge of waste into the air, water, or soil, and the proposed operations will not require the use of any hazardous or poisonous materials. Accordingly, this criterion is met.

*.2 The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel;*

**Response:** As in the past, the Applicant will ensure that access to the well site is approved by the Mist Birkenfeld Rural Fire District. The cleared area around the proposed well provides an adequate break for fire safety, ensuring that the operation of the well will not create a fire hazard risk. The Applicant has operated the Mist Facility since 1988 without causing any fires or other hazards. The wells and pipeline facilities have numerous safety features, including relief valves and automatic shutdown systems. Accordingly, this criterion is met.

*.3 A waiver of remonstrance shall be recorded with the County Clerk certifying that the owner will not remonstrate against or begin legal action or suit proceeding to cause or persuade the owner or operator of any farm or forest lands to modify the conduct of legal and accepted farm or forest operations; and*

**Response:** The Applicant is not the owner of the property on which the well is located. However, all operations by the Applicant are done with the full agreement and participation of the affected landowners. The Applicant does not anticipate that the owner would remonstrate against or cause legal action to modify its own forest practices. Accordingly, this criterion does not apply.

*.4 The proposed use is consistent with requirements contained in the Comprehensive Plan or implementing ordinances, including, but not limited to, regulations which apply to flood hazard areas, development within the Willamette River Greenway, development in forested areas or development in significant resource areas, such as riparian, wetlands or slide-prone areas.*

**Response:** The CCZO contains land use regulations and standards that implement the goals and policies of the CCCP. The proposal's consistency with applicable sections of the CCZO are addressed above and in the application form. Provided the proposed use complies with all applicable sections of the CCZO, it will also comply with the requirements of the CCCP. Nonetheless, consistency with the CCCP is discussed below. Accordingly, this criterion is met.

*C. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements, and natural features;*

**Response:** The well is sited in close proximity to other gas production wells and underground natural gas storage facilities. Properties in the vicinity are devoted to resource use, and there is no residential development in the area. Accordingly, this criterion is met.

*D. The site and proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use;*

**Response:** The well will not require new public facilities or services. As shown on **Exhibit A**, the Applicant and its contractors will use private logging roads to access the site from Oregon State Highway 202. No County roads will be used. Accordingly, this criterion is met.

*E. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying district;*

**Response:** The PF-80 zone allows a number of uses, with uses permitted outright focused on the propagation, harvesting and management of forest and farm products, as well as uses associated with air and water conservation and fish and wildlife management. The well will not require the removal of any trees or construction of permanent structures. As noted above, the well is located in a 0.18-acre cleared area. Because the area has been developed for natural gas production and storage for many years, the proposed use will not alter the character of the area. Accordingly, this criterion is met.

*F. The proposal satisfies the goals and policies of the Comprehensive Plan which apply to the proposed use;*

**Response:**

***Part IV, Forest Lands:*** The County's Forest Lands Goal is applicable to the proposed use and directs the County to conserve forest lands for forest use. As explained above in response to the standards applicable to the PF-80 zone, which are acknowledged to be consistent with the CCCP, the well is consistent with this goal because it is located in an area that is already approved for resource drilling and subsurface natural gas storage. Further, the well pertains to a subsurface resource and therefore has little impact on above-ground forest resources. Moreover, as noted above, the Applicant will access the well from an existing logging road. The conversion of the existing well to an observation/monitoring well will not result in the withdrawal of forest lands from forest use on a permanent basis; upon retirement of the Mist Facility, all above-ground improvements will be removed and the well sites will be returned to timber production. There will be no discharge of waste into the air, water, or soil, and the proposed operations will not require the use of any hazardous or poisonous materials. Accordingly, the proposed wells are consistent with the County's Forest Lands Goal.

***Part X, Economy:*** The County's Economy Goal directs the County to strengthen and diversify the economy to ensure stable economic growth. The Mist Gas Field has been of significant economic importance to the County since its discovery in 1979. Gas production and storage in this area creates jobs and provides energy to the region by using a natural resource to expand and diversify the County's economic base. Accordingly, the conversion of the existing well to an observation/monitoring well is consistent with the County's Economy Goal.

***Part XIV, Public Facilities and Services:*** Conversion of the existing well will not require the commitment of public facilities and/or services. The Applicant and its contractors will use private logging roads to access the site from Oregon State Highway 202. The Applicant will also ensure that access to the site is approved by the Mist Birkenfeld Rural Fire District. As noted above, the well relates to a number of other proposed improvements to the Mist Facility, all of which have been permitted separately through EFSC. Through that process, EFSC undertook a comprehensive review of the impacts of the proposed improvements on public facilities. In other words, potential impacts to public facilities associated with related improvements have already been addressed through the EFSC process. Accordingly, the conversion of the existing well to an observation/monitoring well is consistent with the County's Public Facilities and Services Goal.

***Part XVI: Open Space, Scenic and Historic Area, and Natural Resources:*** NWN's wells are subject to the regulations of the Department of Geology and Mineral Industries, which regulates gas operations to ensure that such activities are done in a manner that ensures conservation of the resource, protection of the environment including groundwater resources, and equitable allocation of revenue from production owners among owners of mineral rights. As noted above, conversion of the existing well will conform to DOGAMI's requirements, and NWN will secure all other permits required by federal, state, and local government agencies. The observation well is located in a 0.18-acre cleared area. No removal of trees and other vegetation is necessary. Accordingly, the observation/monitoring well will have little to no effect on open space, scenic, and natural resources, and are therefore consistent with the County's Open Space, Scenic and Historic Area and Natural Resources Goal.

***Part XVII: Air, Land, and Water Resources:*** Although the CCCP identifies the potential for environmental consequences associated with the development of natural gas resources, including disruption of sensitive ecosystems by land disturbance and water source pollution, the conversion of the existing well to an observation/monitoring well will have little to no effect on air and water quality. The County minimizes potential impacts to sensitive resources by requiring compliance with federal and state environmental regulations. As in the past, the Applicant will secure proper permits from DOGAMI and the Oregon Department of Forestry. No tree removal is necessary. Accordingly, the conversion of the existing well to an

observation/monitoring well will have little to no effect on air, land, and water resources, and are therefore consistent with the County's Air, Land, and Water Resources Goal.

*G. The proposal will not create any hazardous conditions.*

**Response:** The Applicant will comply with all applicable safety standards for natural gas facilities and consult with the Mist Birkenfeld Rural Fire District to ensure that all necessary precautions are taken to reduce the risk of fire hazard. Conversion of the existing well will not require the use of any hazardous or poisonous materials. With respect to potential erosion concerns, NWN holds a 1200-C permit that covers this location. Accordingly, this criterion is met.

## **Supplemental Information for Northwest Natural's Columbia County Conditional Use Permit Application**

### **III. Introduction**

Northwest Natural Gas Company ("NWN" or "Applicant") proposes to convert an existing shut-in production well (No. 13-34-75) into an observation/monitoring well. The well is located in Township 7N, Range 5W, Tax Parcel 5000 in Columbia County ("County"). See **Exhibit A**. This well will become part of NWN's Mist Underground Natural Gas Storage Facility ("Mist Facility"), and relates to NWN's development of a new underground storage reservoir and other related improvements, all of which have been permitted separately through the Oregon Energy Facility Siting Council ("EFSC"). The well will be used to observe water movement within the reservoir and monitor potential underground "spill points."<sup>2</sup>

NWN records indicate that the well was drilled on or around 1982, which predates the Columbia County Zoning Ordinance ("CCZO") and Columbia County Comprehensive Plan ("CCCP"). Although the date of development and absence of a permit suggests that the well itself is a legal nonconforming use under the CCZO, NWN is seeking conditional use approval to ensure consistency with current land use standards.

The Mist Facility provides NWN with a means of balancing relatively constant pipeline gas supplies with widely fluctuating market requirements. NWN injects gas into storage during off-peak periods and withdraws it when demand exceeds available supplies from other sources.

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<sup>2</sup> "Spill points" for an underground storage reservoir are those areas where a reservoir is most likely to leak from one formation to another if it is filled beyond its capacity. Fill volumes are monitored closely so this is not likely to occur and create a hazard at the surface, but it could lead to loss of the stored natural gas from the storage reservoir.

Existing components of the Mist Facility, including the adjacent injection and withdrawal wells and North Mist Compressor Station, are permitted through either the County or EFSC.

Conversion and operation of the well will conform to the requirements of the Department of Geology and Mineral Industries (“DOGAMI”), which has exclusive jurisdiction over the non-pipeline subsurface elements of the Mist Facility, and NWN will secure all other permits required by federal, state, and local government agencies. The well is located in a 0.18-acre cleared area. Because the well and well pad are existing, removal of trees and other vegetation is not necessary.

#### IV. Applicable Criteria

*1503.5 Granting a Permit. The Commission may grant a Conditional Use Permit after conducting a public hearing, provided the applicant provides evidence substantiating that all the requirements of this ordinance relative to the proposed use are satisfied and demonstrates the proposed use also satisfies the following criteria:*

*A. The use is listed as a Conditional Use in the zone which is currently applied to the site;*

**Response:** The existing well proposed for conversion to an observation/monitoring well pertains to the processing of gas resources and therefore are allowable as conditional uses within the County’s Primary Forest (“PF-80”) zone. Accordingly, this criterion is met.

*B. The use meets the specific criteria established in the underlying zone;*

**Response:** The specific criteria applicable to conditional uses within the PF-80 zone are found at CCZO 508 and addressed below:

*508 General Review Standards. The Planning Director or hearings body shall determine that a use authorized by Sections 504 and 505 meets all of the following requirements:*

*.1 The proposed use will not force significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;*

**Response:** The well is located in an area developed with other natural gas production and storage facilities, all of which were previously approved by the County or EFSC. Despite a history of natural gas production and storage uses in the area, forest management practices have continued, and the Applicant and the forest landowners have had a longstanding cooperative relationship.

As demonstrated by nearly three decades of Mist Facility operations, the proposed use does not preclude the continued management of the surrounding area for the primary purposes of the PF-80 zone.

As shown on **Exhibit B**, the well is located in a 0.18-acre cleared area. The well pad is covered with crushed aggregate. The Applicant will access the well site from an existing logging road. Because the well pad is existing, no tree removal is necessary. Temporary construction activities associated with converting the well will be coordinated with the landowner to ensure that there are no conflicts with ongoing forest practices. The proposed use will not result in the withdrawal of forest lands from forest use on a permanent basis: upon retirement of the Mist Facility, all above-ground improvements will be removed and the well sites will be returned to timber production. There will be no discharge of waste into the air, water, or soil, and the proposed operations will not require the use of any hazardous or poisonous materials. Accordingly, this criterion is met.

*.2 The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel;*

**Response:** As in the past, the Applicant will ensure that access to the well site is approved by the Mist Birkenfeld Rural Fire District. The cleared area around the proposed well provides an adequate break for fire safety, ensuring that the drilling and operation of the wells will not create a fire hazard risk. The Applicant has operated the Mist Facility since 1988 without causing any fires or other hazards. The wells and pipeline facilities have numerous safety features, including relief valves and automatic shutdown systems. Accordingly, this criterion is met.

*.3 A waiver of remonstrance shall be recorded with the County Clerk certifying that the owner will not remonstrate against or begin legal action or suit proceeding to cause or persuade the owner or operator of any farm or forest lands to modify the conduct of legal and accepted farm or forest operations; and*

**Response:** The Applicant is not the owner of the property on which the well is located. However, all operations by the Applicant are done with the full agreement and participation of the affected landowners. The Applicant does not anticipate that the owner would remonstrate against or cause legal action to modify its own forest practices. Accordingly, this criterion does not apply.

*.4 The proposed use is consistent with requirements contained in the Comprehensive Plan or implementing ordinances, including, but not limited to, regulations which apply to flood hazard areas, development within the Willamette River Greenway, development*

*in forested areas or development in significant resource areas, such as riparian, wetlands or slide-prone areas.*

**Response:** The CCZO contains land use regulations and standards that implement the goals and policies of the CCCP. The proposal's consistency with applicable sections of the CCZO are addressed above and in the application form. Provided the proposed use complies with all applicable sections of the CCZO, it will also comply with the requirements of the CCCP. Nonetheless, consistency with the CCCP is discussed below. Accordingly, this criterion is met.

*C. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements, and natural features;*

**Response:** The well is sited in close proximity to other gas production wells and underground natural gas storage facilities. Properties in the vicinity are devoted to resource use, and there is no residential development in the area. Accordingly, this criterion is met.

*D. The site and proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use;*

**Response:** The well will not require new public facilities or services. As shown on **Exhibit A**, the Applicant and its contractors will use private logging roads to access the site from Oregon State Highway 202. No County roads will be used. Accordingly, this criterion is met.

*E. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying district;*

**Response:** The PF-80 zone allows a number of uses, with uses permitted outright focused on the propagation, harvesting and management of forest and farm products, as well as uses associated with air and water conservation and fish and wildlife management. The well will not require the removal of any trees or construction of permanent structures. As noted above, the well is located in a 0.18-acre cleared area. Because the area has been developed for natural gas production and storage for many years, the proposed use will not alter the character of the area. Accordingly, this criterion is met.

*F. The proposal satisfies the goals and policies of the Comprehensive Plan which apply to the proposed use;*

**Response:**

**Part IV, Forest Lands:** The County's Forest Lands Goal is applicable to the proposed use and directs the County to conserve forest lands for forest use. As explained above in response to the standards applicable to the PF-80 zone, which are acknowledged to be consistent with the CCCP, the well is consistent with this goal because it is located in an area that is already approved for resource drilling and subsurface natural gas storage. Further, the well pertains to a subsurface resource and therefore has little impact on above-ground forest resources. Moreover, as noted above, the Applicant will access the well from an existing logging road. The conversion of the existing well to an observation/monitoring well will not result in the withdrawal of forest lands from forest use on a permanent basis; upon retirement of the Mist Facility, all above-ground improvements will be removed and the well sites will be returned to timber production. There will be no discharge of waste into the air, water, or soil, and the proposed operations will not require the use of any hazardous or poisonous materials. Accordingly, the proposed wells are consistent with the County's Forest Lands Goal.

**Part X, Economy:** The County's Economy Goal directs the County to strengthen and diversify the economy to ensure stable economic growth. The Mist Gas Field has been of significant economic importance to the County since its discovery in 1979. Gas production and storage in this area creates jobs and provides energy to the region by using a natural resource to expand and diversify the County's economic base. Accordingly, the conversion of the existing well to an observation/monitoring well is consistent with the County's Economy Goal.

**Part XIV, Public Facilities and Services:** Conversion of the existing well will not require the commitment of public facilities and/or services. The Applicant and its contractors will use private logging roads to access the site from Oregon State Highway 202. The Applicant will also ensure that access to the site is approved by the Mist Birkenfeld Rural Fire District. As noted above, the well relates to a number of other proposed improvements to the Mist Facility, all of which have been permitted separately through EFSC. Through that process, EFSC undertook a comprehensive review of the impacts of the proposed improvements on public facilities. In other words, potential impacts to public facilities associated with related improvements have already been addressed through the EFSC process. Accordingly, the conversion of the existing well to an observation/monitoring well is consistent with the County's Public Facilities and Services Goal.

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**Part XVI: Open Space, Scenic and Historic Area, and Natural Resources:** NWN's wells are subject to the regulations of the Department of Geology and Mineral Industries, which regulates gas operations to ensure that such activities are done in a manner that ensures conservation of the resource, protection of the environment including groundwater resources, and equitable allocation of revenue from production owners among owners of mineral rights. As noted above,

conversion of the existing well will conform to DOGAMI's requirements, and NWN will secure all other permits required by federal, state, and local government agencies. The observation well is located in a 0.18-acre cleared area. No removal of trees and other vegetation is necessary. Accordingly, the observation/monitoring well will have little to no effect on open space, scenic, and natural resources, and are therefore consistent with the County's Open Space, Scenic and Historic Area and Natural Resources Goal.

***Part XVII: Air, Land, and Water Resources:*** Although the CCCP identifies the potential for environmental consequences associated with the development of natural gas resources, including disruption of sensitive ecosystems by land disturbance and water source pollution, the conversion of the existing well to an observation/monitoring well will have little to no effect on air and water quality. The County minimizes potential impacts to sensitive resources by requiring compliance with federal and state environmental regulations. As in the past, the Applicant will secure proper permits from DOGAMI and the Oregon Department of Forestry. No tree removal is necessary. Accordingly, the conversion of the existing well to an observation/monitoring well will have little to no effect on air, land, and water resources, and are therefore consistent with the County's Air, Land, and Water Resources Goal.

*G. The proposal will not create any hazardous conditions.*

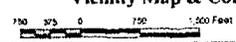
**Response:** The Applicant will comply with all applicable safety standards for natural gas facilities and consult with the Mist Birkenfeld Rural Fire District to ensure that all necessary precautions are taken to reduce the risk of fire hazard. Conversion of the existing well will not require the use of any hazardous or poisonous materials. With respect to potential erosion concerns, NWN holds a 1200-C permit that covers this location. Accordingly, this criterion is met.



**NW Natural**  
 220 NW 2nd Ave, Portland, OR 97209  
 Phone 503.226.4211

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➔ Access Road to Proposed Well Pad 13-34-75

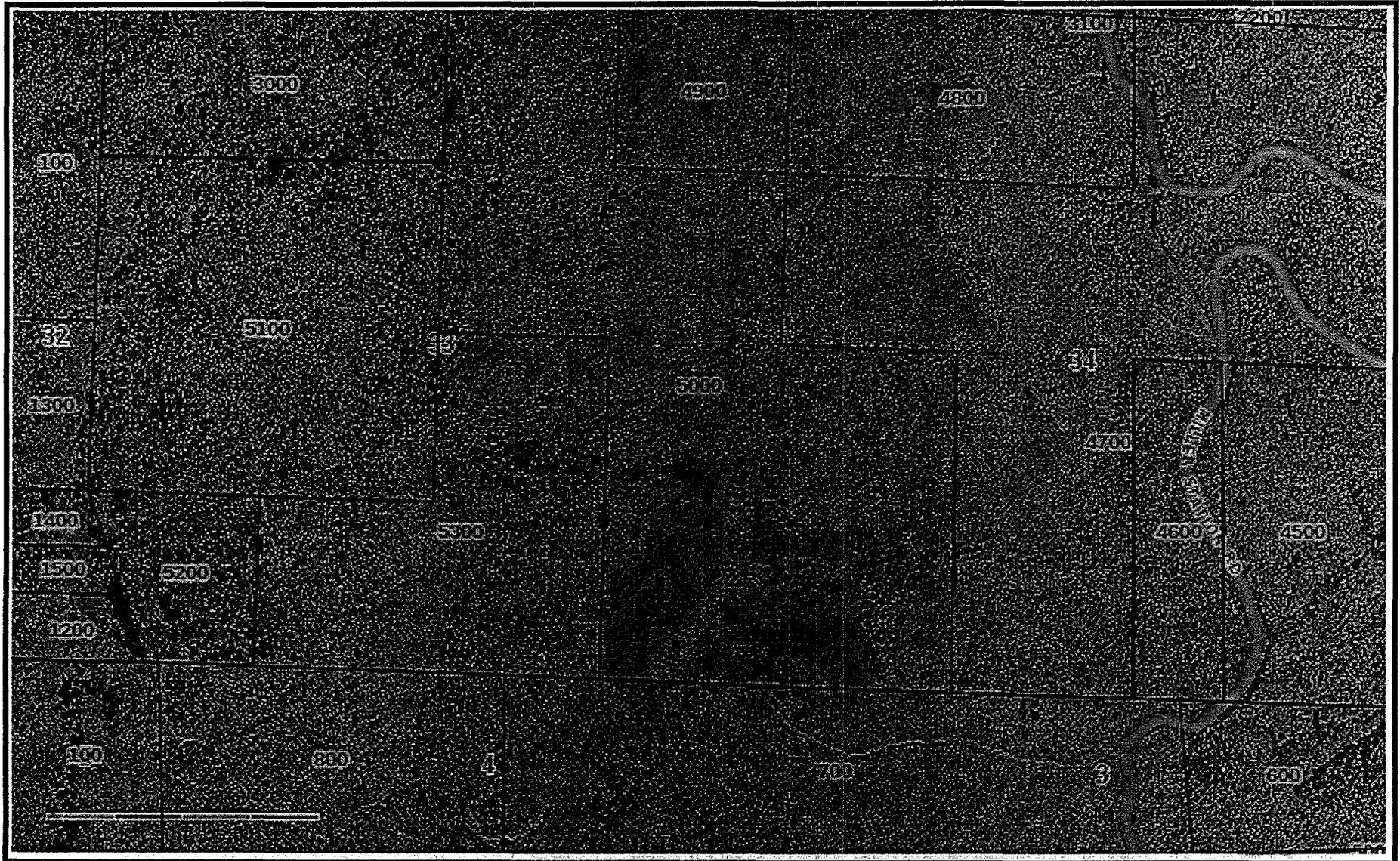


**North Mist Expansion Project**  
**CUP Application**  
 Vicinity Map & Construction Access Roads

Revised By: 10/4/2016

EXHIBIT A

# CU 17-04, Aerial Map



Columbia County



Oregon

## Columbia County Web Maps

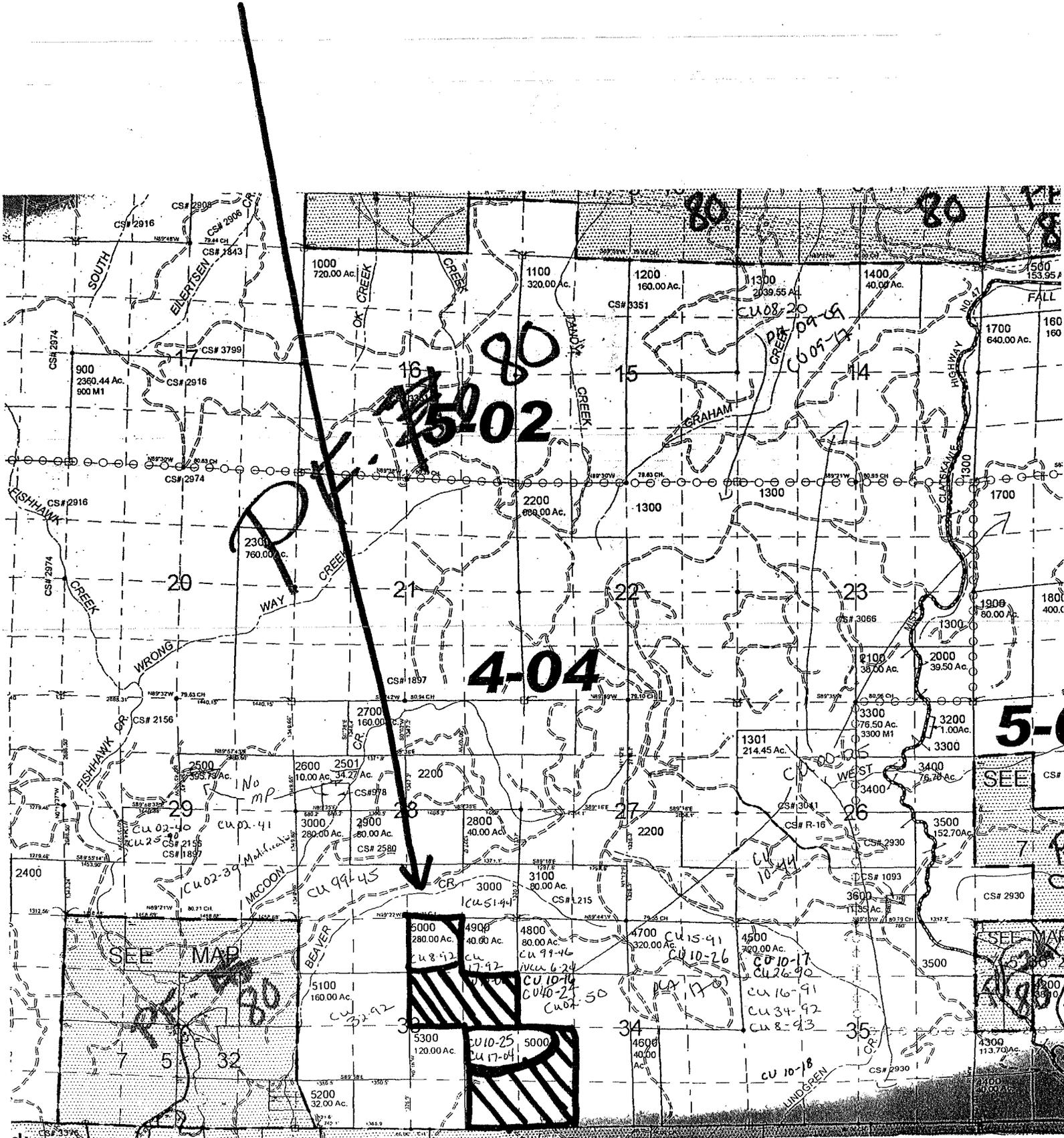
*Disclaimer: This map was produced using Columbia County GIS data. The GIS data is maintained by the County to support its governmental activities and is subject to change without notice. This map should not be used for survey or engineering purposes. Columbia County assumes no responsibility with regard to the selection, performance or use of information on this map.*

GeoInfo

Printed 11/01/2016



# CU 17-04 Zoning Map



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SEE MAP

SEE MAP

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CU 10-25  
CU 17-04

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EXHIBIT B

bing



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**North Mist Expansion Project**  
**CUP Application**  
**Well 13-34-75**

Revised By: 10/4/2016

I:\GIS\Projects\Emerald\Emerald\workspace\2016\_10\_04\_Vicinity map and Construction Access Roads Well13-34-75.mxd

**Exhibit C – CU 2-97, Final Order & Staff Report**

BEFORE THE PLANNING COMMISSION  
COLUMBIA COUNTY, STATE OF OREGON

Conditional Use Permit CU 2-97

In the Matter of the Application of Northwest Natural )  
Gas Company for a Conditional Use Permit in the )  
Primary Forest and Primary Agriculture Zones )

**Final Order CU 2-97**

This matter came before the Columbia County Planning Commission on the application of Northwest Natural Gas Company for a Conditional Use Permit to allow the construction and operation of an underground storage reservoir and up to 16 gas wells on 4 well sites in the Mist Gas Storage Area, which includes the Calvin Creek Gas Field, and twin 8" and 16" pipelines to the Miller Station, in the PA-38 and PF-76 Zones.

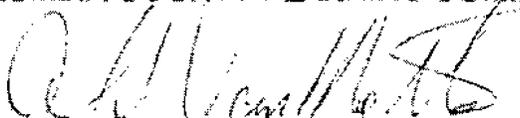
The subject properties are located southwest, west and northwest of Mist and are described on the Assessor's records as Tax Account Numbers 6500-000-02500, 02501, 02600, 04500, 04600, 04900, and 05000; 6514-000-00100 and 00900; 6515-000-00100, 00200, and 00500; and 6523-000-00500.

A public hearing was held on March 3, 1997. The Planning Commission heard testimony from the applicant and all interested parties, and considered all written materials submitted and the Planning Commission staff report.

The Planning Commission hereby adopts the findings and conclusions in the attached Staff Report dated February 19, 1997, and orders this application for a Conditional Use Permit APPROVED with the following conditions:

1. Applicants shall provide Land Development Services with drawings showing the final locations of all wells and pipelines as constructed.
2. Prior to construction, applicants shall submit plans for avoiding, restoring or mitigating any wetlands crossed by the pipelines, or shall provide documentation from the Oregon Division of State Lands or the Oregon Energy Facility Siting Council that all DSL's requirements have been met regarding wetlands in the area.

COLUMBIA COUNTY PLANNING COMMISSION

  
\_\_\_\_\_  
JEFFREY VANNATTA, CHAIRMAN

  
\_\_\_\_\_  
DATE

pw

CU 2-97

**Columbia County Planning Commission  
STAFF REPORT**

Conditional Use Permit - PF-76 Zone

**FILE NUMBER:** CU 2-97

**APPLICANT/OWNER:** Northwest Natural Gas Com  
220 NW Second Avenue  
Portland, OR 97209

**AGENTS:** Michael C. Robinson  
Peter D. Mostow  
Stoel Rives LLP  
900 SW Fifth Avenue, Ste. 2300  
Portland, OR 97204-1268

**PROPERTY LOCATION:** Miller Station to Calvin Creek Gas Storage Area, southwest, west, and northwest of Mist.

**REQUEST:** To construct up to 4 injection/withdrawal gas wells in the Calvin Creek field, and to connect them with the existing gas processing facilities at Miller Station 3 miles northwest of Mist.

**TAX ACCT. NUMBERS:** 6500-000-02500, 02501, 02600, 04500, 04600, 04900, 05000;  
6514-000-00100, 00900;  
6515-000-00100, 00200, 00500;  
6523-000-00500.

**ZONING:** Primary Forest (PF-76) and Primary Agriculture (PA-38)

**APPLIC'N. COMPLETE:** 1-31-97                      **120 DAY DEADLINE:** 5-31-97

**WAIVER SIGNED?:** No.

**BACKGROUND:**

The applicants request approval to drill up to 4 new injection/withdrawal gas wells in the existing Calvin Creek gas field in order to store and withdraw natural gas as needed, and to construct an 8" gathering pipeline connected to twin 16" pipelines going north to Miller Station.

The wellsites will be about 200' x 250' in size during the drilling operations, and about 125' x 175' final size. There will be about 3 acres of timberland taken out of production. Two of the 4 wells

CU 2-97

are on existing roads, the other 2 will need access roads about 200 to 500' in length.

The 8" gathering pipe will be about 1 mile long, connecting to twin 16" transmission pipelines going about 2.5 miles north to the existing compression and dehydration facilities at Miller Station. The pipelines will need an 80' construction right-of-way and a 40' permanent right-of-way, and will remove about 11 acres of timber land from production.

The 16" lines will cross both the Nehalem River and Highway 202 about 1 mile west of Mist. To avoid disturbing the river, the pipelines will be drilled 20' under the riverbed from points about 400' north and south of the river. The highway crossing will be done in cooperation with the Oregon Department of Transportation.

The twin 16" pipelines will cross two identified wetlands (National Wetlands Inventory, Marshland and Birkenfeld quad maps). The Nehalem River is designated R3UBH (Riverine, Upper Perennial, Unconsolidated Bottom, Permanent), but the pipelines will be drilled under the river and should not disturb it. The other wetland is in the level area north of Highway 202 near the base of the hills, and is designated PSSC (Palustrine, Scrub/Shrub, Seasonal). If this wetland is disturbed during construction of the pipeline, it will need to be restored as before, or a mitigation area will need to be constructed. The wellsites and 8" pipeline are on uplands and have no wetlands nearby.

The Nehalem River has a 100-year flood plain about 650' wide where the 16" pipelines will cross (FEMA maps 41009C0125 C and 41009C0250 C). Drilling the pipelines from points 400' north and south of the river centerline would appear to keep the operation outside the floodplain.

The property is within the Mist-Birkenfeld Rural Fire Protection District.

**FINDINGS:**

The following sections of the Zoning Ordinance and state laws are pertinent to this application:

Columbia County Zoning Ordinance Section 503 requires the following:

"Section 503 Conditional Uses: In the PF zone the following conditional uses and their accessory uses are permitted subject to the provisions of Sections 504 and 505. A conditional use shall be reviewed according to the procedures provided in Section 1503.

- ...
  - .2 Operations conducted for the exploration, mining, and processing of...mineral or subsurface resources not permitted outright."

**Finding 1:** In the PF-76 zone, the expansion of mineral resources mining facilities requires a Conditional Use Permit.

Zoning Ordinance Section 504 requires the following:

"Section 504 All Conditional Uses Permitted In The PF Zone Shall Meet The Following Requirements:

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- .1 The use is consistent with forest and farm uses and with the intent and purposes set forth in the Oregon Forest Practices Act."

The Oregon Forest Practices Act (ORS Chapter 527) includes the following:

"527.630 Policy. (1) ...it is declared to be the public policy of the State of Oregon to encourage economically efficient forest practices that assure the continuous growing and harvesting of forest tree species and the maintenance of forest land for such purposes as the leading use on privately owned land, consistent with sound management of soil, air, water and fish and wildlife resources that assures the continuous benefits of those resources for future generations of Oregonians."

**Finding 2:** The wellsites will remove about 5 acres from timber production during drilling, and about 2-3 acres permanently. The pipelines will theoretically remove about 17 acres from timber production (3.5 miles @ 40" wide = 16.97 acres); however, much of the 16" pipeline will follow an existing road right-of-way and cross pasture lands. The entire project should not remove more than 11 acres from production.

Continuing with Zoning Ordinance Section 504:

- "2 The use will not significantly increase the cost, nor interfere with accepted forest management practices or farm uses on adjacent or nearby lands devoted to forest or farm use."

**Finding 3:** The proposed use will not interfere with farm or forest uses on adjacent lands if appropriate measures are taken to prevent fire from spreading to adjacent forests. Once the pipelines and wells are in place, there should be minimal disturbance of forest or farm activities on nearby and adjacent lands.

Continuing with Zoning Ordinance Section 504:

- "3 The use will be limited to a site no larger than necessary to accommodate the activity and, as such will not materially alter the stability of the overall land use pattern of the area or substantially limit or impair the permitted uses of surrounding properties. If necessary, measures will be taken to minimize potential negative effects on adjacent forest lands."

**Finding 4:** The wellsites and pipeline routes have been chosen to cover the minimum area necessary to accomplish their purpose. The overall land use pattern of the area is timber and natural gas production. Appropriate measures will need to be taken to minimize the danger of fire spreading to adjacent forest lands.

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2-19-97

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Continuing with Zoning Ordinance Section 504:

"4 The use does not constitute an unnecessary fire hazard, and provides for fire safety measures in planning, design, construction, and operation."

**Finding 5:** Fire safety measures will need to be strictly enforced in planning, design, construction and occupation of the new wells and pipelines. Miller Station has many established fire detection and prevention facilities, including fire extinguishers, a 20,000 gallon water tank and an onsite fire truck. Applicants have consulted with the Mist-Birkenfeld RFPD, which has submitted a letter in favor of the project, stating that they are confident the project "...presents no unreasonable fire hazards."

Continuing with Zoning Ordinance Section 504:

"5 Public utilities are to develop or utilize rights-of-way that have the least adverse impact on forest resources. Existing rights-of-way are to be utilized wherever possible.

**Finding 6:** All public utilities are in place. The new 16" pipelines will follow an existing road for over half their length. The new 8" line will follow new routes.

Continuing with Zoning Ordinance Section 504:

"6 Development within major and peripheral big game ranges shall be sited to minimize the impact on big game habitat. To minimize the impact, structures shall: be located near existing roads; be as close as possible to existing structures on adjoining lots; and be clustered where several structures are proposed."

**Finding 7:** The area is a major big game range. During construction of the wells and pipelines, there will be unavoidable disturbance of big game, but this should be temporary. When completed, the wellsites and pipelines should occupy minimum timber land and should not disturb big game.

Zoning Ordinance Section 1503 requires the following:

"1503 Conditional Uses:

.5 Granting a Permit: The Commission may grant a Conditional Use Permit after conducting a public hearing, provided the applicant provides evidence substantiating that all the requirements of this ordinance relative to the proposed use are satisfied and demonstrates the proposed use also satisfies the following criteria:

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- A. The use is listed as a Conditional Use in the zone which is currently applied to the site;"

**Finding 8:** The PF-76 zone lists "Operations conducted for the exploration, mining, and processing of...mineral or subsurface resources not permitted outright" under Conditional Uses.

Continuing with Zoning Ordinance Section 1503.5:

- "B. The use meets the specific criteria established in the underlying zone:"

**Finding 9:** The criteria of the PF-76 zone have been shown to be met in Findings 1 through 7.

Continuing with Zoning Ordinance Section 1503.5:

- "C. The characteristics of the site are suitable for the proposed use considering size, shape, location, topography, existence of improvements, and natural features;"

**Finding 10:** The pipelines and wellsites have been located so as to minimize the impact on wildlife, the Nehalem River, wetlands and timber production. The Mist Storage Area, including the Calvin Creek reservoir, is the only known location in the state that is suitable for natural gas storage. These appear to make the site suitable for the proposed new wells and pipelines.

Continuing with Zoning Ordinance Section 1503.5:

- "D. The site and proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use."

**Finding 11:** The only transportation systems in the area are South Mainline Road, owned by Longview Fibre and used mostly for log trucking, other logging roads, and State Highway 202. Public facilities are electric power and telephone. These appear to make the proposed use timely, as no additional facilities will be required by the new wells and pipelines.

Continuing with Zoning Ordinance Section 1503.5:

- "E. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying district;"

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**Finding 12:** The surrounding area is in timber production. The proposed wells and pipelines, once constructed, will not alter the character of the area, as it will remain a timber and gas producing region of the county. Timber management operations should not be affected by the new facilities.

Continuing with Zoning Ordinance Section 1503.5:

"F. The proposal satisfies the goals and policies of the Comprehensive Plan which apply to the proposed use;"

**Finding 13:** The Columbia County Comprehensive Plan (CCCP) ENERGY SOURCES section includes these findings (p.224):

"Potential conflicting uses for natural gas wells in the County are minimized by the controls and regulations imposed by ODOGAMI [Oregon Department of Geology and Mineral Industries]. They are also minimized since wells are located in remote forested areas and surrounding property owners share in the profits of producing wells. The county will conserve forest lands for forest uses and allow operations conducted for the exploration, mining, and processing of subsurface resources as a conditional use. The County will rely on ODOGAMI to insure future protection of resources and surrounding lands."

The Energy Sources GOAL is (CCCP p.225):

"To protect deposits of energy materials in the County and prevent injury to surrounding lands and residents."

The new wells and pipelines will be regulated by DOGAMI rules, and will be used to transport and store natural gas to and from Miller Station. The Miller Station and its related facilities have been previously approved by the County as a way to prolong the useful life of the gas fields.

Continuing with Zoning Ordinance Section 1503.5:

"G. The proposal will not create any hazardous conditions."

**Finding 14:** The proposed new wells and pipelines should be no more hazardous than the existing facilities in the Mist gas field. Suitable precautions have been taken to detect and control fire and to prevent its spread to surrounding forest lands. Applicants have consulted with the Mist-Birkenfeld RFPD and have its full support.

Continuing with Zoning Ordinance Section 1503:

"6 **Design Review:** The Commission may require the Conditional Use be subject to a site design review by the Planning Commission."

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**Finding 15:** A Site Design Review is required for the new facilities; see DR 3-97.

The following state laws must also be met by this application:

Oregon Revised Statutes: ORS Chapter 527, the Oregon Forest Practices Act, contains no regulations for gas wells or their production facilities.

Oregon Administrative Rules: OAR 660-06-025(4) reads:

"The following uses may be allowed on forest lands subject to the review standards in section (5) of this rule:

....

(f) Mining and processing of oil, gas or other subsurface resources...not otherwise permitted under section (3)(m) of this rule (e.g., compressors, separators and storage serving multiple wells)..."

OAR 660-06-025(5) sets out the following requirements for non-forest uses in forest lands:

"(a) The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agricultural or forest lands;"

**Finding 16:** The new wells and pipelines, once in place, should have minimal impact on farm and forest operations in the area.

Continuing with OAR 660-06-025(5):

"(b) The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel; and"

**Finding 17:** The new wells and pipelines will not require the Mist-Birkenfeld RFPD to increase their equipment. Applicants have coordinated their fire fighting facilities with the RFPD and have its full support.

Continuing with OAR 660-06-025(5):

"(c) A written statement recorded with the deed or written contract with the county or its equivalent is obtained from the land owner which recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules..."

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**Finding 18:** Recorded leases between the applicant and property owners recognize the applicant's right to conduct storage and processing operations without unnecessarily harming or limiting adjacent and nearby forest and agricultural operations.

**COMMENTS:**

1. David Hill, County Public Works Director, has no objection to approval of the request as submitted.
2. Dennis L. Olmstead, Petroleum Engineer, DOGAMI, has no objection to approval of the request as submitted.
3. Jane Estes, Permit Specialist, ODOT District 2A, commented, "NW Natural Gas required to contact this office @ 229-5002 for permit to go under Nehalem Highway..."
4. Rich Morse, County Building Official, has no objection to approval of the request as submitted.
5. Dave Crawford, Chief, Mist-Birkenfeld Rural Fire Protection District, is "...confident that the project has adequate personal safety features and...presents no unreasonable fire hazards."
6. Larry Potter, Natural Resources Coordinator, Clatsop and Columbia Counties, Oregon State Lands, has no objection to approval of the request as submitted, and commented, "I have been working with NW Gas for a year now to help address all their concerns and needs as far as state lands and waters of the state are concerned. As of this date, they have complied with all state rules and guidelines. Their cooperation is admirable. They still will need to acquire a lease from DSL and have submitted needed information to do so."

No other comments have been received from government agencies or nearby property owners as of the date of this staff report (February 19, 1997).

**CONCLUSION AND RECOMMENDATION:**

Based on the above findings, staff recommends APPROVAL of this request, with the following conditions:

1. Applicants shall provide Land Development Services with drawings showing the final locations of all wells and pipelines as constructed.

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2. Applicants shall submit plans for avoiding, restoring or mitigating any wetlands crossed by the pipelines, or shall provide a letter from the Oregon Division of State Lands that all DSL's requirements have been met regarding wetlands in the area.

Note: ORS 671.025 requires that the plans and specifications for certain buildings in Oregon must have the stamp on them of a registered architect or registered professional engineer. Exceptions are (ORS 671.030(2):

1. Single family residential buildings.
2. Farm buildings.
3. Accessory buildings to single family residences and farm buildings.
4. Buildings of 4,000 sq.ft. or less ground area.
5. Buildings with an interior height of 20' or less (top surface of lowest floor to highest interior overhead finish).
6. Non-structural alterations or repairs to a building.

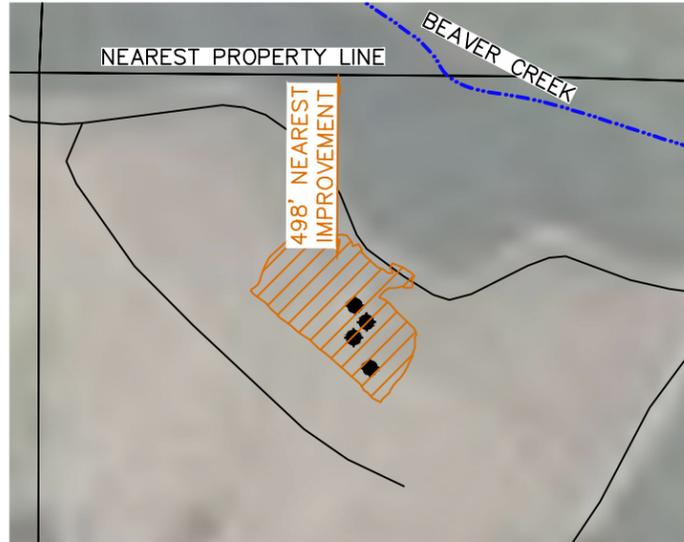
The structures proposed in this application do not appear to be subject to ORS 671.025.

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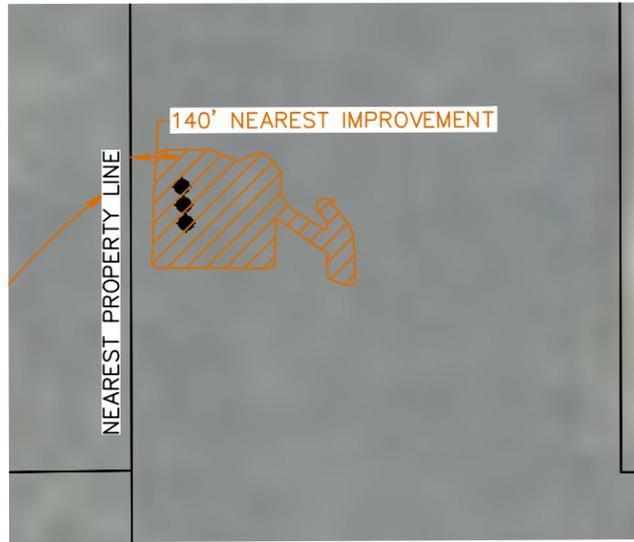
**Exhibit D – Updated Vicinity Plan**



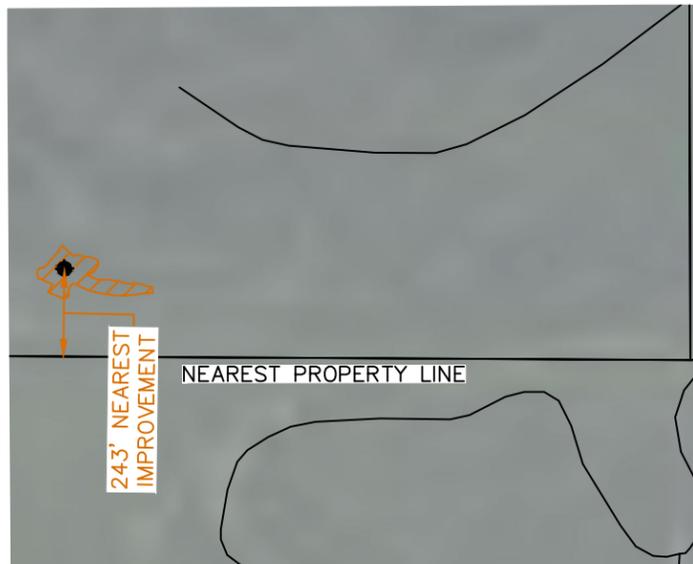
STEGOSAUR WELL PAD  
TAXLOT: 7N5W 4800  
SCALE: 1" = 500'



NEWTON WELL PAD  
TAXLOT: 7N5W 5000  
SCALE: 1" = 500'



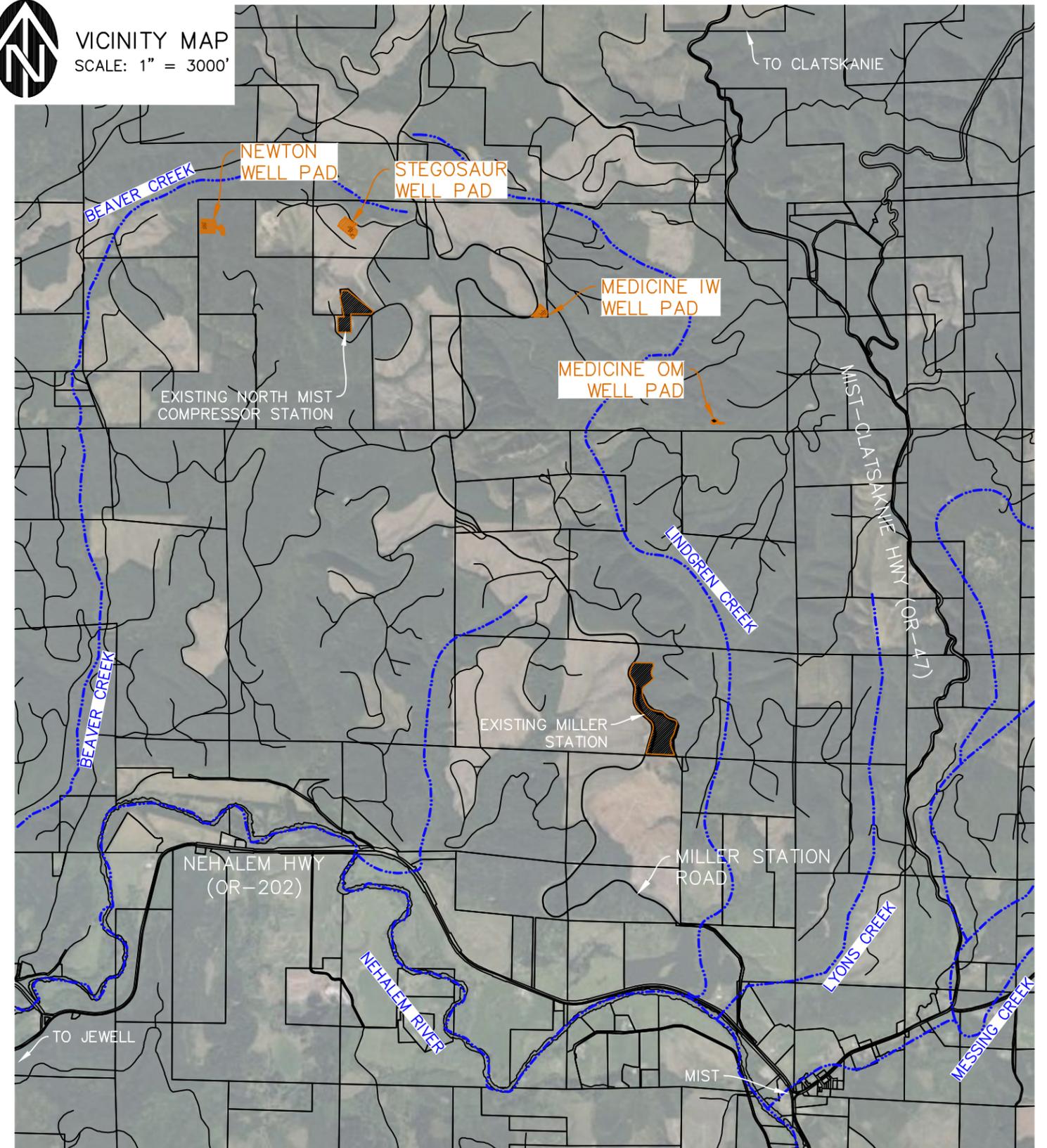
MEDICINE OM WELL PAD  
TAXLOT: 7N5W 4500  
SCALE: 1" = 500'



MEDICINE IW WELL PAD  
TAXLOT: 7N5W 4500,4700  
SCALE: 1" = 500'



VICINITY MAP  
SCALE: 1" = 3000'

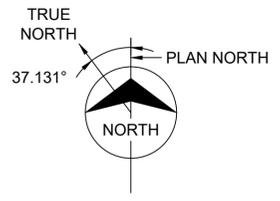


LEGEND

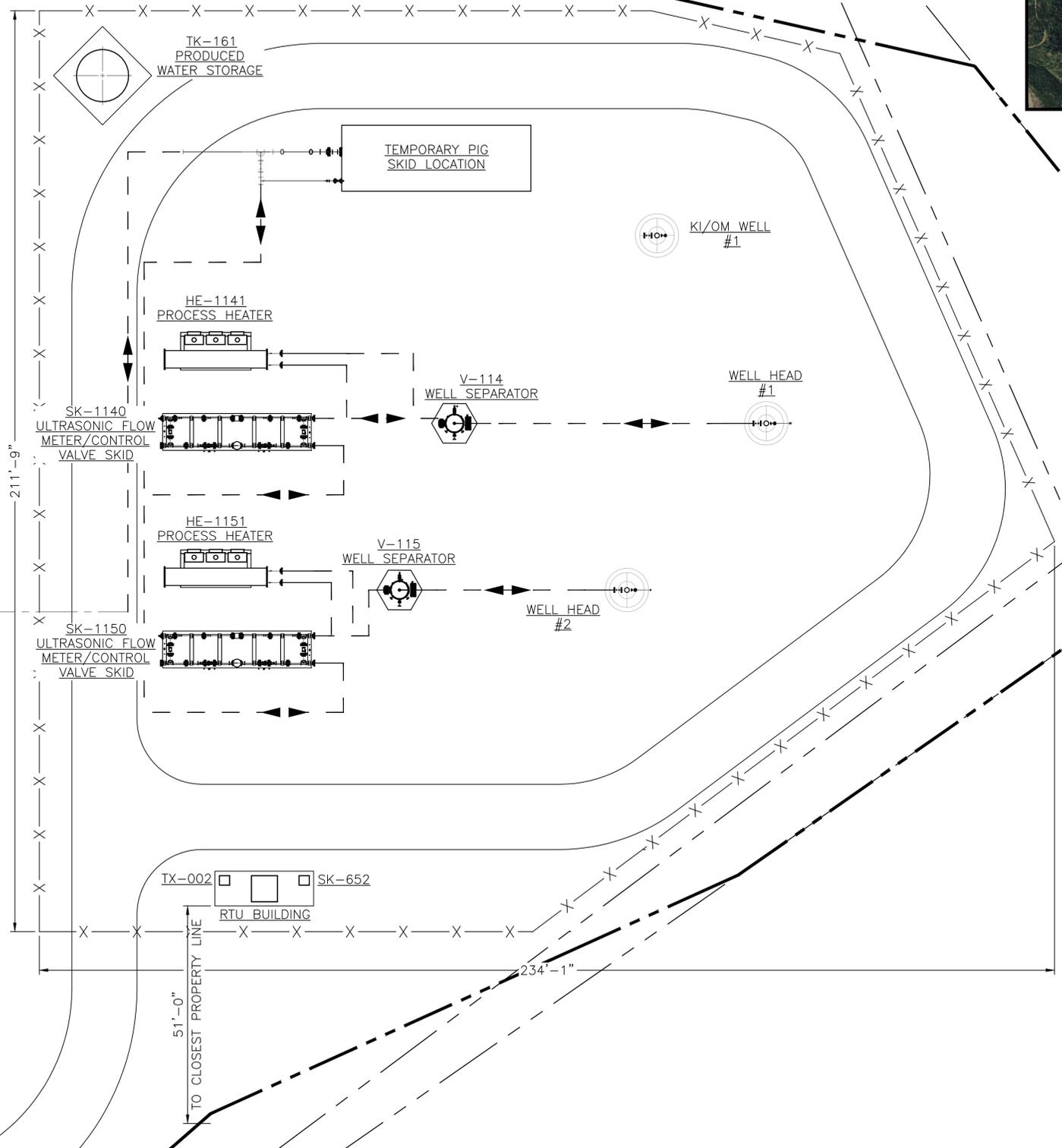
- FOREST ROADS
- GIS TAXLOTS
- MAJOR ROADS
- PROPOSED FENCE
- STREAMS
- ▨ PROPOSED GRADING LIMITS
- PROPOSED WELL LOCATION

**Exhibit E – Updated Medicine Site Plan**

11 10 9 8 7 6 5 4 3 2 1



MIST RESILIENCY PROJECT  
KEY PLAN  
SCALE: N.T.S.



12" TO/FROM  
STEGOSAUR WELL PAD

211'-9"

234'-1"

51'-0"  
TO CLOSEST PROPERTY LINE

**PRELIMINARY - NOT FOR CONSTRUCTION**



NOTES:  
1. THE PROPOSED WELLPAD IS LOCATED WITHIN A TAXLOT WITH DIMENSIONS GRATER THAN 100' x 100'.

<b>BURNS MEDONNELL</b>		PROJECT NO.: 157831	
REV	DR.	CHK.	APP.
F	AHD	KIK	KIK
E	AHD	KIK	KIK
D	AHD	KIK	KIK
C	AHD	KIK	KIK
B	SJR	KIK	KIK
A	RSH	KIK	KIK
REVISION		DATE	
		11/10/25	
		10/22/25	
		10/14/25	
		09/18/25	
		06/10/25	
		01/12/24	



NORTH MIST 2  
MIST RESILIENCY PROJECT  
PIPING LOCATION KEY PLAN - MEDICINE WELLPAD

BAR IS ONE INCH ON ORIGINAL DRAWING.  
ADJUST SCALE AS SHOWN ACCORDINGLY.

**NM2110-SP100**  
DWG. NO.  
SHEET 22 OF 34 SCALE 1/16" = 1'-0"  
DR. RSH APP. DATE 01/12/24  
APP. BY BB

**Exhibit F – Updated Medicine OM Site Plan**



MEDICINE 4  
OM WELL  
QM 44B-35-75

243'-0"  
TO CLOSEST PROPERTY LINE

**PRELIMINARY - NOT  
FOR CONSTRUCTION**

- NOTES:
1. WELL COORDINATES: 46.0401477, -123.2651562
  2. THE PROPOSED WELLPAD IS LOCATED WITHIN A TAXLOT WITH DIMENSIONS GRATER THAN 100' x 100'.

		PROJECT NO.: 157831	
REV	DR.	CHK.	APP.
A	AHD	CFB	KIK
			ISSUED FOR REVIEW
			REVISION
			DATE
			10/01/25

NW Natural  
280 SW TAYLOR ST  
PORTLAND, OR 97204

NORTH MIST  
MIST RESILIENCY PROJECT  
PIPING LOCATION KEY PLAN - MEDICINE 4

BAR IS ONE INCH ON ORIGINAL DRAWING.  
ADJUST SCALE AS SHOWN ACCORDINGLY.

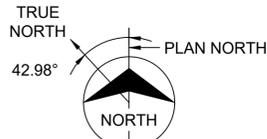
DWG. NO. **NM2130-SP100**

SHEET	1 OF 1	SCALE	N.T.S.
DR.	AHD	APP. DATE	10/01/25
APP. BY	KIK		

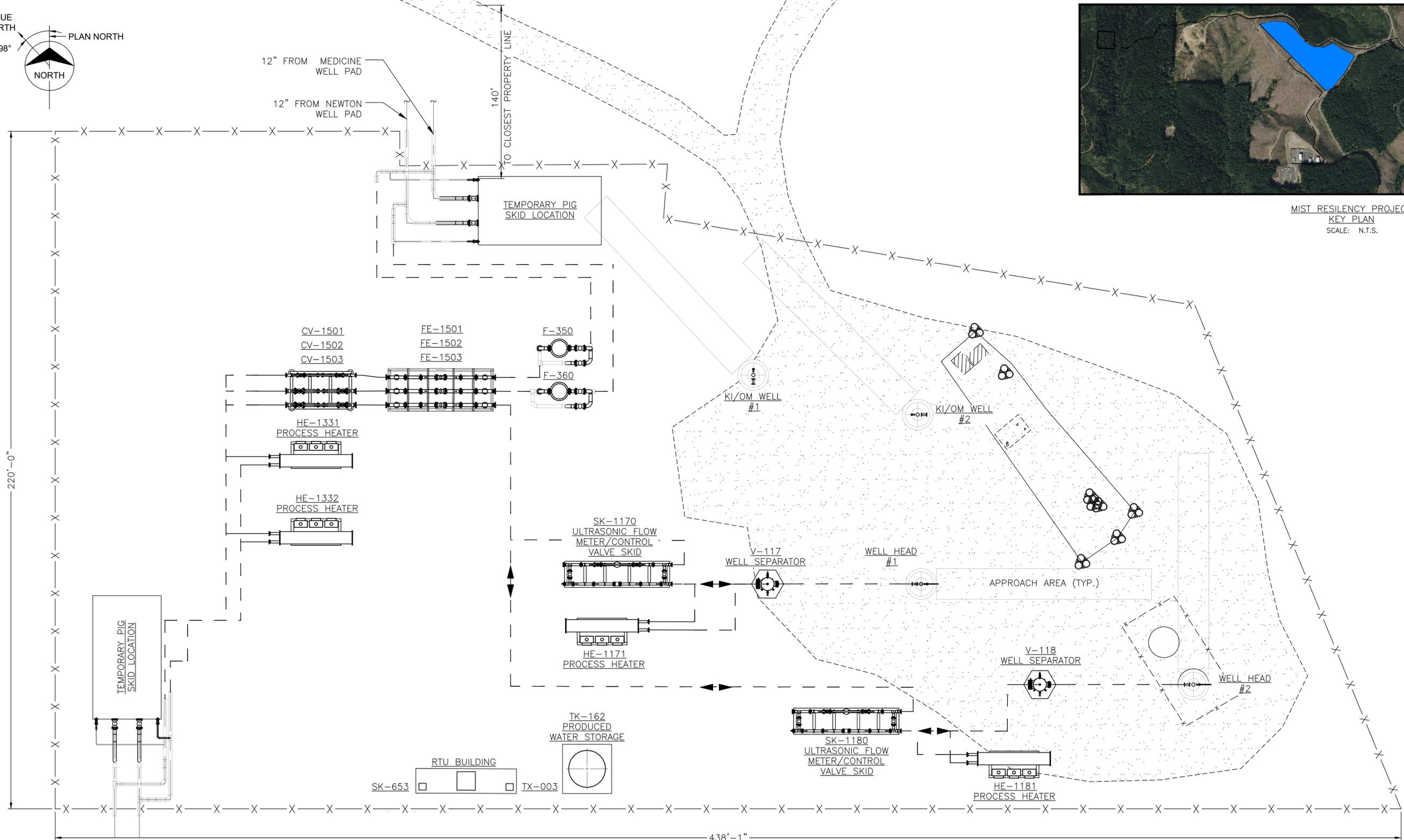
**Exhibit G – Updated Newton Site Plan**



**Exhibit H – Updated Stegosaur Site Plan**



MIST RESILIENCY PROJECT  
KEY PLAN  
SCALE: N.T.S.



12" (2) TO/FROM NORTH  
MIST 2 COMPRESSOR STATION

**PRELIMINARY - NOT FOR CONSTRUCTION**



NOTES:  
1. THE PROPOSED WELLPAD IS LOCATED WITHIN A TAXLOT WITH DIMENSIONS GRATER THAN 100' x 100'.



REV	DR.	CHK.	APP.	REVISION	DATE
E	AHD	KIK	BB	ISSUED FOR DESIGN	10/22/25
D	AHD	KIK	BB	ISSUED FOR REVIEW	10/14/25
C	AHD	KIK	BB	ISSUED FOR REVIEW	09/18/25
B	SJR	KIK	BB	RE-ISSUED FOR DESIGN	06/10/25
A	RSH	KIK	BB	ISSUED FOR DESIGN	01/12/24



NORTH MIST 2  
MIST RESILIENCY PROJECT  
PIPING LOCATION KEY PLAN - STEGOSAUR WELLPAD

BAR IS ONE INCH ON ORIGINAL DRAWING.  
ADJUST SCALE AS SHOWN ACCORDINGLY.

<b>NM2120-SP100</b>	
DWG. NO.	27 OF 34
SHEET	SCALE 1/16" = 1'-0"
DR. RSH	APP. DATE 01/12/24
APP. BY BB	

**Exhibit I – Letter from David Weber**

February 17, 2026

## **VIA EMAIL**

Kate McGuire, Planning Division Manager  
Deborah Jacob, Senior Planner  
Columbia County Land Development Services  
445 Port Avenue  
St. Helens, OR 97051

### **Re: Letter from David Weber for CU 25-169**

Dear Ms. McGuire and Ms. Jacob:

My name is David Weber, and I am the Vice President of Gas Supply and Utility Support Services at Northwest Natural Gas Company (“NW Natural”). In my role at NW Natural, I oversee how we store natural gas underground at the Mist Underground Natural Gas Storage Facility (“Mist Facility”) and process that gas to make sure we have enough natural gas to serve customers year-round. My role includes managing the Mist Facility’s operational and infrastructure needs and overseeing associated permitting efforts.

Because of my background, I am familiar with NW Natural’s proposal to develop and operate twelve wells on four well pads (the “Project”) and NW Natural’s corresponding Conditional Use Permit (“CUP”) application, CU 25-169. This letter is intended to clarify the gas processing operations that will occur once the Project is developed, as well as how the Project supports the broader natural gas processing system already occurring at the Mist Facility.

#### **A. Overview of the Mist Facility’s Importance to Oregon**

The Mist Facility plays a critical role in turning natural gas into a resource that Oregon customers can rely on year-round. People need more gas in the winter than in the summer, but gas supply does not naturally match those swings. The Mist Facility solves this mismatch by letting us save gas when demand is low and use it when demand is high.

This seasonal balancing directly supports a wide range of Oregonians and others in the Pacific Northwest. Portland General Electric uses gas stored at the Mist Facility to generate electricity at Port Westward. The Mist Facility also supports supplying gas to about two million people for home heating, hot water, cooking, and emergency power. During the winter, about 30% of the gas supplied by NW Natural comes from the Mist Facility. In fact, on the coldest days of the year about one million people would not have enough natural gas to heat their homes if NW Natural did not have this storage-driven balancing capability.

## **B. The Role of Natural Gas Storage in Oregon's Energy System**

Natural gas demand in Oregon swings dramatically between seasons. Demand is low in the summer, and high in the winter. Storage is the key step in the natural gas lifecycle that smooths out these extremes. In other words, storage turns natural gas from a resource with severe timing and capacity limitations into one that NW Natural can deliver precisely when needed.

Oregon's particular challenge is that the western and most populated half of the state is served by just one interstate pipeline, and that pipeline alone cannot supply the gas needed during peak winter conditions. Buying more gas does not solve the problem, because any gas purchased from outside the region would still have to travel through that same single line.

Oregon is fortunate: We happen to have the right kind of underground rock formations in Columbia County that make safe storage possible. When withdrawn from storage at the Mist Facility, that gas bypasses the interstate bottleneck entirely; it can be moved through local pipelines and delivered directly and immediately to customers during peak demand. That is why, during lower-demand spring and summer months, NW Natural injects natural gas into the Mist Facility's reservoirs. Storage is the essential processing step that turns summertime surplus into wintertime supply.

## **C. How Natural Gas Storage Works: Injection and Withdrawal as Key Natural Gas Processing Functions**

Storage is not a passive activity. Storage requires conditioning, stabilizing, and preparing gas so that NW Natural can then deliver it to customers when they actually need it. In that sense, the storage field functions much like a battery for the natural-gas system: It absorbs excess gas when demand is low and discharges that gas back to customers during periods of high demand, ensuring a steady and reliable supply across the seasons.

This Project represents just one small component of the much larger natural-gas lifecycle, which starts with resource extraction, includes storage and related processing, and ends with delivery for consumer use. The Project is a critical component of this lifecycle, which cannot function without the wells and associated equipment proposed as part of the Project. The Project wells make the physical acts of injecting, storing, and withdrawing natural gas possible, while also ensuring the existing storage reservoir remains stable and well-managed. In this way, the Project serves as an essential link in the larger Mist Facility system that processes, manages, and ultimately enables the delivery of natural gas to customers across the region.

To understand how the Project performs these essential processing functions, it is helpful to examine the equipment located on each well pad and its role in the process of injecting and withdrawing natural gas.

### **a. Summary of Equipment on the Well Pads**

At the Mist Facility, each well pad includes several key pieces of equipment that work together to move, condition, and monitor the natural gas as NW Natural injects it into storage or withdraws it for customer use.

An approximately 8-foot-tall wellhead sits at the surface of an underground “injection/withdrawal” (“I/W”) well. The wellhead controls the flow of gas in and out of the well. See Attachment 1, Mist Wellhead Picture. Beneath the wellhead is, speaking generally, an underground pipe that carries gas safely to and from an existing underground reservoir consisting of naturally occurring sandstone. A flow meter measures how much gas passes through the well. When NW Natural brings the gas back to the surface, the gas often contains moisture and particulates from the reservoir. The gas withdrawn from the reservoir also includes some “native gas” that would exist within the reservoir, regardless of NW Natural’s I/W process. A large piece of equipment called a separator removes moisture and particulates from the commingled stored and native gas. A process heater keeps the gas warm enough, so it flows easily through the lines.

NW Natural also uses two other types of wells to ensure the gas stored in the reservoir remains contained and stable during storage. These wells do not inject or withdraw natural gas for use. First, pressure monitoring (“KI”) wells track internal reservoir behavior, preventing over- and under-pressurization of storage reservoirs. Second, observation and monitoring (“O/M”) wells ensure that gas stays within the intended storage zone and does not migrate beyond geological boundaries.

Together, this well equipment is essential for safely processing natural gas throughout NW Natural’s storage and withdrawal operations at the Mist Facility.

Throughout the entire injection, storage, and withdrawal process, small “RTU” (remote terminal unit) buildings containing monitoring and control equipment ensure the safety of storage and processing operations.

## **b. Injection**

Injection is the first major step in turning natural gas into a seasonally balanced product. Injection is not simply putting gas underground. It is a controlled, engineered process that prepares and conditions the gas for future withdrawal. The gas first passes through the North Mist Compressor Station (“Compressor Station”), which EFSC permitted and which is not subject to County land use jurisdiction. Although the Compressor Station is not part of this Project or the pending CUP request, compression is another processing step that allows gas to reach the pressures needed for underground injection and to be prepared for safe delivery after withdrawal, and the Project is integrally connected to Compressor Station processing operations.

After the Compressor Station, the natural gas flows to the well pad, through the wellhead and is injected into the underground reservoir. As noted, when NW Natural injects gas into the underground reservoirs, the injected gas refills the same formation originally used only to produce native gas. The injected gas mixes with remaining native gas, creating a blend of stored and native gas.

Throughout the injection process (and until the gas is subsequently withdrawn), O/M wells and KI wells actively monitor pressure, reservoir integrity, and gas containment, ensuring that the gas NW Natural stores today will be safe, stable, and ready to be withdrawn and processed for delivery to customers months later. This injection step transforms natural gas into a subsurface resource that NW Natural can deliver safely throughout the year.

### **c. Withdrawal**

Withdrawal is where the processing role of the wells is most visible. When gas comes back to the surface, it does not return in a condition that is ready for transport. Instead, it arrives mixed with water, moisture, and particulates from the reservoir. Each withdrawal well is equipped with a separator and a process heater that cleans and stabilizes the gas. The separator removes most moisture and particulates, which is a necessary step to prevent moisture from entering NW Natural's distribution system. NW Natural also heats the gas using the process heater to prevent ice-like blockages, known as "hydrate formation," ensuring safe and reliable flow during cold temperatures.

After the separator and the process heater, the gas flows back to the Compressor Station. The Compressor Station removes remaining moisture and impurities and compresses the gas so it is in a condition that can be transported via pipeline. See Attachment 2, Mist Gas Processing Overview. Only then can NW Natural distribute the final, processed gas to customers via pipeline. *Id.* These final processing steps both at the well pads and at the Compressor Station turn withdrawn gas into a clean, consistent product that meets the same quality standards as interstate pipeline gas.

### **E. Safety and Monitoring Systems (OM/KI Wells)**

A system that processes natural gas must be safe. For this reason, the Project includes a mix of KI, O/M and KI/OM wells to ensure that the gas remains contained in the subsurface reservoirs and stable during gas injection, storage, and withdrawal operations.

As explained further in NW Natural's Supplemental Response dated February 17, 2026, NW Natural is proposing to install one O/M well on the Medicine O/M well pad, one KI/OM well on the Medicine well pad, two KI/OM wells on the Stegosaurus well pad, and one KI well on the Newton well pad. This mix of KI/OM wells and a KI well at different well pads is based on the specifics of each underlying reservoir. These wells ensure the safety of the process of injecting, storing, and withdrawing natural gas before it is ready for transport and delivery to customers.

In addition to subsurface monitoring, NW Natural maintains cleared areas around the wells, implements strong fire-prevention practices, and works closely with local fire agencies. Operations staff regularly inspect every well to ensure both system reliability and public safety. These layers of monitoring support NW Natural's ability to safely process natural gas at the well pads.

### **F. Conclusion**

In summary, the Project is not simply a "storage" facility, because safe natural gas storage, by definition, includes multiple "processing" steps. All well pad equipment works together as an essential processing operation that transforms natural gas from a resource that arrives at the wrong times into one that the region can rely on throughout the year. Through injection, conditioning, monitoring, withdrawal, and final preparation, the wells and associated equipment actively change the timing, quality, and deliverability of the gas. This is what makes heat possible on the coldest days and what keeps homes, businesses, and power plants operating safely and reliably.

For all of these reasons, development and operation of the Project proposed in this CUP application are best understood as a “processing” use: a set of deliberate, engineered steps that make natural gas usable when customers need it most.

Thank you for your consideration.

Sincerely,



David Weber  
Vice President of Gas Supply and Utility Support Services  
NW Natural

Enclosures:

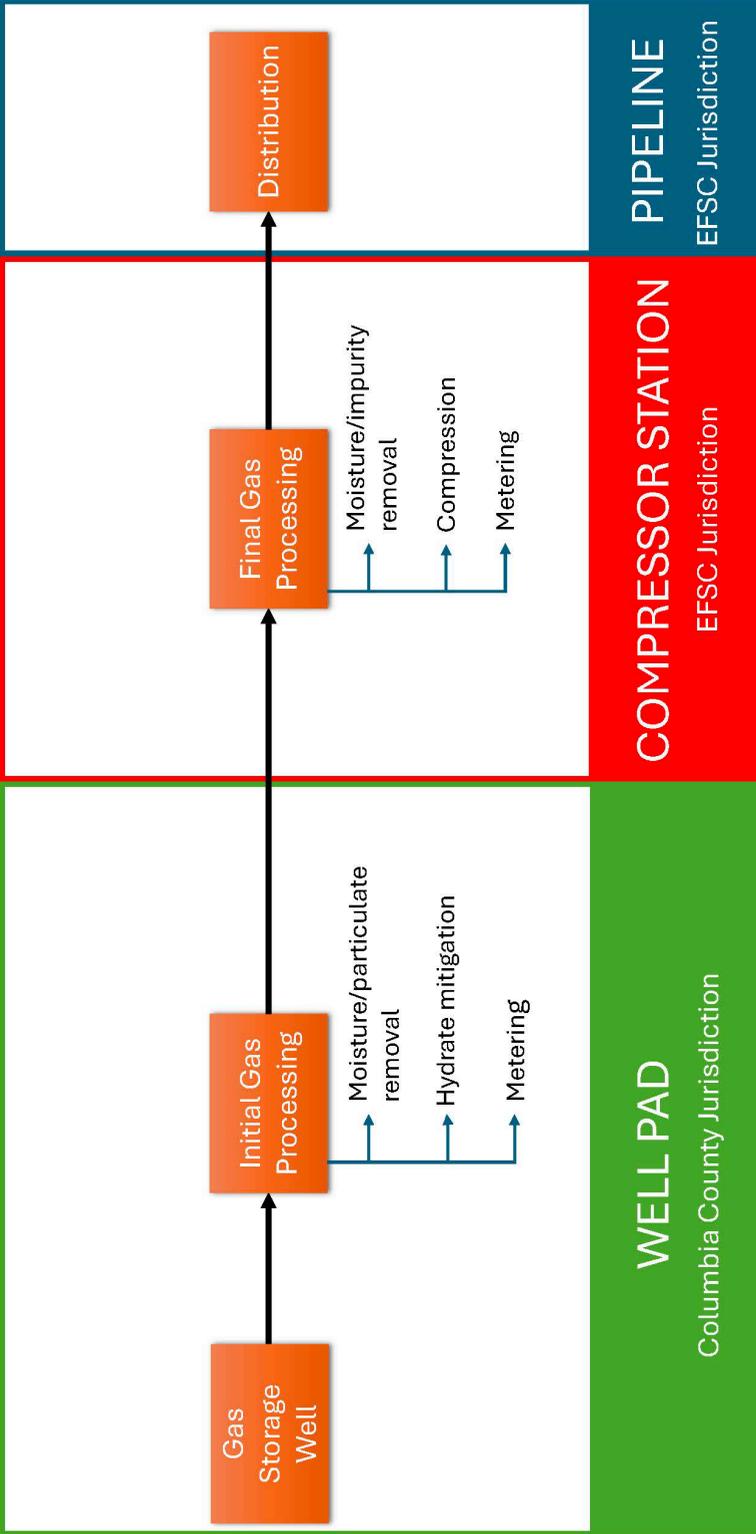
- Attachment 1 – Mist Wellhead Picture
- Attachment 2 – Mist Gas Processing Overview

**Attachment 1 – Mist Wellhead Picture**



Representative wellhead with moisture and particulates separator in the background

Mist Gas Processing Overview



**Exhibit J – Letter from Mist-Birkenfeld RFPD Chief Kaczinski**



## Mist-Birkenfeld Rural Fire Protection District

12525 Highway 202, Mist, OR 97016  
Office- 503-755-2710 Fax- 503-755-2556

February 16, 2024

To: Brion Larson, Project Manager  
NW Natural  
250 SW Taylor Street  
Portland, OR 97204

### **Re: NW Natural Mist Resiliency Permitting Project**

Northwest Natural proposes to amend the Mist Underground Natural Gas Storage Site Certificate for its underground natural gas storage facility at Miller Station and the North Mist facility site in Columbia County. NW Natural's work to replace end-of-life compressors at Miller Station and the enhancements, expansion, and upgrade of the facilities at the North Mist site will have minimal additional impact on the services required from our Fire District. I have had a conversation with Nina Carlson, government affairs representative from NW Natural to discuss the project and am satisfied that this project will not add undue burden to our Fire District. I am satisfied that the concerns that were expressed have been answered in an appropriate manner.

Mist-Birkenfeld RFPD is the primary fire protection agency responsible for the NW Natural's Mist area facilities and will respond appropriately and as necessary to any fire protection or emergency medical issues that arise with respect to construction projects at Miller Station and the North Mist sites. After reviewing a description of the NW Natural Resiliency Project, I have concluded that there will be no significant adverse impacts of the enhancements, expansion, and upgrades of the Mist area facilities on the ability of Mist-Birkenfeld RFPD to provide fire protection and EMS services.

The cooperation demonstrated by NW Natural with the needs of our fire district has been exemplary. Mist-Birkenfeld RFPD is in total support of the continuance of this and future projects.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Kaczinski".

Joe Kaczinski  
Fire Chief  
Mist-Birkenfeld RFPD  
joek@mistbirkenfeldrfd.org

**Exhibit K – Selected Excerpts from EFSC RFA 13 Final Order**

**BEFORE THE  
ENERGY FACILITY SITING COUNCIL  
OF THE STATE OF OREGON**

In the Matter of Request for Amendment 13 of the  
Site Certificate for the **Mist Underground Natural  
Gas Storage Facility**

---

) FINAL ORDER DENYING REQUESTS  
) FOR CONTESTED CASE AND  
) APPROVING REQUEST FOR  
) AMENDMENT 13

January 17, 2025

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- Attachment B-4: Department’s Third-Party Consultant Review of American Aquifers DPO Comments
- Attachment C: Horizontal Directional Drilling Inadvertent Return Response Plan
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- Attachment P-3: Draft Habitat Mitigation Plan
- Attachment S: Inadvertent Discovery Plan
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- Attachment V-2: Operational Wildfire Mitigation Plan with Vegetation Management Plan
- Attachment W: Waste Minimization and Recycling Plan

## ABBREVIATIONS AND ACRONYMS

AADT	Annual average daily traffic
ACDP	Air Contaminant Discharge Permit
ASC	Application for Site Certificate
BHP	Brake horsepower
BMP	Best Management Practice
Btu/hp-hr	British thermal units per horsepower-hour
CCCP	Columbia County Comprehensive Plan
CCZO	Columbia County Zoning Ordinance
Council	Energy Facility Siting Council
CWTD	Columbian white-tailed deer
dBA	Decibel A-weighting
Department	Oregon Department of Energy
DEQ	Oregon Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
DOGAMI	Oregon Department of Geology and Mineral Industries
DSL	Oregon Department of State Lands
EFSC	Energy Facility Siting Council
EFU	Exclusive farm use
EPA	U.S. Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
FERC	Federal Energy Regulatory Commission
GIS	Geographic Information System
HMP	Habitat Mitigation Plan
HP	Horsepower
HDD	Horizontal directional drilling
IBC	International Building Code
IRRP	Inadvertent Return Response Plan
ISO	International Organization for Standardization
I/W	Injection/withdrawal
JPA	Joint Permit Application
JBHR	Julia Butler Hansen National Wildlife Refuge
Hr/yr	Hours per year
lbs CO <sub>2</sub> /HP-hr	Pounds of carbon dioxide per horsepower-hour
Mist Facility	Mist Underground Natural Gas Storage Facility
MMBtu/yr	Million British thermal units per year
MMscfd	Million standard cubic feet per day
NMFS	National Marine Fisheries Service
NMCS	North Mist Compressor Station
NMEP	North Mist Expansion Project
NMTP	North Mist Transmission Pipeline
NOAA	U.S. National Oceanic and Atmospheric Agency
NPDES	National Pollutant Discharge Elimination System

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWN	Northwest Natural Gas Company
OAR	Oregon Administrative Rule
ODAg	Oregon Department of Agriculture
ODAv	Oregon Department of Aviation
ODFW	Oregon Department of Fish and Wildlife
ODF	Oregon Department of Forestry
ODOE	Oregon Department of Energy
ODOT	Oregon Department of Transportation
OHWM	Ordinary high-water mark
ONG	Oregon Natural Gas Development Company
OR	Oregon Route
ORS	Oregon Revised Statute
OSSC	Oregon Structural Specialty Code
OWRD	Oregon Water Resources Department
PA-80	Primary agriculture zone
PF-80	Primary forest zone
pRFA	Preliminary Request for Amendment
RFA	Request for Amendment
RFPD	Rural Fire Protection Department
RIPD	Rural Industrial – Planned Development
SAG	Special Advisory Group
SHPO	Oregon State Historic Preservation Office
SPMP	Spill Prevention and Management Plan
USFWS	United States Fish and Wildlife Service
WMP	Wildfire Mitigation Plan
WPCF	Water Pollution Control Facilities

1  
2 **III.B.2. Conclusions of Law**  
3

4 Based on the foregoing analysis, and subject to compliance with the site certificate conditions  
5 described above, the Council find that the certificate holder has the organizational expertise to  
6 construct, operate and retire the facility, with the proposed RFA13 changes, in compliance with  
7 Council standards and conditions of the site certificate.  
8

9 **III.C. STRUCTURAL STANDARD: OAR 345-022-0020**  
10

11 *(1) Except for facilities described in sections (2) and (3), to issue a site*  
12 *certificate, the Council must find that:*  
13

14 *(a) The applicant, through appropriate site-specific study, has adequately*  
15 *characterized the seismic hazard risk of the site; and*  
16

17 *(b) The applicant can design, engineer, and construct the facility to avoid*  
18 *dangers to human safety and the environment presented by seismic hazards*  
19 *affecting the site, as identified in subsection (1)(a);*  
20

21 *(c) The applicant, through appropriate site-specific study, has adequately*  
22 *characterized the potential geological and soils hazards of the site and its*  
23 *vicinity that could, in the absence of a seismic event, adversely affect, or be*  
24 *aggravated by, the construction and operation of the proposed facility; and*  
25

26 *(d) The applicant can design, engineer and construct the facility to avoid*  
27 *dangers to human safety and the environment presented by the hazards*  
28 *identified in subsection (c).*  
29

30 *(2) The Council may not impose the Structural Standard in section (1) to*  
31 *approve or deny an application for an energy facility that would produce*  
32 *power from wind, solar or geothermal energy. However, the Council may, to*  
33 *the extent it determines appropriate, apply the requirements of section (1) to*  
34 *impose conditions on a site certificate issued for such a facility.*  
35

36 *(3) The Council may not impose the Structural Standard in section (1) to deny*  
37 *an application for a special criteria facility under OAR 345-015-0310. However,*  
38 *the Council may, to the extent it determines appropriate, apply the*  
39 *requirements of section (1) to impose conditions on a site certificate issued for*  
40 *such a facility.<sup>16</sup>*  
41

---

<sup>16</sup> OAR 345-022-0020, effective October 18, 2017, as amended by minor correction filed May 28, 2019.

1 **III.C.1. Findings of Fact**

2  
3 OAR 345-022-0020 requires Council to find that the certificate holder has adequately  
4 characterized the potential seismic, geological and soil hazards of the proposed RFA13 site, and  
5 that the certificate holder can design, engineer and construct the proposed RFA13 changes to  
6 avoid dangers to human safety from these hazards. The analysis area for the Structural  
7 Standard is the area within the site boundary.

8  
9 To facilitate Council’s evaluation of compliance with the Structural Standard, OAR 345-021-  
10 0010(1)(h)(A) requires that the certificate holder provide a geologic report meeting  
11 Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines must  
12 be determined based on consultation with the Oregon Department of Geology and Mineral  
13 Industries (DOGAMI). And OAR 345-021-0010(1)(h)(E) requires the certificate holder to provide  
14 an assessment of seismic hazards, in accordance with standard-of-practice methods and best  
15 practices, that addresses all issues raised in consulting with DOGAMI.

16  
17 Consultation between Department staff, certificate holder and DOGAMI occurred on  
18 September 21, 2023. . Various sources and methods were presented by the certificate holder  
19 during the consultation, as described below. DOGAMI concurrence on the methods and sources  
20 was obtained and is provided in RFA13 Exhibit H Attachment H-1.

21  
22 Certificate holder retained GeoEngineers, Inc. (GeoEngineers) to perform an evaluation meeting  
23 current OSBGE guidelines (OSBGE 2014) “Guideline for Preparing Engineering Geologic  
24 Reports.” GeoEngineers conducted several reconnaissance visits to the Mist Resiliency Project’s  
25 proposed injection and withdrawal (I/W) pipeline routes, powerline route, well pads, NMCS,  
26 Miller Station and selected landslides on several dates. Site-specific geotechnical work was  
27 conducted by certificate holder’s contractor, GeoEngineers in 2023. Geotechnical work  
28 completed in 2023 at NMCS included: 4 borings (two 100-foot deep and 2 60-foot deep);  
29 downhole seismic testing in 2 100-foot borings; electrical resistivity testing; and soil  
30 classification and corrosion resistant testing. Geotechnical work completed in 2023 at Miller  
31 Station included: 2 80-foot borings; downhole seismic testing in 1 80-foot boring; soil  
32 classification and corrosion design. Geotechnical reports, with seismic design and foundation  
33 recommendations, specific to NMCS and Miller Station are provided in RFA13 Exhibit H  
34 Attachment H-3 and H-4. Based on completion of the consultation meeting and DOGAMI review  
35 and concurrence, as documented in RFA13 Exhibit H Attachment H-1, the Council finds that the  
36 sources relied upon for the evaluation of seismic and non-seismic hazards represent reasonably  
37 available sources, consistent with OAR 345-021-0010(1)(h).

38  
39 *Seismic Hazard Risk at Site*

40  
41 Subsection (1)(a) of the standard requires Council to find that certificate holder “through  
42 appropriate site-specific study, has adequately characterized the seismic hazard risk of the  
43 site.” As noted above, certificate holder contracted with GeoEngineers to prepare a geologic

1 report pursuant to the DOGAMI guidelines. To study the seismic hazard risks that the facility  
2 with the RFA13 changes would face at the site, GeoEngineers, among other actions:

- 3
- 4 • evaluated seismic hazards for the proposed well pads, injection/withdrawal  
5 pipelines, NMCS, Miller Station and Power line,
- 6 • evaluated potential presence of faults using USGS fault and fold database (as of  
7 August 2023), and by review of a Light Detection and Ranging (LiDAR) hillshade  
8 model, as interpreted by GeoEngineers;
- 9 • obtained a list of recorded earthquakes within approximately 50 miles of the  
10 proposed route using United States Geologic Survey’s (USGS) earthquake catalog  
11 Search (as of August 2023);
- 12 • evaluated contributing earthquake sources using USGS Probabilistic Seismic  
13 Hazard Mapping Tool;
- 14 • evaluated the geologic setting, stratigraphy, geologic structure, site geology,  
15 geologic unit stability, soils and groundwater of the site using Oregon Geologic  
16 Data Compilation (OGDC) Version 6 mapping; and the Statewide Landslide  
17 Information Database for Oregon (SLIDO) Version 3.4; and
- 18 • completed borings at NMCS and Miller Station to evaluate geologic conditions
- 19

20 Based on a September 21, 2023 discussion and subsequent email confirmation, DOGAMI  
21 agreed with GeoEngineers’ seismic hazard evaluation approach. Therefore, the Council finds  
22 the certificate holder has engaged in “appropriate site-specific study” to characterize the  
23 seismic hazard risk, in compliance with OAR 345-022-0020(1)(a).

24  
25 Contributing Earthquake Sources

26  
27 As noted above, in compliance with OAR 345-021-0010(1)(h)(E), certificate holder conducted a  
28 site-specific study of seismic hazards, known as a Probabilistic Seismic Hazard Analysis (PSHA).  
29 Certificate holder states in Exhibit H that seismic hazard de-aggregations were performed for  
30 475-year, 2,475-year, and 4,975-year hazard levels for rock outcrop conditions. The 475-year  
31 motion corresponds to a 10 percent probability of exceedance in 50 years, the 2,475-year  
32 motion corresponds to a 2 percent probability of exceedance in 50 years, and the 4,975-year  
33 motion has a 1 percent probability of exceedance in 50 years. The modeling is described in  
34 detail in RFA13 Exhibit H. The results show that the dominant seismic hazard source for the  
35 475-year, 2,475-year and 4,975-year earthquake levels are magnitude (M) 8.8 to M9.1 Cascadia  
36 Subduction Zone (CSZ) interface event. The second greatest seismic hazard is a M6.9 to M7.0  
37 deep (35 to 70 kilometers in depth) intraslab earthquake similar to the M6.8 Nisqually  
38 earthquake that occurred in February 2001 near Olympia, Washington. Crustal earthquakes of  
39 M6.2 from background seismicity also pose a risk in the 475-year earthquake level, but the  
40 background seismicity risk is effectively muted by the hazard presented by the CSZ earthquake  
41 when longer return periods are considered.

1 Based on USGS’s Quaternary Fault and Fold Database, as of August 2023, there are 13  
2 quaternary faults within 50 miles of the site, as presented in Figure 5 below and in RFA13  
3 Exhibit H Table H-8. Figure 5 below and Table H-8 from RFA13 Exhibit H include only mapped  
4 Quaternary active fault traces (from 2.6 million years to present day). USGS’s Quaternary Fault  
5 and Fold Database accounts for crustal rotations and displacement along with other geological  
6 and seismological data in the interpretation of potential seismicity in the region.<sup>17</sup>  
7  
8 Within the area of the facility and proposed Mist Resiliency Project site, there are older faults  
9 that date from the Late Eocene (38 to 33.9 million years ago).<sup>18</sup> Three mapped fault traces are  
10 identified within the facility site (Niem et al. 1990), which are documented as being inactive.<sup>19,20</sup>  
11  
12

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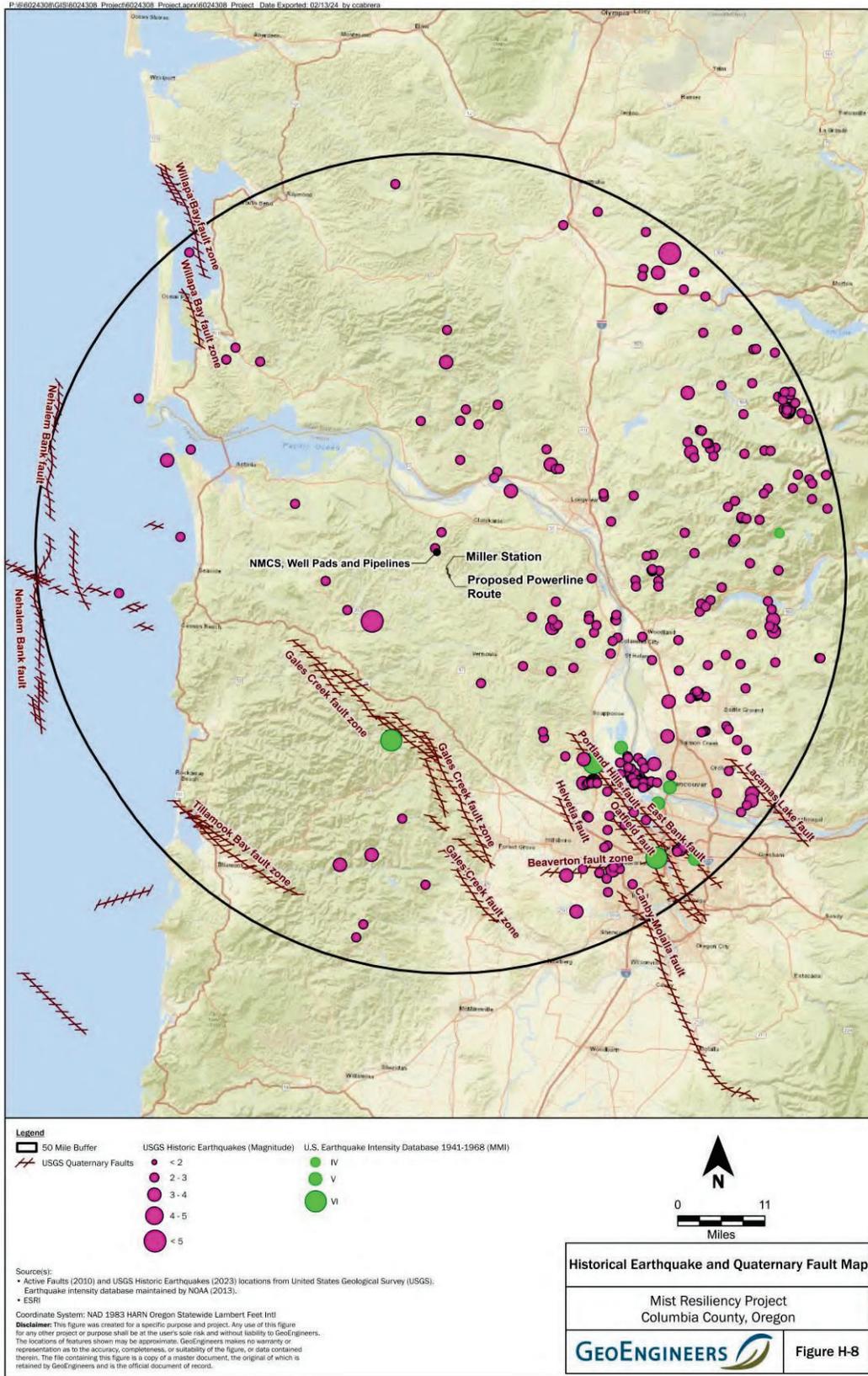
<sup>17</sup> On the record of the DPO, American Aquifers expressed concerns that geologic hazards had not been adequately evaluated at the site, based on rotation beneath the gas field. MSTAMD13 DPO Public Comment 5 Maria Gibson 2024-09-19. Based on review by the Department’s third-party consultant, Haley-Aldrich, crustal rotation and displacement impacts are accounted for in USGS’s Fault and Fold Database, which was the source relied upon by the certificate holder. See Attachment B-4 of this order.

<sup>18</sup> MSTAMD13 RFA13 Exhibit H Geologic 2024-08-09, Section 4.1.3.

<sup>19</sup> MSTAMD13 RFA13 Exhibit H Geologic 2024-08-09, Figure H-3.

<sup>20</sup> On the record of the DPO, American Aquifers expressed concerns that the geologic hazards had not been adequately evaluate at the site, based on the USGS’s 2020 Portland Map that was alleged not to have been relied upon by the certificate holder. MSTAMD13 DPO Public Comment 5 Maria Gibson 2024-09-19. Based on review by the Department’s third-party consultant, Haley-Aldrich, the evaluation of faults and geologic mapping presented in RFA13 Exhibit H are appropriate to inform the site and seismic design parameters. See Attachment B-4 of this order.

Figure 5: Geological Faults within 50 miles of RFA13 Site Boundary



1 Site Seismic Hazards

- 2
- 3 • Ground shaking
- 4

5 Certificate holder’s consultant assessed ground shaking for the 475-year, 2,475-year, and 4,975-  
6 year hazard level, characterized ground motion amplification effects along the proposed  
7 pipeline route and collected mapped acceleration parameters at each well pad, approximate  
8 midpoint of each pipeline between well pads, the NMCS, Miller Station, the south end of the  
9 powerline alignment, and the approximate midpoint of the powerline alignment. They are of  
10 the opinion that there is a low risk of ground shaking in the absence of other deformation  
11 adversely affecting the proposed pipeline or the proposed powerline.

12

- 13 • Fault rupture
- 14

15 Two faults are mapped by DOGAMI (2020) crossing the powerline alignment within the  
16 Nehalem River Valley. These faults are not considered active because they are not mapped by  
17 the USGS quaternary fault and fold database. Accordingly, certificate holder’s consultant  
18 concluded that there is a low probability of fault rupture adversely affecting the facility,  
19 however DOGAMI coordination<sup>21</sup> indicated that fault rupture could potentially impact buried  
20 transmission lines, and for this reason, recommended that the preconstruction site-specific  
21 geotechnical study should include a detailed assessment of potential impacts of fault rupture  
22 on underground transmission.

23

- 24 • Seismically Induced Landslides
- 25

26 The proposed pipelines, NMCS and Stegosaur and Medicine well pads are not located in  
27 proximity to existing landslides that could be re-activated during a seismic event and avoid very  
28 steep slopes. Therefore, there is a relatively low risk of seismically induced landsliding affecting  
29 these facility components.

30

31 Miller Station is near two past landslides (Lindgren Creek/LS-4 and Miller Station/LS-5). The  
32 powerline alignment also crosses LS-4. LS-5 has been regraded and mitigated by installing  
33 drainage features and GeoEngineers did not observe indications of instability, therefore it is  
34 unlikely it would be reactivated by earthquake shaking. There is a risk LS-4 could be reactivated  
35 during a seismic event, potentially affecting Miller Station and the powerline alignment. If LS-4  
36 is reactivated, there is a low to moderate risk that the scarp would retrogress through a  
37 weathered formation underlying the compressor station replacement area and adversely affect  
38 the proposed Miller Station. A reactivated LS-4 could damage the powerline and adjacent  
39 pipelines within the right of way (ROW) following the powerline, but the risk to the public  
40 should be low because the landslide is in an unpopulated area.

41

---

<sup>21</sup> MSTAMD13Doc46 pRFA13 ODOE-DOGAMI Consultation Notes 2023-09-21

1 The Miller Station Storage Area is located close to LS-7 and LS-7, which is a road fill related to a  
2 past failure. However, given mitigation and the upslope location of Miller Station Storage Area,  
3 certificate holder’s consultant believes it is unlikely additional failure of LS-7 would impact the  
4 Miller Station Storage Area.

5  
6 • Liquefaction and Liquefaction-Induced Hazards

7  
8 Liquefaction takes place when loosely packed, water-logged sediments at or near the ground  
9 surface lose their strength in response to strong ground shaking. During a liquefaction event,  
10 such as that which could be produced by an earthquake, soil particles, in combination with the  
11 water located in the pore spaces between them, tend to behave like quicksand.

12  
13 The Nehalem River Valley contains alluvial materials (sand, silt, clay, gravel) and relatively high  
14 groundwater levels and therefore may be susceptible to liquefaction during earthquake  
15 shaking. Based on four borings conducted by GeoEngineers within the Nehalem River Valley  
16 and a review of well logs, the Exhibit H concludes that soils susceptible to liquefaction will be  
17 between 20 and 30 feet in thickness overlying bedrock. No structures are proposed for  
18 construction within the Nehalem River Valley, but the proposed powerline alignment is partially  
19 located within the valley, which may be susceptible to liquefaction during earthquake shaking.

20  
21 GeoEngineers conducted a liquefaction triggering and settlement analysis for each of the four  
22 logged soil borings that represent subsurface conditions along the proposed powerline  
23 alignment using three separate methods<sup>22</sup> and assuming groundwater is within 5 feet of the  
24 ground surface along the portion of the powerline alignment in the Nehalem River Valley. The  
25 analyses were conducted using methods developed by Boulanger and Idriss (2014), Youd et al  
26 (2001), and Seed et al (2003).<sup>23</sup> The methods and results were submitted to DOGAMI for review  
27 and comment. Based on this analysis, liquefaction induced settlement is estimated to result in  
28 approximately 1½ inches to 7 inches of surface settlement along the powerline alignment  
29 located within the Nehalem River Valley after a design level earthquake. The liquefaction  
30 settlement primarily occurs from 5- to 10-foot thick loose sand layers observed in the borings

31  
32 Based on geological conditions along the proposed pipeline alignments and at the NMCS, Miller  
33 Station, Miller Station Storage Area and well pads, and the evaluation conducted by  
34 GeoEngineers, the certificate holder concludes, with their consultant that analysis does not  
35 identify liquefaction to be a likely hazard to the RFA13 proposed facility components.

---

<sup>22</sup> ATC (Applied Technology Council). 2023. ATC Hazards by Location. Reference Document ASCE 7-16. Accessed August 30, 2023. <https://hazards.atcouncil.org/>; USGS. 2023b. Interactive Deaggregations, Earthquake Hazards Program, 2008. Accessed August 30, 2023. <https://earthquake.usgs.gov/hazards/interactive/>

<sup>23</sup> Boulanger, R. W., and Idriss, I. M. (2014). "CPT and SPT based liquefaction triggering procedures.", Univ. of California, Davis, CA.; Youd, T.L., et. al., October 2001, Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils.," Journal of Geotechnical and Geoenvironmental Engineering, Vol. 127, No. 10.; Seed, R. B., et al., 2003, "Recent Advances in Soil Liquefaction Engineering: A Unified and Consistent Framework," 26th Annual ASCE Los Angeles Geotechnical Spring Seminar.

1  
2 As discussed above, Council’s Structural Standard, OAR 345-022-0020(1)(a), requires Council to  
3 find that the certificate holder, through appropriate site-specific study, has adequately  
4 characterized the seismic hazard risk of the site. Considering the foregoing analyses and the  
5 certificate holder’s reliance on qualified consultants and coordination and reliance on DOGAMI-  
6 recommended sources, the Council finds that the certificate holder has adequately  
7 characterized the seismic hazard risks at the location of the proposed RFA13 components.

8  
9 Mitigation of Seismic Hazards

10 Certificate holder commits to designing and building the RFA13 components to meet the  
11 standards of the Oregon Structural Specialty Code, which incorporates the 2021 International  
12 Building Code (IBC), specifically the design codes related to geology, seismicity, and near-  
13 surface soil, in IBC Section 1613, with slight modifications by the current amendments of the  
14 state of Oregon and local agencies. Buildings and foundations will be designed assuming Risk  
15 Category IV. Using USGS’s 2014 National Seismic Hazard Model (NSHM), with a 2,475 year  
16 return period, predicted ground acceleration (PGA) values could be 0.5 g at the site, based on a  
17 magnitude MW 9.1 megathrust event on the CSZ. Therefore, the seismic design parameters for  
18 PGA are 0.558 g (NMCS) and 0.523 g (Miller Station).<sup>24,25</sup> Constructing the proposed RFA13  
19 changes to meet these standards will reduce potential dangers to human safety presented by  
20 seismic hazards at the site. These requirements are addressed by existing site certificate  
21 conditions adopted in alignment with Council’s mandatory conditions in OAR 345-025-0006. As  
22 presented in Section III.A. General Standard of Review, the Council administratively amends  
23 these conditions to ensure applicability to the proposed RFA13 changes.

24  
25 Subject to compliance with Council’s mandatory conditions, the Council finds that the  
26 certificate holder can design, engineer, and construct the facility, with proposed RFA13  
27 changes, to avoid dangers to human safety and the environment presented by seismic hazards  
28 affecting the site, and therefore meets OAR 345-022-0020(1)(b).

29  
30 *Non-seismic Geologic and Soils Hazards*

31

---

<sup>24</sup> MSTAMD13 RFA14 Exhibit Geologic 2024-08-09, Attachment H-3, Table 4 and Attachment H-4, Table 1.

<sup>25</sup> On the record of the DPO, America Aquifers expressed concern that because the 2023 version of the earthquake catalogue was not used, seismic hazards at the site were not properly evaluated. MSTAMD13 DPO Public Comment 5 Maria Gibson 2024-09-19. Based on review by the Department’s third-party consultant, Haley-Aldrich, USGS released a new NSHM in 2023. It incorporates the most recent seismic data and models available in the literature, as well as the feedback received from academia, industry, and public. Based on a comparison of RFA13 Table H-9 and relevant values using the 2023 USGS NSHM (Peterson et al., 2024), there is an approximate 12 percent difference in the certificate holder’s data sources compared to the 2023 USGS NSHM. This difference is not considered to represent a significant difference for the purpose of informing seismic risk hazard, IBC code requirements or seismic design parameters as provided in the GeoEngineers Report. See Attachment B-4 of this order.

1 \$4,827,000 million, to demonstrate its ability to obtain a bond or letter of credit.<sup>75</sup> The certificate  
2 holder also provided a copy of its' 2022 Annual Report,<sup>76</sup> and an opinion from certificate holder 's  
3 General Counsel affirming the legal authority of certificate holder to construct and operate the  
4 facility, with proposed RFA13 changes without violating existing bond indenture provisions,  
5 common stock covenants, or similar agreements.<sup>77</sup>  
6

7 The 2022 Annual Report highlights that the utility reported net income for 2022 of \$86.3 million,  
8 an increase of 10% in net income, compared to \$78.7 million for 2021. The Report also highlights  
9 that the utility achieved an annual customer growth rate of 1.1% by adding 8,600 new natural gas  
10 meters, bringing their customers to approximately 2.5 million. The Council finds that based on the  
11 certificate holder's historic business experience, the maintenance of current authorized payment  
12 bond, and the financial and customer growth data provided in its 2022 Annual Report, the  
13 certificate holder has demonstrated a reasonable likelihood of obtaining a new bond in the  
14 amount specified to restore the site to a useful nonhazardous condition.  
15

### 16 **III.G.2. Conclusions of Law**

17  
18 Based on the foregoing findings of fact, and subject to compliance with new Retirement and  
19 Financial Assurance Conditions 1, 2, and 3 provided above, the Council finds that under OAR 345-  
20 027-0375(2)(e), the amount of the bond or letter of credit required under OAR 345-022-0050 is  
21 adequate, and that the certificate holder has a reasonable likelihood of obtaining a bond or letter  
22 of credit in a form and amount to retire the RFA13 facility components and site to a useful,  
23 nonhazardous condition.  
24

### 25 **III.H. FISH AND WILDLIFE HABITAT: OAR 345-022-0060**

26  
27 *To issue a site certificate, the Council must find that the design, construction and*  
28 *operation of the facility, taking into account mitigation, are consistent with:*  
29

30 *(1) The general fish and wildlife habitat mitigation goals and standards of OAR*  
31 *635-415-0025(1) through (6) in effect as of February 24, 2017, and*  
32

33 *(2) For energy facilities that impact sage-grouse habitat, the sage-grouse specific*  
34 *habitat mitigation requirements of the Greater Sage-Grouse Conservation*  
35 *Strategy for Oregon at OAR 635-415-0025(7) and OAR 635-140-0000 through -*  
36 *0025 in effect as of February 24, 2017.<sup>78</sup>*  
37

### 38 **III.H.1. Findings of Fact**

39  

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<sup>75</sup> MSTAMD13Doc62 RFA13 Exhibit M Financial Capability 2024-08-09, Attachment M-5 and MSTOPS 2024 Bond Rider 2024-03-06.

<sup>76</sup> MSTAMD13Doc62 RFA13 Exhibit M Financial Capability 2024-08-09, Attachment M-4.

<sup>77</sup> MSTAMD13Doc62 RFA13 Exhibit M Financial Capability 2024-08-09, Attachment M-6.

<sup>78</sup> OAR 345-022-0060, effective Mar. 8, 2017.

1 The analysis area for the Fish and Wildlife Habitat standard is the area within and extending 0.5  
2 miles from the RFA13 site boundary.

3

4 Certificate Holder Methodology

5

6 Literature review and field studies were conducted in 2022 and 2023. Habitat categorization  
7 surveys were conducted along with a generalized, simultaneous search for all special status  
8 wildlife species. Surveys were planned primarily for the month of June to coincide with the period  
9 of highest biological activity of neotropical migrant and breeding birds, foraging and breeding  
10 wildlife species, flowering plants, and other taxa. Surveyors compiled a comprehensive list of  
11 species (or their sign) encountered.

12

13 In preparation for biological and botanical field surveys, the certificate holder conducted desktop  
14 analyses of information regarding special status species (e.g., federal or state listed, state  
15 sensitive, U.S. Fish and Wildlife Service (USFWS) species of concern) occurrence and habitat  
16 requirements and special habitats (e.g., west side big game range spatial data, ODFW 2017) that  
17 could occur within the analysis area. The certificate holder consulted the Oregon Biodiversity  
18 Information Center (ORBIC) to identify special status species that may occur within the Analysis  
19 Area, as well as other sources, including National Oceanic and Atmospheric Administration and  
20 Oregon Department of Fish and Wildlife (ODFW) data resources. They also used aerial imagery to  
21 inform the desktop analysis of potential habitat types and subtypes within the RFA13 site  
22 boundary and analysis area as shown in Figures 14 and 15 below. The survey area is presented in  
23 Figure 13 below. Habitat Categories within the RFA13 analysis area are presented in Figures 14  
24 and 15.

25

**Figure 13: RFA13 Biological and Botanical Surveys within Analysis Area**

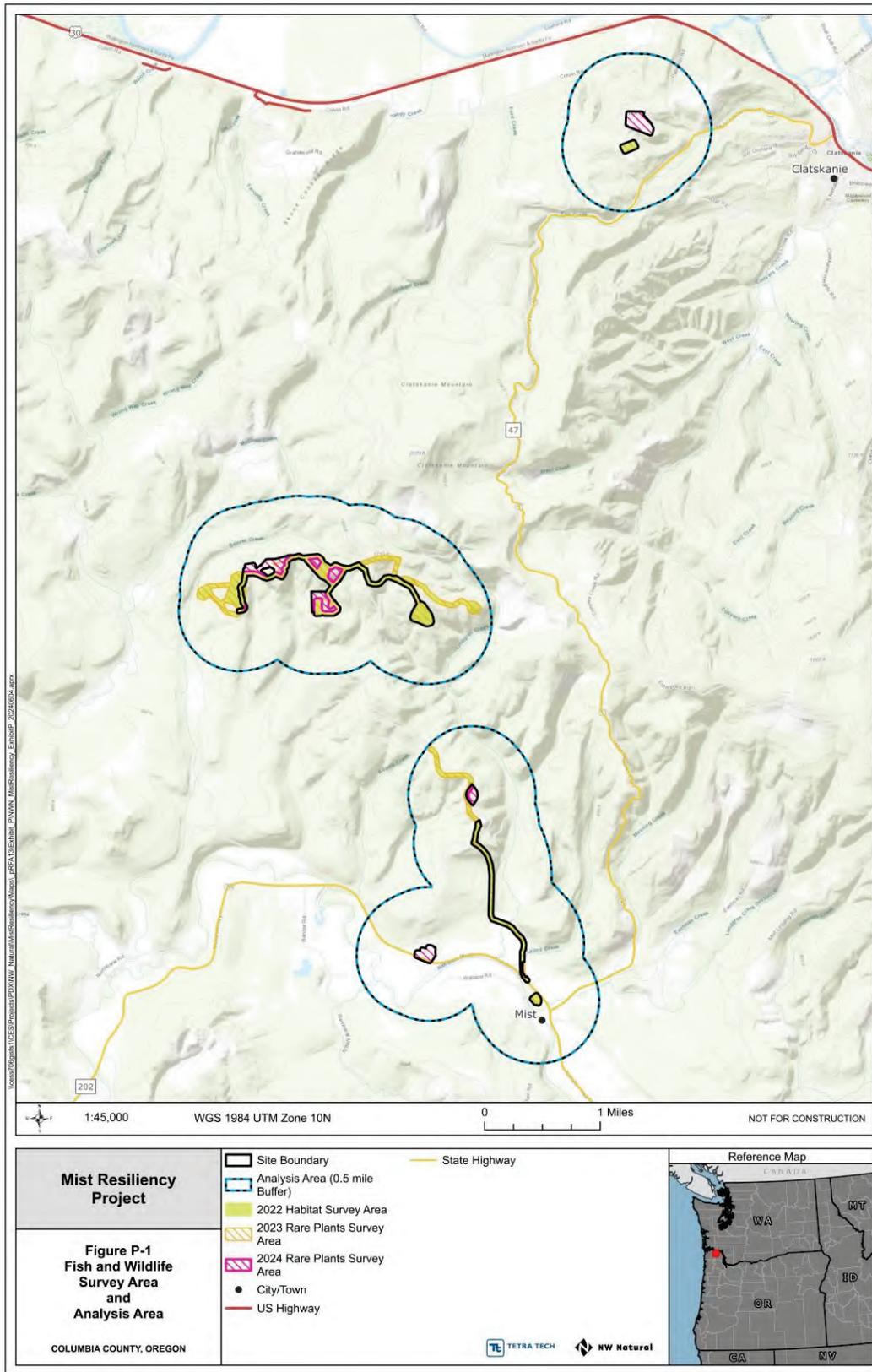
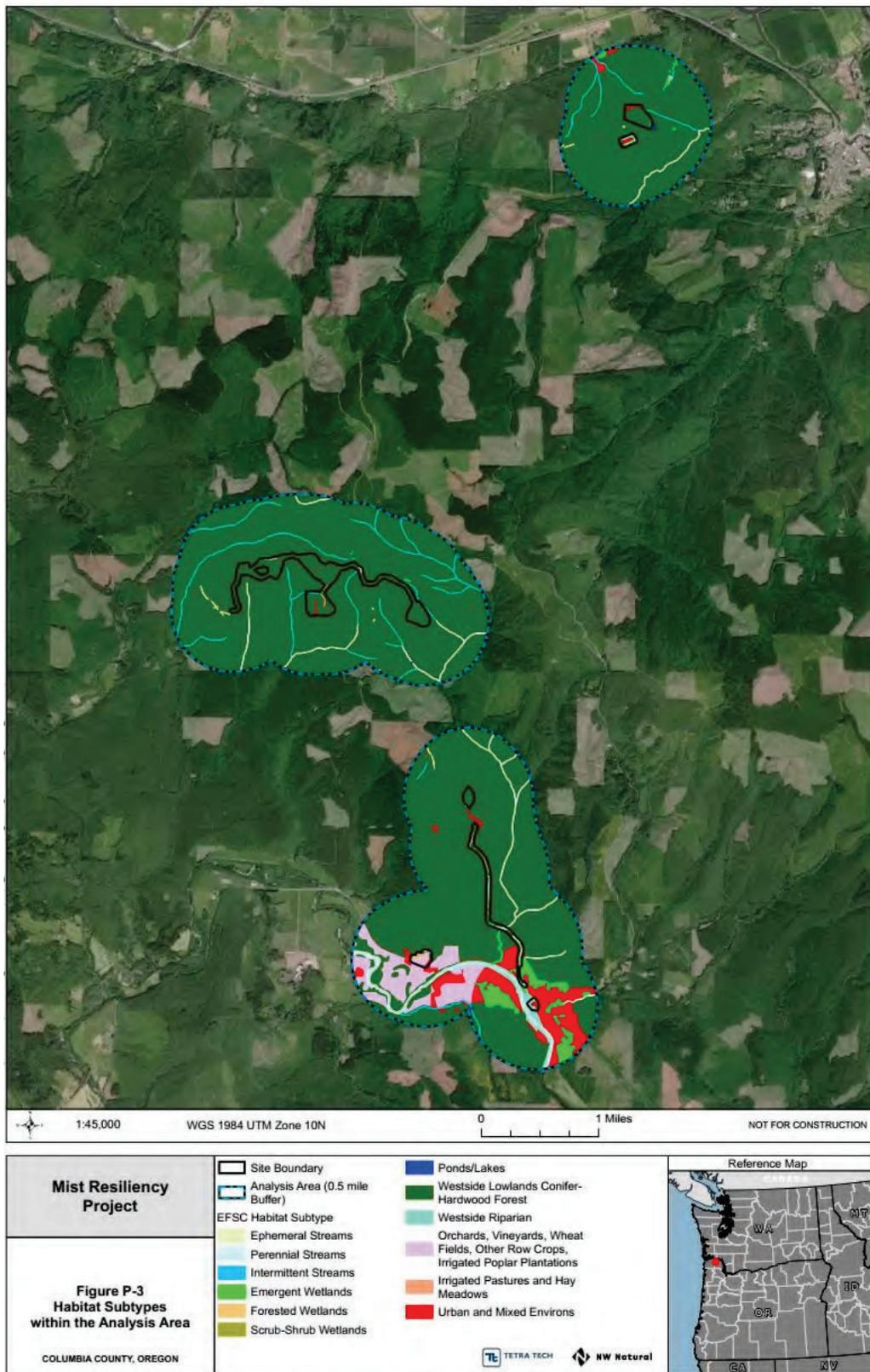
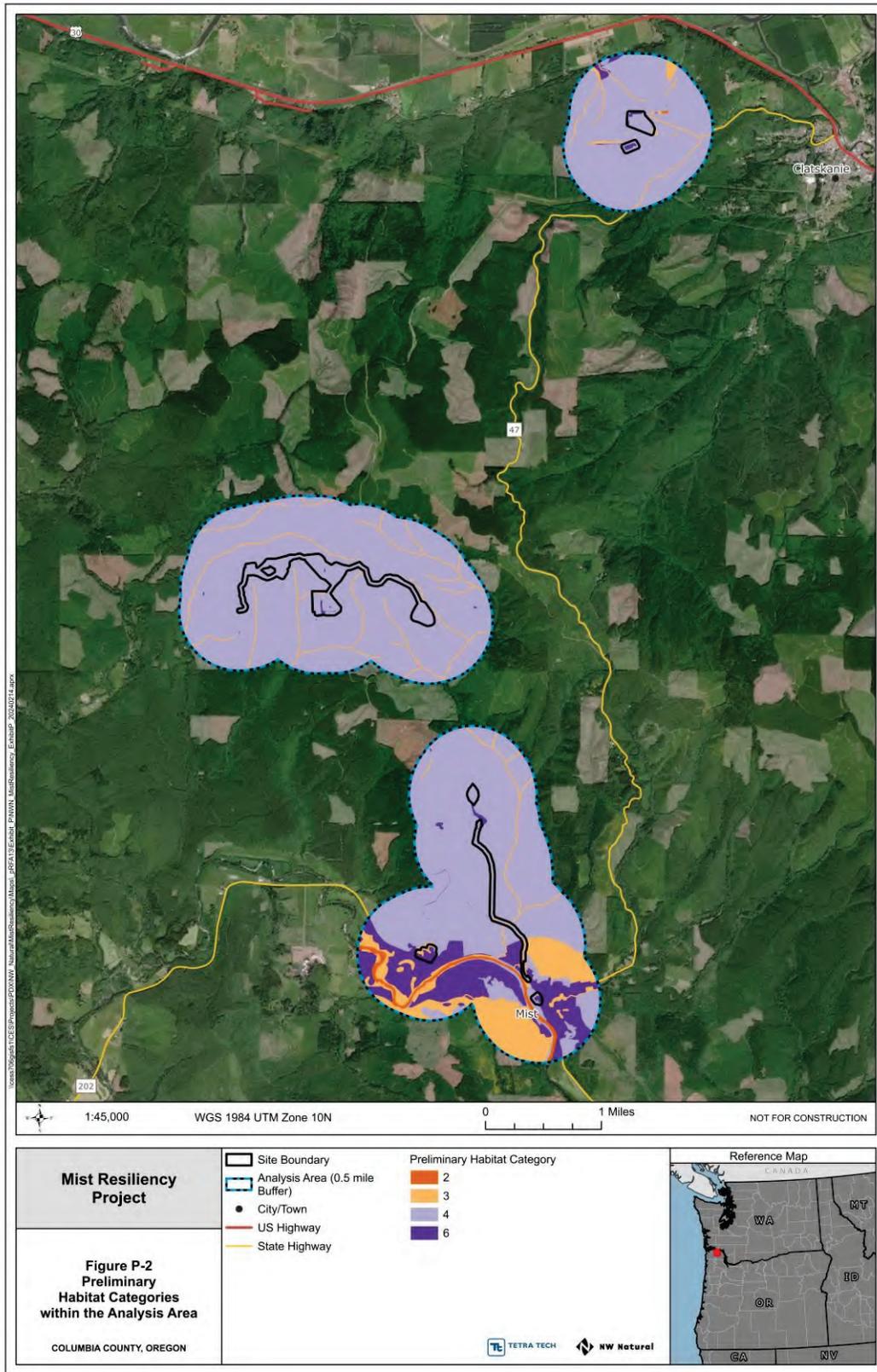


Figure 14: ODFW Habitat Types and Subtypes in RFA13 Analysis Area



1

Figure 15: ODFW Habitat Categories within RFA13 Analysis Area



1 The certificate holder identified wetlands during a separate wetland delineation survey effort  
 2 described in RFA13 Exhibit J and in Section IV.D Removal-Fill of this order. As part of ODFW  
 3 consultation of RFA13 proposed changes, the certificate holder submitted to ODFW their wetland  
 4 delineation results and estimates of wetlands as habitat. ODFW concurred on the wetlands  
 5 classifications as ODFW Habitat Categories 3 and 4 for wetland areas identified in RFA13 as  
 6 potentially impacted during RFA13 construction. These areas are included in habitat impacts totals  
 7 (temporary and permanent) and are included in the associated mitigation plans as described and  
 8 shown in Tables 10 and 11 below.

9  
 10 Identified habitat types and categories in the analysis area are:

- 11 • Open water (ODFW habitat categories 2, 3 and 4)
- 12 • Upland forests and woodlands (ODFW habitat categories 2, 3 and 4)
- 13 • Riparian forest and shrubland complexes (ODFW habitat categories 3 and 4)
- 14 • Wetlands (ODFW habitat categories 3 and 4)
- 15 • Agriculture, pasture, and mixed environs (ODFW habitat categories 3 and 4)
- 16 • Urban and mixed environs (ODFW habitat category 6)

17  
 18 Habitat Impacts and Mitigation

19  
 20 RFA13 changes would result in approximately 63.7 acres of temporary disturbance and up to 27.7  
 21 acres of permanent habitat impacts, as presented in Table 10 below.

**Table 10: Habitat Impacts from Proposed RFA13 Changes**

Habitat Category	Habitat Type-Subtype <sup>1</sup>	Permanent Impact - Acres	Temporary Impact - Acres
<b>3</b>	Upland Forests and Woodlands- Westside Lowlands Conifer-Hardwood Forest	–	0.004
	Wetlands- Emergent Wetlands	–	0.01
	Wetlands- Scrub-Shrub Wetlands	–	0.005
	Agriculture, Pasture, and Mixed Environs- Irrigated Pastures and Hay Meadows	–	5.55
	Open Water - Lakes, Rivers, Streams- Ephemeral Streams	–	0.01
	Upland Forests and Woodlands- Westside Lowlands Conifer-Hardwood Forest	26.90	27.55
<b>Total Impacts Category 3 Acres</b>		<b>26.90</b>	<b>33.13</b>
<b>4</b>	Agriculture, Pasture, and Mixed Environs- Irrigated Pastures and Hay Meadows	–	0.24
	Open Water - Lakes, Rivers, Streams- Ephemeral Streams	–	–
	Riparian Forest and Shrubland Complexes- Westside Riparian	–	0.50
	Upland Forests and Woodlands- Westside Lowlands Conifer-Hardwood Forest	–	12.59

**Table 10: Habitat Impacts from Proposed RFA13 Changes**

Habitat Category	Habitat Type-Subtype <sup>1</sup>	Permanent Impact - Acres	Temporary Impact - Acres
	Agriculture, Pasture, and Mixed Environs- Orchards, Vineyards, Wheat Fields, Other Row Crops, Irrigated Poplar Plantations	–	5.26
<b>Total Impacts Category 4 Acres</b>		<b>–</b>	<b>18.58</b>
<b>6</b>	Urban and Mixed Environs- Urban and Mixed Environs	0.83	11.98
<b>Total Impacts Category 6 Acres</b>		<b>0.83</b>	<b>11.98</b>
<b>Total RFA13 Estimated Impacts - Acres</b>		<b>27.73</b>	<b>63.69</b>

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Temporary impacts

Construction will involve vegetation removal, trenching, grading, and excavation work, use of heavy equipment, all which have the potential to impact habitat and wildlife. Construction impacts include temporary habitat loss and habitat fragmentation. Potential indirect impacts from construction include increased potential for invasion of noxious weeds into the right-of-way and adjacent habitats.

The certificate holder will mitigate areas temporarily impacted by RFA13 activities as described in the draft Restoration of Temporary Impacts Plan (Attachment P-1 of this order). These measures include restoring, revegetating, and returning all areas temporarily impacted by construction to original contours and vegetation type. The Council imposes new conditions to require that the certificate holder finalize and implement the Restoration of Temporary Impacts Plan as set forth in Fish and Wildlife Conditions 1 and 2, below. Following restoration of temporary impacts, ongoing maintenance of the restored areas will be addressed through the certificate holder’s adherence to its Vegetation Control and Management Plan as provided in RFA13 Exhibit P Attachment P-2. This plan includes obligations to monitor and control for noxious weeds, along with vegetation clearance requirements that address wildfire risk. This plan is incorporated into the certificate holder’s Wildfire Mitigation Plan, provided in Attachment V-2 of this order, required to be implemented under Wildfire Prevention and Risk Mitigation Condition 1.

**Fish and Wildlife Condition 1 [PRE]:** Prior to construction of components or phase of the Mist Resiliency Project, as applicable, the certificate holder shall finalize the Restoration of Temporary Impacts Plan similar to the draft plan provided in Attachment P-1 of this order, to be prepared in consultation with ODFW and approved by ODOE. The scope of finalization shall adhere to the requirements established in Section 1.0 of the plan. [PRE-FW-01; Final Order on AMD13]

**Fish and Wildlife Condition 2 [GEN]:** Following construction of components or phase of the Mist Resiliency Project, as applicable, and during operations, for the duration required for restoration, the certificate holder shall implement the Restoration of Temporary Impacts Plan.

1 [GEN-FW-01; Final Order on AMD13]

2  
3 Permanent impacts

4  
5 The proposed RFA13 changes will result in approximately 27.73 acres of permanent impacts to  
6 Category 3 habitat. The mitigation goal for Category 3 habitat, as set forth in OAR 635-415-0025, is  
7 presented below:

- 8  
9 • **Habitat Category 3:** Essential habitat for fish and wildlife, or important habitat for fish and  
10 wildlife that is limited either on a physiographic province or site-specific basis, depending  
11 on the individual species or population.

12 *Mitigation Goal:* No net loss in either existing habitat quantity or quality. Mitigation must  
13 be in-kind and in-proximity.

14 *Mitigation Ratio:* 1:1

15 Permanent impacts: 26.90 acres

16  
17 Permanent habitat impacts require long-term mitigation. Certificate holder proposes to minimize  
18 and mitigate all permanent impacts that cannot be avoided, as described in the draft Habitat  
19 Mitigation Plan (See Attachment P-3 of this Order). The HMP would mitigate any permanent  
20 impacts to Category 3 and 4 habitats at a 1:1 ratio: 1 acre of in-kind mitigation to every 1 acre of  
21 permanent impact. The draft HMP identifies a permittee mitigation option to be implemented at a  
22 mitigation area. Three potential sites are identified (referred to as Options 1 through 3). The draft  
23 HMP offers a second mitigation approach (Option 4), a compensatory mitigation payment  
24 program to ODFW, which is not an available option through ODFW currently and is not evaluated  
25 in this order.

26  
27 The three potential habitat mitigation areas presented in the draft HMP are proposed adjacent to  
28 HMCS, Miller Station, and near the site. The HMA conditions and potential enhancement are  
29 summarized below.

30  
31 **HMA Site - Option 1:** Habitat Mitigation Area Adjacent to NMCS. Potential enhancement  
32 actions at this site include: removing the site from harvest rotation; reshaping the existing  
33 rock quarry by adding soil to fill in the quarry; restoring contours and installing erosion  
34 control structures as needed; and replanting with an ODFW-approved seed mix.

35  
36 **HMA Site - Option 2:** Habitat Mitigation Area Adjacent to Miller Station. Potential  
37 enhancement actions at this site include: removing the site from harvest rotation and  
38 other enhancement actions to be determined, prior to construction, based on consultation  
39 with ODFW.

40  
41 **HMA Site - Option 3:** Habitat Mitigation Area Near the proposed RFA13 changes. Potential  
42 enhancement actions at this site include: removing the site from harvest rotation and  
43 other enhancement actions to be determined, prior to construction, based on consultation  
44 with ODFW.

1 *ODFW Coordination*

2  
3 The Department held a coordination call with ODFW on the preliminary RFA13 on May 8, 2024,  
4 conducted a site visit with ODFW on June 12, 2024, and held a follow-up coordination call with  
5 ODFW biologists on July 20, 2024. ODFW concurred with the habitat categorizations and acres of  
6 potential impacts to habitat requiring mitigation. The May 8th call focused on the surveys and  
7 findings, the requirements for the HMP/HMA and discussed the habitat protection and HMP  
8 habitat enhancement measures for an HMA. ODFW comments are summarized and included in  
9 Attachment B of this order.

10  
11 The draft HMP provided in RFA13 Exhibit P Attachment P-1 is in draft form. Council establishes the  
12 following requirements and scope to finalize the HMP.

- 13 • Prior to fully securing the legal right to the habitat mitigation area, if other than HMA Site –  
14 Option 1 as presented in the draft HMP, certificate holder shall be required to complete  
15 desktop and field surveys of the HMA site and propose suitable enhancement actions for  
16 the site, and obtain concurrence from ODOE, in coordination with ODFW, on the adequacy  
17 of the enhancement actions in meeting the Category 3 mitigation goal for no net loss of  
18 habitat quality. If concurrence is not obtained from ODOE and ODFW, certificate holder  
19 shall propose another HMA site.
- 20 • Certificate holder shall be required to demonstrate that it has acquired the legal right to  
21 create, enhance, maintain and protect the HMA site concurred with by ODOE and ODFW,  
22 by means of outright purchase, conservation easement or similar conveyance.
- 23 • Certificate holder shall finalize the plan by specifying the scope and schedule of the  
24 selected enhancement actions, including monitoring protocol and success criteria that  
25 apply both short-term and for the operational life of the facility.

26  
27 **Fish and Wildlife Condition 3 [PRE]:** Prior to construction of components or phase of the  
28 Mist Resiliency Project, as applicable, the certificate holder shall finalize the draft Mist  
29 Resiliency Project Habitat Mitigation Plan as provided in Final Order on Amendment 13  
30 Attachment P-3. The scope of finalization shall adhere to the requirements established in  
31 Section 1.0 of the plan.

32 [PRE-FW-02; Final Order on AMD13]

33  
34 **Fish and Wildlife Condition 4 [OPR]:** During operation, the certificate holder shall  
35 implement and adhere to the requirements of the Mist Resiliency Project Habitat  
36 Mitigation Plan.

37 [OPR-FW-01; Final Order on AMD13]

38  
39 Potential Adverse Impacts to State Sensitive Fish and Wildlife Species

40  
41 In addition to habitat impacts as discussed above, individual species can be affected by other  
42 aspects of a project, such as construction noise or other sensory disturbance, and direct mortality  
43 through vehicle collision, among other concerns. Risks common to all species include direct  
44 impacts from injury or mortality due to collision with construction or maintenance vehicles and  
45 equipment or exposure to herbicides potentially used to control the growth of woody vegetation

1 in the pipeline corridor. Indirect impacts could include increased mortality because of noise, loss  
2 of habitat, disturbances causing nest abandonment.

3  
4 As required by OAR 345-021-0010(1)(p), certificate holder conducted a desktop analysis, as  
5 described in RFA13 Exhibit P, that resulted in the identification of 24 state sensitive species with  
6 the potential to occur in the analysis area. RFA13 Exhibit P also summarizes the results of field  
7 surveys. Tetra Tech surveyed the 259-acre survey area<sup>79</sup> on June 7, 8, and 9, 2022. Species  
8 targeted during general surveys included federal and state endangered, threatened, proposed,  
9 and candidate species, species of concern, birds of conservation concern, sensitive and sensitive-  
10 critical species.

11  
12 There were 24 state sensitive species identified as having the potential to occur within the analysis  
13 area.

#### 14 *State Sensitive Mammals*

15  
16  
17 State sensitive mammals that may occur in the analysis area include 3 species of bats (silver-  
18 haired, fringed myotis long-legged myotis) and 1 red tree vole. Certificate holder and its  
19 consultants did not observe any bats during wildlife surveys but also did not perform any acoustic  
20 or other surveys used to identify bats.

#### 21 *State Sensitive Birds*

22  
23  
24 State sensitive bird species that may be present in the analysis area include olive-sided flycatcher,  
25 caspian tern, purple martin, western bluebird, white-breasted nuthatch (slender billed nuthatch),  
26 American peregrine falcon, arctic peregrine falcon, bald eagle. Of these species, the olive-sided  
27 flycatcher was the only one observed during the field surveys. The olive-sided flycatcher is a state  
28 sensitive species, as well as a Bird of Conservation Concern, and a Conservation Strategy Species.

#### 29 *State Sensitive Amphibians and Reptiles*

30  
31  
32 State sensitive amphibians and reptiles that may be present in the analysis area include western  
33 pond turtle, coastal tailed frog, northern red-legged frog, foothill yellow-legged frog, western  
34 toad, clouded salamander, Cope's giant salamander, Columbia torrent salamander, and Southern  
35 torrent salamander.

36  
37 The use of HDD at stream crossings should largely avoid the need to clear riparian areas, reducing  
38 the potential for upland impacts to amphibians.

#### 39 *State Sensitive Fish*

40  
41  
42 In addition to T&E listed fish, state sensitive fish species that may be present in the analysis area  
43 (the Nehalem River, Lindgren Creek, Lyons Creek) include Pacific lamprey, western brook lamprey,

---

<sup>79</sup> Field survey area was based on footprint of RFA13 activities within the larger analysis area.

1 coastal cutthroat trout (Southwestern Washington/Columbia River ESU), steelhead (Southwest  
2 Washington ESU, winter run; Oregon Coast ESU, winter run). Impacts on streams, rivers, riparian  
3 areas, and wetlands are addressed in Section V.B. Removal Fill Law of this order.  
4

5 The certificate holder proposes to implement the following measures to avoid and minimize  
6 impacts to habitat and state sensitive species. Based upon certificate holder representations, the  
7 Council imposes the following conditions:  
8

9 **Fish and Wildlife Condition 5 [CON]:** During construction of components or phase of the  
10 Mist Resiliency Project, as applicable, certificate holder shall not remove vegetation during  
11 the nesting bird season (February 1 to September 15).

- 12 a. If vegetation removal is necessary during the nesting season, a qualified biologist will  
13 conduct a preconstruction nesting bird survey on and within 500 feet of the  
14 construction area no more than 14 days prior to proposed initiation of any vegetation  
15 removal or construction activities and provide the results of the survey to the  
16 Department no less than 10 days prior to any vegetation removal.
- 17 b. The certificate holder shall not begin vegetation removal until the nesting bird survey  
18 has been approved by the Department, in consultation with ODFW. If there are  
19 construction delays of greater than 14 days during the nesting season, the certificate  
20 holder shall repeat the surveys in vegetated areas and obtain Department approval of  
21 the surveys prior to restarting construction.

22 [CON-FW-01; Final Order on AMD13]  
23

24 Finally, to ensure that construction of the proposed RFA13 changes are conducted in a manner  
25 that minimizes potential impacts to sensitive fish and wildlife habitat, the Council imposes the  
26 following conditions to require adequate environmental awareness training of contractors,  
27 workers, and staff, and monitoring during construction and operations:  
28

29 **Fish and Wildlife Condition 6 [CON]:** During construction of components or phase of the  
30 Mist Resiliency Project, as applicable, certificate holder shall require that all onsite workers  
31 attend an environmental awareness training session conducted by an environmental  
32 professional.

- 33 a. The training shall include, but not be limited to, the following topics: identification of  
34 approved Project boundaries and access roads including flagged exclusion areas;  
35 identification of sensitive wetland and waterbody resources; identification of sensitive  
36 and special status plant and wildlife species found in the analysis area; techniques  
37 regarding avoidance and minimization measures the certificate holder will implement;  
38 the notification process to be followed if new sensitive resources are identified; permit  
39 requirements; buffer distances from sensitive and protected resources; work timing  
40 restrictions including seasonal restrictions; the role of the onsite environmental  
41 inspector(s) and NWN environmental personnel; 25 mph speed limit restrictions; and  
42 other topics as necessary.
- 43 b. A copy of the training shall be provided to the department.
- 44 c. Records of completed worker training shall be maintained onsite and made  
45 available to the department upon request.

1 [CON-FW-02; Final Order on AMD13]  
2

3 **III.H.2. Conclusions of Law**  
4

5 Based on the foregoing analysis, and subject to compliance with the site certificate conditions  
6 described above, the Council finds that the design, construction and operation of the facility, with  
7 proposed RFA13 changes, are consistent with the mitigation goals and requirements of the  
8 Oregon Department of Fish and Wildlife’s Fish and Wildlife Habitat Mitigation Policy under OAR  
9 635-415-0025.  
10

11 **III.I. THREATENED AND ENDANGERED SPECIES: OAR 345-022-0070**  
12

13 *To issue a site certificate, the Council, after consultation with appropriate state*  
14 *agencies, must find that:*  
15

16 *(1) For plant species that the Oregon Department of Agriculture has listed as*  
17 *threatened or endangered under ORS 564.105(2), the design, construction and*  
18 *operation of the proposed facility, taking into account mitigation:*  
19

20 *(a) Are consistent with the protection and conservation program, if any, that the*  
21 *Oregon Department of Agriculture has adopted under ORS 564.105(3); or*  
22

23 *(b) If the Oregon Department of Agriculture has not adopted a protection and*  
24 *conservation program, are not likely to cause a significant reduction in the*  
25 *likelihood of survival or recovery of the species; and*  
26

27 *(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as*  
28 *threatened or endangered under ORS 496.172(2), the design, construction and*  
29 *operation of the proposed facility, taking into account mitigation, are not likely*  
30 *to cause a significant reduction in the likelihood of survival or recovery of the*  
31 *species.*<sup>80</sup>  
32

33 **III.I.1. Findings of Fact**  
34

35 The analysis area for threatened or endangered plant and wildlife species is the area within 5  
36 miles of the RFA13 site boundary.  
37

38 *RFA13 Discovery Measures*

39 RFA13 Exhibit Q provides a desktop analysis of potential T&E species within the analysis area.  
40

41 The desktop review relied on academic literature, a review of previous field surveys in the vicinity,  
42 and the following sources to identify the potential species that are known to occur, or may be  
43 likely to occur within the analysis area:

---

<sup>80</sup> OAR 345-022-0070, effective May 15, 2007.

- 1 • 2022-2023 National Oceanic and Atmospheric Administration (NOAA) Fisheries, National
- 2 Marine Fisheries Service;
- 3 • 2022-2023 Oregon Department of Agriculture (ODAg); Plant Conservation Program;
- 4 • 2007- 2024 Oregon Department of Fish and Wildlife (ODFW) fish and wildlife habitat data;
- 5 • Oregon Biodiversity Information Center (ORBIC), Threatened and Endangered species of
- 6 Oregon;
- 7 • Oregon State University, Department of Botany and Plant Pathology, 2023 Oregon Flora
- 8 Project. 2023;
- 9 • U.S. Fish and Wildlife Service (USFWS), White Tailed Deer data.

10

11

12

13

14

Based on the available data from the sources reviewed, 15 species or populations listed as state threatened, endangered, or candidate were identified as having the potential to occur within the analysis area: 1 mammal, 11 vascular plants, and 3 fish as shown in Table 11 below.

**Table 11: State-Listed T&E and Candidate Species**

Species <sup>1</sup>	State Status	Occurrence within Analysis Area <sup>2</sup>
Columbian white-tailed deer - <i>Odocoileus virginianus leucurus</i>	T	No
Coho salmon (Oregon Coast Evolutionarily Significant Unit [ESU]) - <i>Oncorhynchus kisutch</i>	S	Yes
Coho salmon (Lower Columbia River ESU) - <i>Oncorhynchus kisutch</i>	E	Yes
Chinook salmon (Lower Columbia River ESU, spring run and fall run) <i>Oncorhynchus tshawytscha</i>	SC	Yes
Tall bugbane - <i>Actaea elata</i> var. <i>elata</i> (syn. <i>Cimicifuga</i> )	C	No
Willamette Valley larkspur - <i>Delphinium oreganum</i>	C	No
Peacock larkspur - <i>Delphinium pavonaceum</i> (syn. <i>Delphinium menziesii</i> ssp. <i>pallidum</i> )	E	No
Coast Range fawn-lily - <i>Erythronium elegans</i>	T	No
Queen-of-the-forest - <i>Filipendula occidentalis</i>	C	No
Howell's montia - <i>Montia howellii</i>	C	Yes
Saddle Mt. saxifrage - <i>Saxifraga hitchcockiana</i> (syn. <i>Micranthes hitchcockiana</i> )	C	No
Meadow checkermallow - <i>Sidalcea campestris</i>	C	No
Bristly-stemmed sidalcea - <i>Sidalcea hirtipes</i>	C	No
Nelson's sidalcea - <i>Sidalcea nelsoniana</i>	T	No
Oregon sullivantia - <i>Sullivantia oregana</i>	C	No

15

1 T&E Fish - Salmon Species

2 The desktop analysis identified that there are 3 known T&E-listed salmon species in the analysis  
3 area:

- 4 • Coho salmon (Oregon Coast Evolutionarily Significant Unit [ESU])  
5 *Oncorhynchus kisutch*
- 6 • Coho salmon (Lower Columbia River ESU)  
7 *Oncorhynchus kisutch*
- 8 • Chinook salmon (Lower Columbia River ESU, spring run and fall run)  
9 *Oncorhynchus tshawytscha*

10  
11 The Oregon Coast ESU of coho salmon is federally listed as Threatened and is Sensitive in the  
12 state of Oregon; the Lower Columbia River ESU is federally listed as Threatened and is listed as  
13 Endangered in the state of Oregon. The Lower Columbia River ESU of Chinook salmon is  
14 federally listed as Threatened and is Sensitive Critical in the state of Oregon. All 3 species are  
15 known to utilize Lindgren Creek and Nehalem River as habitat.

16  
17 Howell's Montia (*Montia howellii*)

18 The desktop analysis identified one state candidate plant species as occurring within the RFA13  
19 site boundary: Howell's Montia (*Montia howellii*). Howell's montia occurs west of the Cascades  
20 from British Columbia to California. Howell's montia occurs in sparsely vegetated moist to  
21 seasonally wet areas such as riparian and wetland areas. Threats to the species include timber  
22 harvest, road construction and maintenance, vehicles, and competition. The species is not T&E-  
23 listed at the federal or state level.

24  
25 *Field Surveys for T&E Species in RFA13 Analysis Area*

26  
27 Based upon the results of the updated desktop analysis, the certificate holder retained qualified  
28 biologists to conduct wildlife habitat and botanical field surveys in 2022 and 2023 within the  
29 RFA13 site boundary.

30  
31 T&E Fish and Wildlife Surveys

32  
33 Qualified biologists conducted wildlife and habitat categorization surveys in 2022 (June 7, 8,  
34 and 9) for compliance with EFSC's Fish and Wildlife Habitat standard. Transect surveys were  
35 performed to characterize habitat throughout the RFA13 project boundary, with simultaneous  
36 searches for special status wildlife species and special habitats. No proposed, candidate,  
37 threatened, or endangered fish or wildlife species were observed during these surveys,  
38 however none of these surveys were protocol-level surveys designed for specific species.  
39 No field surveys for T&E fish were conducted as part of RFA13 analysis in Exhibit Q.

40  
T&E Plant Surveys

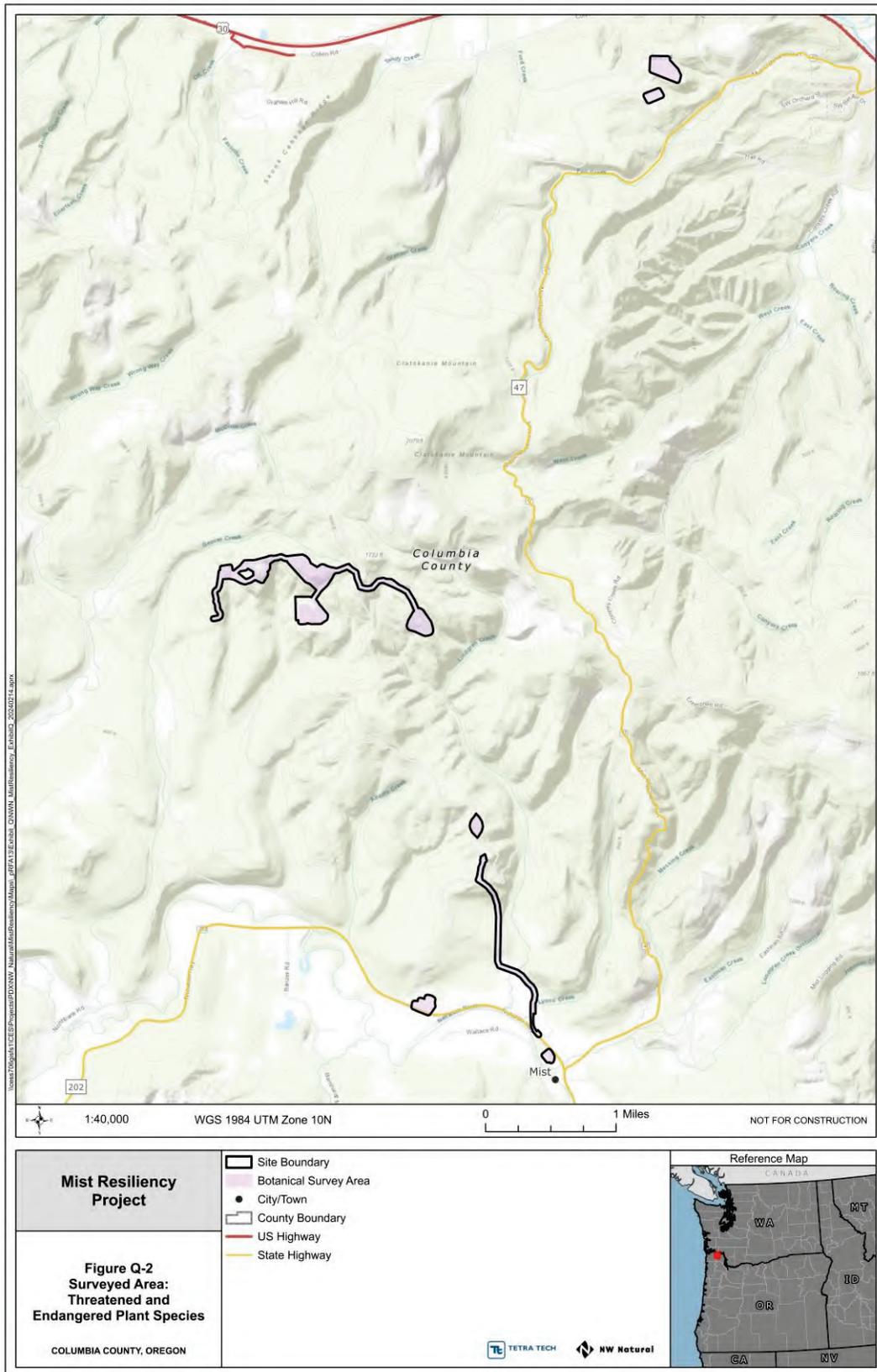
1 Field surveys for listed and candidate plant species were conducted in 2022 and 2023 (See  
2 Figure 16 below). Surveyors used the intuitive controlled transect method<sup>81</sup> to document the  
3 presence or absence of target plant species. Surveys were conducted within the RFA13 site  
4 boundary in suitable habitat and when an area with high potential for target plants was  
5 encountered (e.g., wetland). In 2022, field surveys were conducted during the appropriate time  
6 of year to capture target species during blooming or fruiting. The 2023 field surveys within the  
7 site boundary occurred outside the recommended survey period and did not follow a species-  
8 level protocol.

9  
10 Of the 11 potential plant species that are state listed or are a candidate or proposed for state  
11 listing, only one of these, Howell’s montia (*Montia howellii*), was found to occur within the  
12 RFA13 analysis area and site boundary during 2022 field surveys. During 2022 surveys, a single  
13 population consisting of approximately 2,700 plants growing densely within the two-track road  
14 matrix comprising approximately 800-square feet. Two additional Howell’s montia sub-  
15 populations consisting of one plant and eight dispersed plants (35 square foot area) were 15  
16 and 40 feet further north along the mainline road’s eastern edge. In 2023, surveys of additional  
17 areas were conducted in September, outside of the Howell’s montia blooming period. While it  
18 is a candidate for listing as a state-listed T&E plant species, it has not been listed and is not  
19 listed as a T&E species at a federal or state level.

---

<sup>81</sup> An intuitive controlled survey is a complete survey of habitats with the highest potential for supporting rare plant populations and a less intense survey of all other habitats present. This type of survey requires botanists familiar with the habitats of all the plant species that may reasonably be expected to occur in the project area. The botanist traverses through the project area enough to see a representative cross section of all the major plant habitats and topographic features. During the survey, the botanist compiles a species list of all plant taxa seen en route and keeps track of the plant community or habitat type where each taxon occurs. Source: [https://www.cnps.org/wp-content/uploads/2019/10/Bot-Cert\\_US-BLM-plant-survey-protocols-LR.pdf](https://www.cnps.org/wp-content/uploads/2019/10/Bot-Cert_US-BLM-plant-survey-protocols-LR.pdf)

Figure 16: Threatened and Endangered Plant Survey Area



1 *Threatened and Endangered Species within the Analysis Area*

2

3 The Council reviewed the information used to identify T&E species within the analysis area and  
4 based on the information submitted in Exhibits Q and P, the Council finds that there are 3  
5 known T&E listed species within the analysis area: the Oregon Coast ESU of coho salmon, the  
6 Lower Columbia River ESU of coho salmon and the Lower Columbia River ESU of Chinook  
7 salmon.

8

9 *Potential Impacts to Identified Threatened and Endangered Species*

10

11 The RFA13 changes will cross Lindgren Creek, designated as essential spawning habitat for  
12 these 3 T&E-listed salmon species, near its confluence with the Nehalem River. These fish  
13 species could be impacted by RFA13 activities near streams, wetlands, and associated aquatic  
14 habitat within the analysis area. Impacts on streams, rivers, riparian areas, and wetlands are  
15 addressed in Section V.B. Removal Fill Law of this order.

16

17 RFA13 proposed changes will not impact any T&E listed plant species and the only state  
18 candidate plant species, *Howell's Montia*, while known to occur in the analysis area, will be  
19 avoided entirely during construction, if encountered. For these reasons, the Council finds that  
20 RFA13 proposes changes that will not impact any T&E plants under this standard.

21

22 *ODFW and ODAg Coordination*

23

24 The Department held a coordination call with ODFW on the preliminary RFA13 on May 8, 2024,  
25 conducted a site visit with ODFW on June 12, 2024, and held a follow-up coordination call with  
26 ODFW biologists on July 20, 2024. Coordination with ODFW habitat biologists focused on RFA13  
27 proposed changes, RFA13 survey and report methods and findings for T&E wildlife, and the  
28 certificate holder's proposed minimization and avoidance measures to avoid any impacts to  
29 T&E listed fish. ODFW also provided technical review on the methods proposed to avoid  
30 impacts to T&E salmon using horizontal directional drilling (HDD) to cross under Lindgren Creek.  
31 Based on that coordination and review, the certificate holder revised and submitted the  
32 Inadvertent Return Response Plan (See Attachment C of this Order) for the use of HDD near  
33 Lindgren Creek. The revised plan incorporated comments from ODFW to ensure the use of HDD  
34 does not impact T&E fish. ODFW will continue to be consulted on the finalization of the plan  
35 prior to construction.

36

37 The Department consulted with ODAg, on July 24, 2024 on the potential for T&E plants in the  
38 RFA13 analysis area, RFA13 survey and report methods and findings, and concurred that the  
39 only T&E candidate species likely to occur is Howell's Montia, and that methods used to identify  
40 the species were sufficient and confirmed that it is not currently a T&E-listed plant. No other  
41 T&E plants are likely to occur in the analysis area. There are no recommendations or mitigations  
42 required for T&E plants for RFA13. ODAg appreciated the efforts to avoid Howell's Montia, but  
43 acknowledges it is not T&E listed and warrants no additional T&E protection.

1 *Minimization and Mitigation Measures*

2 RFA13 proposes to work near and around areas designated as essential habitat for federal and  
3 state T&E-listed fish: the Oregon Coast ESU of coho salmon is federally listed as Threatened and  
4 is Sensitive in the state of Oregon; the Lower Columbia River ESU of coho is federally listed as  
5 Threatened and is listed as Endangered in the state of Oregon; and the Lower Columbia River  
6 ESU of Chinook salmon. The certificate holder proposes avoiding all impacts to T&E fish through  
7 the placement and use of HDD to cross under Lindgren Creek and through the implementation  
8 of BMPs to ensure that HDD and other trenching work does not impact T&E fish or their  
9 habitat.

10  
11 In RFA13 Exhibit Q, the certificate holder states that HDD will be used to cross under Lindgren  
12 Creek, thereby avoiding all impacts to T&E fish. Additionally, the certificate holder has proposed  
13 methods and BMPs to minimize any impact to T&E fish in the draft HDD Inadvertent Return  
14 Response Plan (See Attachment C of this Order). Based upon consultation with ODFW, the  
15 certificate holder identified the following BMPs to ensure that the use of HDD will not impact  
16 T&E fish or their habitat. These representations have been added to the draft HDD Inadvertent  
17 Return and Response Plan:

- 18  
19 • NWN will minimize the use of herbicides to the extent practicable including avoiding  
20 their use in the vicinity of sensitive environments or species. If use of herbicides is  
21 required to control the growth of vegetation in the pipeline corridor, NWN will comply  
22 with all applicable federal and state regulations.
- 23  
24 • An HDD Design has been prepared to reduce the risk of impacts on Lindgren Creek. This  
25 design includes analysis of hydraulically fracturing the bore hole during drilling, which  
26 could lead to drilling fluid surface release, and adjusting the depth of the HDD profile  
27 such that the risk of drilling fluid surface release is minimized. In addition, entry and exit  
28 points are set back from Lindgren Creek between approximately 175 and 185 feet to  
29 minimize impacts to the creek and riparian areas surrounding the creek. Entry and exit  
30 workspace are located within Mainline Road or an adjacent pull out to reduce impacts  
31 to surrounding areas.
- 32  
33 • Silt fences will be installed adjacent to the entry and exit workspaces to limit migration  
34 of any surface water or drilling fluid. However, the risk of drilling fluid leaving the  
35 workspace is low as discussed in the following bullet point.
- 36  
37 • Drilling fluid will be contained in drilling fluid returns pits excavated at the entry and exit  
38 points. These pits are typically 4 feet wide by 4 feet long by 4 feet deep. Drilling fluid  
39 used during drilling will return to these pits where they will be pumped to a vacuum  
40 truck and hauled off site.
- 41  
42 • Drilling fluids can be inadvertently released to the ground surface during HDD  
43 operations. The likelihood of drilling fluid surface release is typically higher near the  
44 HDD entry/exit pits. Therefore, the HDD is being designed to cross the stream in the

1 HDD profile's bottom tangent (deepest depth of the profile). Hydraulic fracture analyses  
2 completed during preliminary design of the HDD indicate that the risk of hydraulic  
3 fracture (and subsequent drilling fluid release to Lindgren Creek) is low, with calculated  
4 factors of safety against hydraulically fracturing the bore hole greater than 1.5.  
5

- 6 • Drilling fluid returns to the entry or exit pits are visually monitored during drilling to  
7 verify that drilling fluid returns are maintained to the entry or exit pits at all times during  
8 construction. If a decrease in drilling fluid returns is observed (which could indicate a  
9 blockage downhole that could lead to hydraulic fracture and subsequent drilling fluid  
10 surface release) the contractor will take measures such as tripping out tooling to clean  
11 the hole and reestablish drilling fluid returns. Provided drilling fluid returns are  
12 maintained during drilling, there is typically a low risk of hydraulic fracture and  
13 subsequent inadvertent returns.  
14
- 15 • The HDD contractor will designate a person to continually monitor the HDD alignment  
16 for surface indications of drilling fluid surface release. If observed, the contractor will  
17 immediately disengage drilling fluid pumps to minimize the release and will immediately  
18 contain and clean the release.  
19
- 20 • Downhole drilling fluid pressures will be monitored during construction and compared  
21 to the hydraulic fracture analysis. If drilling fluid pressures are significantly higher than  
22 anticipated, the contractor will implement mitigation measures to reduce the downhole  
23 drilling fluid pressures. Such measures may include tripping out tooling to clean the  
24 hole, adjusting drilling fluid properties to more effectively clean the hole and reduce  
25 drilling fluid pressures or performing partial reaming passes to enlarge the hole thereby  
26 creating more annular space downhole for drilling fluid flow which in turn reduces  
27 downhole annular pressures.  
28
- 29 • An HDD design and associated report are being prepared, including specifications for  
30 deviance from the HDD profile depth and HDD alignment. The contractor will be  
31 required to maintain the HDD alignment and profile specifications, follow the designed  
32 HDD alignment and profile, and follow recommendations contained within the HDD  
33 design report. Requiring the contractor to follow the HDD design alignment and profile,  
34 alignment and profile specifications, and recommendations of the HDD design report  
35 will reduce the risk of impact on essential fish habitat.  
36

37 The draft HDD Inadvertent Return Response Plan as relied upon to protect soils under the  
38 Council's Soil Protection standard, as evaluated in Section III.D of this order. The Council adopts  
39 the above representations into the draft HDD plan and require adherence to those  
40 requirements under Soil Protection Condition 3.  
41

#### 42 **III.I.2. Conclusions of Law**

1 Based on the foregoing analysis, and subject to compliance with the proposed site certificate  
2 conditions described above, the Council finds that the design, construction and operation of the  
3 facility, with proposed 13 changes, are not likely to cause a significant reduction in the  
4 likelihood of survival or recovery of species listed as threatened or endangered by the Oregon  
5 Department of Agriculture or Oregon Fish and Wildlife Commission.  
6

7 **III.J. SCENIC RESOURCES: OAR 345-022-0080**  
8

9 *(1) To issue a site certificate, the Council must find that the design,*  
10 *construction and operation of the facility, taking into account mitigation, are*  
11 *not likely to result in significant adverse visual impacts to significant or*  
12 *important scenic resources.*  
13

14 *(2) The Council may issue a site certificate for a special criteria facility under*  
15 *OAR 345-015-0310 without making the findings described in section (1). In*  
16 *issuing such a site certificate, the Council may impose conditions of approval*  
17 *to minimize the potential significant adverse visual impacts from the design,*  
18 *construction, and operation of the facility on significant or important scenic*  
19 *resources.*  
20

21 *(3) A scenic resource is considered to be significant or important if it is*  
22 *identified as significant or important in a current land use management plan*  
23 *adopted by one or more local, tribal, state, regional, or federal government or*  
24 *agency.*  
25

26 *(4) The Council shall apply the version of this rule adopted under*  
27 *Administrative Order EFSC 1-2007, filed and effective May 15, 2007, to the*  
28 *review of any Application for Site Certificate or Request for Amendment that*  
29 *was determined to be complete under OAR 345-015-0190 or 345-027-0363*  
30 *before the effective date of this rule. Nothing in this section waives the*  
31 *obligations of the certificate holder and Council to abide by local ordinances,*  
32 *state law, and other rules of the Council for the construction and operation of*  
33 *energy facilities in effect on the date the site certificate or amended site*  
34 *certificate is executed.*<sup>82</sup>  
35

36 **III.J.1. Findings of Fact**  
37

38 *Scenic Resources in the Analysis Area*

39 The analysis area for Scenic Resources is 10 miles from the RFA13 site boundary.  
40

---

<sup>82</sup> OAR 345-022-0080, effective December 19, 2022.

1 *Schools*

2

3 The number of school-age children that could enter local public schools during construction,  
4 based on the peak number of 113 non-local workers, ranges from 5 to 20. Operation of the Mist  
5 Resiliency Project would result in twelve (12) new, fulltime employees and approximately  
6 twelve (12) school-age children.

7

8 Within the analysis area, there are two Oregon counties: Columbia and Clatsop. Within  
9 Columbia County, there are 5 school districts and 24 schools. Within Clatsop County, there are  
10 5 school districts and 14 schools. The student teacher ratio ranges from a low of 7.8 to 1 to 18  
11 to 1. Oregon public schools must maintain an average ratio of 20 to 1. Based on the student  
12 teacher ratio at the Oregon schools within the analysis area, and the relatively low number of  
13 potential students that could result from construction (20) or operation (12), there is adequate  
14 capacity within the Oregon school districts within the analysis area to support the temporary  
15 incremental increase in students associated with construction and during operation.

16

17 Based on this analysis, the Council finds that the facility, with proposed RFA13 changes, would  
18 not likely result in a significant adverse impact on the ability of public school systems to deliver  
19 educational services.

20

21 **III.M.2. Conclusions of Law**

22

23 Based on the foregoing analysis, and subject to compliance with the new site certificate  
24 conditions described above, the Council finds that construction and operation of facility, with  
25 proposed RFA13 changes, are not likely to result in significant adverse impacts to the ability of  
26 public and private providers to provide the services listed in OAR 345-022-0110.

27

28 **III.N. WILDFIRE PREVENTION AND RISK MITIGATION: OAR 345-022-0115**

29

30 *(1) To issue a site certificate, the Council must find that:*

31

32 *(a) The applicant has adequately characterized wildfire risk within the analysis*  
33 *area using current data from reputable sources, by identifying:*

34

35 *(A) Baseline wildfire risk, based on factors that are expected to remain fixed*  
36 *for multiple years, including but not limited to topography, vegetation,*  
37 *existing infrastructure, and climate;*

38

39 *(B) Seasonal wildfire risk, based on factors that are expected to remain fixed*  
40 *for multiple months but may be dynamic throughout the year, including but*  
41 *not limited to, cumulative precipitation and fuel moisture content;*

42

1 (C) Areas subject to a heightened risk of wildfire, based on the information  
2 provided under paragraphs (A) and (B) of this subsection;

3  
4 (D) High-fire consequence areas, including but not limited to areas containing  
5 residences, critical infrastructure, recreation opportunities, timber and  
6 agricultural resources, and fire-sensitive wildlife habitat; and

7  
8 (E) All data sources and methods used to model and identify risks and areas  
9 under paragraphs (A) through (D) of this subsection.

10  
11 (b) That the proposed facility will be designed, constructed, and operated in  
12 compliance with a Wildfire Mitigation Plan approved by the Council. The  
13 Wildfire Mitigation Plan must, at a minimum:

14  
15 (A) Identify areas within the site boundary that are subject to a heightened  
16 risk of wildfire, using current data from reputable sources, and discuss data  
17 and methods used in the analysis;

18  
19 (B) Describe the procedures, standards, and time frames that the applicant  
20 will use to inspect facility components and manage vegetation in the areas  
21 identified under subsection (a) of this section;

22  
23 (C) Identify preventative actions and programs that the applicant will carry  
24 out to minimize the risk of facility components causing wildfire, including  
25 procedures that will be used to adjust operations during periods of heightened  
26 wildfire risk;

27  
28 (D) Identify procedures to minimize risks to public health and safety, the  
29 health and safety of responders, and damages to resources protected by  
30 Council standards in the event that a wildfire occurs at the facility site,  
31 regardless of ignition source; and

32  
33 (E) Describe methods the applicant will use to ensure that updates of the plan  
34 incorporate best practices and emerging technologies to minimize and  
35 mitigate wildfire risk.

36  
37 (2) The Council may issue a site certificate without making the findings under  
38 section (1) if it finds that the facility is subject to a Wildfire Protection Plan  
39 that has been approved in compliance with OAR chapter 860, division 300.

40  
41 (3) This Standard does not apply to the review of any Application for Site  
42 Certificate or Request for Amendment that was determined to be complete

1           under OAR 345-015-0190 or 345-027-0363 on or before the effective date of  
2           this rule.<sup>98</sup>

3  
4   **III.N.1. Findings of Fact**

5  
6   Council adopted the Wildfire Prevention and Risk Mitigation standard on July 29, 2022, after  
7   approval of the site certificate and past site certificate amendments. Compliance with the  
8   standard has, therefore, not previously been evaluated by Council and is applicable to the  
9   proposed RFA13 changes. The analysis area to evaluate potential wildfire risks is the site  
10   boundary and one-half mile from the site boundary.<sup>99</sup>

11  
12   *III.N.1.a. Characterization of Wildfire Risk within Analysis Area*

13  
14   Under OAR 345-022-0115(1)(a), a certificate holder must adequately characterize the wildfire  
15   risk within the analysis area using reputable sources to describe Baseline Wildfire Risk, Seasonal  
16   Wildfire Risk, Areas Subject to Heightened Risk of Wildfire, and High-fire Consequence Areas.  
17   Each of these are discussed in detail in this section with a description of the data source, as  
18   necessary to support the findings and conclusions. The data sources the applicant used to  
19   evaluate wildfire risk include:

- 20  
21       • Oregon Wildfire Risk Explorer-Advanced Report;<sup>100</sup>
- 22       • Columbia County Community Wildfire Protection Plan (CWPP), dated 1 August 2007<sup>101</sup>
- 23       • Oregon CWPP Planning Tool 2018;<sup>102</sup>
- 24       • Pyrologix 2018 Pacific Northwest Quantitative Wildfire Risk Assessment: Methods and  
25        Results. Prepared for the U.S. Forest Service by Pyrologix LLC;
- 26       • Conservation Biology Institute (CBI), 2020 Wildfire Risk Assessment Data Layer  
27        Descriptions Spreadsheet;
- 28       • National Oceanic and Atmospheric Administration (NOAA) climate data;
- 29       • U.S. Forest Service (USFS) Guide for Application of Meteorological Information to Forest  
30        Fire Control Operations.

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<sup>98</sup> OAR 345-022-0115, effective July 29, 2022.

<sup>99</sup> OAR 345-001-0010(35)(c).

<sup>100</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Attachment V-2. Oregon Wildfire Risk Explorer-Advanced Report, Columbia County. Accessed September 8, 2023. Available online at: [https://tools.oregonexplorer.info/OE\\_HtmlViewer/Index.html?viewer=wildfireplanning](https://tools.oregonexplorer.info/OE_HtmlViewer/Index.html?viewer=wildfireplanning)

<sup>101</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Attachment V-1. Columbia County Community Wildfire Protection Plan, Columbia County, Oregon. August 1, 2007. The Columbia County CWPP has been agreed upon and endorsed by a stakeholder group including the Columbia County Board of Commissioners, the District Forester of the Forest Grove District for Oregon Department of Forestry, Scappoose Rural Fire Protection District, Clatskanie Rural Fire Protection District, Columbia River Fire and Rescue, Mist-Birkenfeld Rural Fire Protection District, and Vernonia Rural Fire Protection District.

<sup>102</sup> Oregon Community Wildfire Protection Plan Planning Tool. Available online at: [https://tools.oregonexplorer.info/OE\\_HtmlViewer/index.html?viewer=wildfireplanning](https://tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=wildfireplanning)

1 Based upon the analysis provided below of the certificate holder and Council’s evaluation of  
2 baseline and seasonal fire risk, areas subject to heightened fire risk, and high-fire consequence  
3 areas using current and reputable data sources and methods, the Council finds that the wildfire  
4 risk is moderate to high within the site boundary and analysis area.  
5

### 6 *III.N.1.b. Baseline Wildfire Risk*

7

8 Baseline wildfire risk within the analysis area is evaluated based on factors expected to remain  
9 fixed for multiple years, including historic wildfires, topography of the site, vegetation, existing  
10 infrastructure, regional climate, and burn probability. The facility, with RFA13 changes, is  
11 located within a matrix of private timberlands, operation of the facility within this area is  
12 guided by the Oregon Department of Forestry (ODF) fire protection rules, namely ODF’s  
13 Industrial Fire Precaution Level (IFPL) requirements and fire season requirements, which are  
14 discussed further in Section III.N.1.f, *Wildfire Mitigation Plan*, below.<sup>103</sup>  
15

### 16 Columbia County Wildfire History

17

18 There are no historic fires recorded during 2008 and 2019 within the facility site boundary, and  
19 one 0.25-acre fire was recorded in 2007 at the northernmost edge of the wildfire analysis area,  
20 approximately 0.25 miles south of the Lower Columbia River Highway, northwest of Clatskanie  
21 town center. On average in Columbia County between 2008 and 2019, 18 fires occurred each  
22 year, and most of these fires were considered small. There were two causes of fire: 94.5  
23 percent were human-caused, and 5.5 percent were caused by lightning strikes.<sup>104</sup> There were  
24 no large fires in Columbia County between 2008 and 2019, with “large fire” defined by the  
25 National Wildland Coordinating Group as any wildland fire in timber 100 acres or greater, 300  
26 acres or greater in grasslands/rangelands, or has an Incident Management Team assigned to it.  
27

### 28 Topography

29

30 Potential wildfires travel quicker on steeper slopes and slower on the flatter portions of land.  
31 Columbia County is delineated by the Columbia River in the northern and eastern portion of the  
32 County of and the western portion of the County extends into the Coast Range, providing a  
33 diverse topographical landscape. The elevation within the site boundary ranges from 461 to  
34 1,576 feet above mean sea level with an average of 1,075 feet; the larger analysis area  
35 elevation ranges from 18 to 1,739 feet, with an average of 843 feet. Over 98 percent of the site  
36 boundary and 93 percent of the analysis area have less than a 25-degree slope.<sup>105</sup>  
37

### 38 Vegetation and Fuel Models

39

---

<sup>103</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Attachment V-3, Section 1.0.

<sup>104</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Section 3.2.

<sup>105</sup> Slope groupings are from 0-25%, 26-50%, and 51-75%.

1 As discussed in Section III.H., *Fish and Wildlife Habitat*, of this order, most of the vegetation  
2 type and habitat category are Category 4 habitat that is made up of upland forests and  
3 woodlands, and westside lowlands conifer-hardwood forests. Approximately seven percent of  
4 the habitat within the site boundary is Category 6 habitat, with no burn potential because the  
5 area is urban or a waterbody.

6

7 The Oregon CWPP Planning Tool offers a data layer that provides Fuel Models which describe  
8 the composition and characteristics of fire fuels. Fuel Model groups describe the fire-carrying  
9 fuel type of surface fuel. The groups are broad categories (grass, shrub, timber, timber litter,  
10 timber understory, and slash/blowdown) of burnable fuels based on descriptions of live and  
11 dead vegetation that represent distinct fuel types, size classes, and load distributions. The  
12 dominant fuel models that the Oregon CWPP Planning Tool describes as making up the area  
13 within the site boundary are Fuel Models 162, 185, 101, and 102; ASC Exhibit V, Table V-2 lists  
14 all the Fuel Models that make up the site boundary and analysis area.

15

16 Fuel Model 162 (moderate load humid climate timber-shrub) makes up 33 percent of the site  
17 boundary. This Fuel Model is in the timber understory fuel group for which the primary carrier  
18 of fire is forest litter, in combination with herbaceous and shrub fuels, moderate litter load with  
19 a shrub component, moderate spread rate, and low flame length. Importantly, it also has high  
20 extinction moisture, indicating that the vegetation in these areas is less susceptible to ignition  
21 and combustion, and less likely to sustain fire than in other Fuel Models. This Fuel Model also  
22 makes up 30 percent of the larger analysis area.

23

24 Fuel Model 185 (high load conifer litter) makes up 21 percent of acres within the site boundary.  
25 This Fuel Model is in the timber litter fuel group and contains smaller, easily ignitable materials  
26 on the forest floor (light slash fuels) as well as dead plant material, such as dead trees, fallen  
27 branches, and standing dead trees. This Fuel Model burns slash quickly and can carry fires  
28 quickly keeping it on the forest floor, however, burning larger fuel sources (dead trees) can  
29 contribute to the intensity and duration of fires. Overall, it has a low spread rate and low flame  
30 length.

31

32 Fuel Models 101 (short, sparse dry climate grass) and 102 are (low load dry climate grass) both  
33 make up approximately 8 percent of the site boundary.

34

### 35 Existing Infrastructure

36

37 Understanding the type and location of existing infrastructure for baseline fire risk is important  
38 because overall wildfire risk for an area is based, in part, on wildfire risk to assets, people and  
39 property which includes where people live, critical infrastructure, developed recreation,  
40 housing unit density, and other factors.

41

42 Existing structures within the site boundary that could potentially be impacted include  
43 underground pipelines, well pads and supporting infrastructure, underground powerlines, and

1 the NMCS.<sup>106</sup> The majority of existing structures in the site boundary fall within the NMCS,  
 2 where the hazard to potential structures is moderate to high. At the southern end of the  
 3 proposed in RFA13 changes, the site boundary includes the Bark and Haul and Highway 202  
 4 laydown areas, and a buried electrical feed connecting at Miller Station. Bark and Haul Laydown  
 5 Yard is in the norther part of the community of Mist where there are residential and farm  
 6 structures, utilities, community buildings, and paved roads. Mist Grade School also falls within  
 7 the wildfire analysis area, less than one half mile from the Bark and Haul laydown yard.  
 8 Highway 202 Laydown Yard is west of the Community of Mist close to dispersed agricultural  
 9 and residential buildings off Hwy 202. The Highway 202 laydown yard contains a barn and  
 10 additional storage sheds within the site boundary. The well pads proposed to be modified in  
 11 RFA13 are located centrally to the facility and do not have significant infrastructure around  
 12 them, aside from the operational facility itself. The surrounding areas are forested, cleared  
 13 forested areas and rural roads. The north Sorting Yard Laydown areas are surrounded by  
 14 forested areas, rural roads with some nearby highways and sparse residential structures.

15

16 Climate

17

18 Columbia County has a modified marine climate with annual precipitation ranging from 40  
 19 inches in the eastern portion to 100 inches in the higher elevations of the Coast Range. Average  
 20 annual precipitation is 61 inches. Winters are relatively wet and mild with warm and dry  
 21 summers; and the total average annual precipitation for the area is 54.7 inches per year,  
 22 which is indicative of a temperate warm-summer Mediterranean climate.

**Table 16: Summary of Monthly Temperature and Precipitation  
 at Clatskanie, Oregon, Station (1991 – 2020)**

Month	Avg. Max Temperature (°F)	Avg. Temperature (°F)	Avg. Min Temperature (°F)	Avg. Precipitation (inches)
January	46.6	39.8	33.0	8.3
February	50.3	41.5	32.8	5.7
March	54.5	44.9	35.3	6.1
April	58.8	48.6	38.3	4.3
May	64.8	54.4	44.0	2.7
June	68.8	58.6	48.5	1.7
July	74.7	63.5	52.2	0.6
August	75.8	64	52.2	0.7
September	72	59.8	47.6	2.1
October	61.6	51.3	41.1	4.5
November	51.7	43.9	36.1	8.6

<sup>106</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Section 3.5.

**Table 16: Summary of Monthly Temperature and Precipitation  
at Clatskanie, Oregon, Station (1991 – 2020)**

Month	Avg. Max Temperature (°F)	Avg. Temperature (°F)	Avg. Min Temperature (°F)	Avg. Precipitation (inches)
December	45.7	39.3	32.8	9.4
Monthly / Annual Average <sup>1</sup>	60.5	50.8	41.2	54.7

Source: ASC Exhibit V, Table V-3; Clatskanie Station, OR US USC00351643 (NOAA 2023).

Note: The sum of annual precipitation was averaged annually from 1991 through 2020.

1

2 Burn Probability

3

4 Burn Probability shows the likelihood of a wildfire greater than 250 acres burning in each  
 5 location, based on wildfire simulation modeling. This is an annual burn probability, adjusted to  
 6 be consistent with the historical annual area burned. The burn probability classes range from  
 7 non-burnable (including nonburnable groundcover types such as water, agriculture, or urban)  
 8 to very high burn probability, which indicates greater than a 1 in 50 chance of a wildfire greater  
 9 than 250 acres in a single year. Most of the land in both the site boundary (89 percent) and the  
 10 analysis area (87 percent) fall within the very low burn probability regions ( $\leq 1$  in 10,000).<sup>107</sup>  
 11 The only area with a low burn probability (1 in 10,000 to 1 in 5,000) in the site boundary falls  
 12 due south of the proposed Newton well pad, directly east of Beaver Creek. There are no regions  
 13 within the site boundary or analysis area which have moderate, high, or very high burn  
 14 probabilities.

15

16 *III.N.1.c. Seasonal Wildfire Risk*

17

18 Seasonal wildfire risk within the analysis area is expected to remain fixed for multiple months  
 19 but may be dynamic throughout the year, including cumulative annual and monthly  
 20 precipitation, weather advisories which include fuel moisture content data, and Average Flame  
 21 Length which is the average length of flames expected during a fire, given local fuel and  
 22 weather conditions discussed below.

23

24 Precipitation

25

26 As discussed above, under baseline climatic conditions and provided in Table 16: *Summary of*  
 27 *Monthly Temperature and Precipitation at Clatskanie, Oregon, Station (1991 – 2020)*, the total  
 28 average annual precipitation for the area is approximately 55 inches, which is indicative of a  
 29 temperate warm-summer Mediterranean climate.

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<sup>107</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Section 3.3.5.

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Fuel Moisture Content

Fuel moisture content varies depending on changes in weather (both seasonally and during short periods) and determination of exact fuel-moisture values at any time is complicated by both the nature of the fuels and their responses to the environment. Higher fuel moisture content makes it more challenging for fires to start and spread. Living plants and dead fuels react differently to changes in weather, and the wetting and drying processes of dead fuels result in significant fluctuations in their moisture content. These changes are affected by various factors such as precipitation, air moisture, surface and air temperatures, wind, and cloudiness, as well as fuel properties like surface to volume ratio, compactness, and arrangement. Current conditions such as precipitation to-date, current fuel moisture data, and local weather may increase or decrease seasonal fire risk.

A related and more easily measured concept to fuel moisture content is moisture of extinction: the moisture content of a specific fuel type above which a fire will not propagate itself. As such, Fuel Models with higher moisture of extinction levels decrease overall fire risk. The moisture of extinction rate also varies seasonally in response to changing weather and environmental conditions. During the wetter seasons, such as spring and early summer, live fuels tend to have a higher moisture content due to increased rainfall and higher humidity levels. This results in a higher moisture of extinction, making the fuel less flammable and reducing the risk of ignition. Conversely, in the drier seasons, like late summer and fall, live fuels become drier as moisture evaporates and is less replenished by rainfall, leading to a lower fuel moisture content that approaches the moisture of extinction threshold, and increases susceptibility to ignition, which can elevate the risk of wildfires.<sup>108</sup> As discussed above, the dominant Fuel Models within the site boundary are Fuel Model 162, at 33 percent and Fuel Model 185, at 21 percent, which are associated with moderate load humid climate timber-shrub and high load conifer litter vegetation types. The moisture of extinction levels for the Fuel Models within the site boundary and analysis area are relatively low but are subject to change according to seasonal weather changes and overall trending changes to the region’s climate.

Discussed further below under Section III.N.1.d., *Wildfire Mitigation Plan*, the facility, with proposed RFA13 changes, is located within the National Interagency Fire Center’s Predictive Service Area NW03, along with Portland, Oregon. The Northwest Interagency Coordination Center Predictive Services is a resource which provides links to relevant fuel status reports and fuel moisture content predictions. National Weather Service’s fire weather advisories (such as Red Flag Warning and Fire Weather Watch) and fire behavior advisories for each Predictive Service Area in the Northwest.

Flame Length

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<sup>108</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Section 3.4.2.

1 According to the 2018 Oregon Wildfire Risk Explorer, Average Flame Length shows the average  
 2 length of flames expected, given local fuel and weather conditions. Flame lengths have  
 3 potential to exceed the mapped values shown, even under normal weather conditions. Flame  
 4 length is commonly used as a direct visual indication of fire intensity and is a primary factor to  
 5 consider for firefighter safety and for gauging potential impacts to resources and assets. Fires  
 6 with a flame length of 4 to 8 feet can be expected to have moderate intensity under normal  
 7 weather conditions and fires with a flame length of below four feet are expected to be low  
 8 intensity under normal weather conditions. Table 17 below identifies the average flame length  
 9 associated with the areas of proposed RFA13 changes. As shown, 50 percent of the site  
 10 boundary has a modeled average flame length that is greater than zero and up to 4 feet  
 11 followed by 26 percent that is modeled at 4 to 8 feet (76 percent of total RFA13 site boundary).  
 12 Certificate holder indicates that there are two relatively large areas with greater than 11-foot  
 13 flame length along canyons with steeper terrain in the vicinity of the NMCS and the Medicine  
 14 well pad. Those areas contain, predominately, Fuel Models 162 and 185, which have low to  
 15 moderate average flame lengths. The NMCS sits directly west of a steep, shallow canyon, which  
 16 facilitates larger flames due to wind-channeling and updrafts. As discussed below, the NMCS  
 17 would be graveled below and surrounding its structures, with the gravel acting as a functional  
 18 fire break, but could still be affected by large, fast-moving flames from the neighboring canyon.  
 19 Similarly, the Medicine well pad is at the top of a hill, which has steep slopes close to its base  
 20 that will facilitate the growth of flames and expedite their speed up the hillside.

21

**Table 17: Average Flame Length**

<b>Average Flame Length (feet)</b>	<b>Acres within Site Boundary (Percent of Area)</b>	<b>Acres within Wildfire Analysis Area (Percent of Area)</b>
0	17 (7%)	517 (9%)
>0-4	116 (50%)	2,976 (54%)
4-8	59 (26%)	1,369 (25%)
8-11	10 (4%)	195 (4%)
>11	29 (13%)	471 (9%)
<b>Totals</b>	<b>232 (100%)</b>	<b>5,528 (100%)</b>
* Note that totals may not sum correctly due to rounding.		

22

23 *III.N.1.d. Areas Subject to Heightened Risk of Wildfire and High-Fire Consequence Areas*

24

25 Under OAR 345-022-0115(1)(a)(C), Council must find that the applicant has adequately  
 26 characterized wildfire risk within the site boundary and analysis area by identifying areas  
 27 subject to a Heightened Risk of Wildfire, using the information provided in support of the  
 28 baseline and seasonal wildfire risk evaluation under OAR 345-022-0115(1)(a)(A) and (B),  
 29 including the identification of existing infrastructure. Therefore, the Council finds that the areas  
 30 within the RFA13 site boundary and analysis area that have higher wildfire risk are the areas  
 31 described above under *Baseline Wildfire Risk for Existing Infrastructure* Section, which are the

1 areas where there is existing infrastructure such as the operational facility, roads, residences,  
2 agricultural equipment, and community areas.

3  
4 The certificate holder also explains that the Wildland Urban Interface (WUI), described in the  
5 2007 Columbia County Community Wildfire Protection Plan (Columbia County CWPP), is  
6 another method for determining potential impact of wildfire on existing structures at a large  
7 scale. The WUI boundaries consider the distribution of structures and communities adjacent to  
8 or intermixed with wildland fuels. The Community at Risk within Columbia County are identified  
9 based on population density and assumed values at risk for threats to life, property and  
10 infrastructure by wildfire. The northernmost laydown yards, as well as the Highway 202  
11 laydown yard, Bark and Haul laydown yard, and a small portion of the new buried powerline  
12 along Highway 202 falls within the Columbia County WUI and in the Community at Risk  
13 delineations. Additionally, the Newton and Medicine well pads may also cross into the  
14 Columbia County WUI. Most land within the site boundary and analysis area is non-WUI listed;  
15 based on the WUI delineations, the Council finds that the impact of wildfire on Columbia  
16 County communities is moderate to low across the site boundary and analysis area.

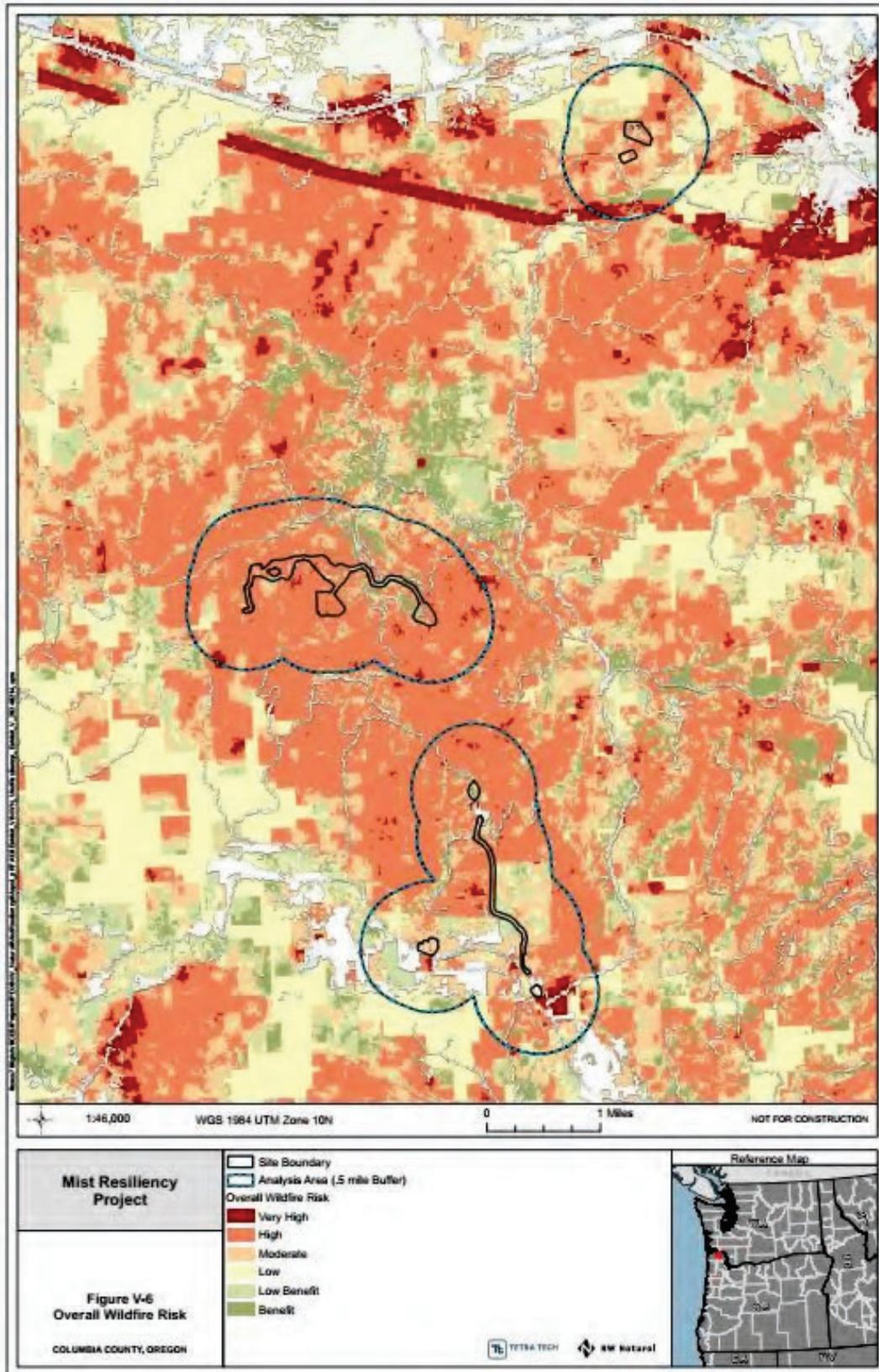
17  
18 *III.N.1.e. High-Fire Consequence Areas*

19  
20 Under OAR 345-022-0115(1)(a)(D), Council must also find that the applicant has adequately  
21 characterized wildfire risk within the analysis area by identifying High-Fire Consequence Areas,  
22 which include but are not limited to areas containing residences, critical infrastructure,  
23 recreation opportunities, timber and agricultural resources, and fire-sensitive wildlife habitat.  
24 These are the data inputs that the Oregon CWPP Planning Tool uses to model and produce the  
25 Overall Wildfire Risk data layer. This dataset considers the likelihood of wildfire greater than  
26 250 acres, the susceptibility of resources and assets to wildfire of different intensities, and the  
27 likelihood of those intensities. Risk ratings range from very high, wherein wildfire may be  
28 detrimental to one or more resources, to beneficial, where fires may improve resources, such  
29 as timber stands or wildlife habitat. Overall Wildfire Risk in the RFA13 site boundary and  
30 analysis area is illustrated below in Figure 19.

31  
32 Fifty-six percent of the land within the site boundary has an overall fire risk rating of high, this is  
33 mostly because timber is a value asset that is reflected in the modeling. Sixteen percent of the  
34 site boundary has an overall wildfire risk of moderate. The overall fire risk for twelve percent of  
35 the site boundary acreage was listed as No Data, indicating that those regions contained no  
36 highly valued resources or assets (such as critical infrastructure or developed recreation areas),  
37 or that simulated wildfires did not burn the area due to low historical occurrence or an absence  
38 of burnable fuel. The areas making up one percent of the site boundary that are listed with a  
39 very high overall fire risk rating; they are distributed throughout the northern and central  
40 sections of the site boundary. The area in the larger analysis area with a very high overall fire  
41 risk is near the town of Mist, Oregon, which lies to the southeast of the Bark and Haul laydown  
42 yard.

- 1 According to this overall wildfire risk modeling and the evaluation of baseline and seasonal
- 2 wildfire risk provided in this Section, the Council finds that the overall wildfire risk is moderate
- 3 to high within the site boundary and analysis area.

Figure 19: Overall Wildfire Risk in Analysis Area



1 *III.N.1.f. Wildfire Mitigation Plan*  
2

3 Under OAR 345-022-0115(1)(b), Council must find that the facility will be designed, constructed,  
4 and operated in compliance with a Wildfire Mitigation Plan (WMP) approved by Council. The  
5 certificate holder’s construction and operational WMPs are included in RFA13 Exhibit V,  
6 Attachment V-3 and V-4, respectively. The Construction Wildfire Mitigation Plan is attached to  
7 this order as Attachment V-1 and the Operational Wildfire Mitigation Plan is attached as  
8 Attachment V-2.  
9

10 Facility Design:  
11

12 Facility design standards and measures that would minimize wildfire risk to and from the  
13 facility, with RFA13 changes, includes, but is not limited to the following:

- 14 • RFA13 facility components, and overall facility design, will meet National Electrical Code  
15 and Institute of Electrical and Electronics Engineers standards;
- 16 • Emergency shutdown systems, notification systems, and venting systems at the Miller  
17 Station and NMCS will be in place in the event of mechanical failure that could cause fire  
18 and will be equipped with internal fire suppression systems to reduce the potential for  
19 structural fires;
- 20 • A defensible space clearance along RFA13 facility features will be free of combustible  
21 vegetation or other materials;
- 22 • Roads and parking areas will be maintained to be free of vegetation tall enough to  
23 contact the vehicle undercarriage (see also vegetation management described below);
- 24 • Existing county roads will form a fire break between fields that will discourage the  
25 spread of wildfire between fields into wildlife habitat;
- 26 • Facility access roads will be sufficiently sized for emergency vehicle access, in  
27 accordance with local building code and local fire department requirements. The fenced  
28 areas around RFA13 infrastructure will be graveled, with no vegetation present;
- 29 • Installation of fire detection systems (including smoke detectors and fire alarms) will be  
30 installed throughout the buildings to detect and control fires in their early stages;
- 31 • The site plan will identify fire breaks, access roads, and other relevant features, as well  
32 as high hazard areas, including but not limited to, residences, croplands and agricultural  
33 operations, that will be prioritized for protection during fire suppression activities;
- 34 • Operation of the facility, with RFA13 changes, will be monitored and remotely  
35 controlled by trained operators at Miller Station, which is staffed 24 hours per day. Staff  
36 at NWN Gas Control, located in Portland, Oregon, will continue to provide additional  
37 monitoring of the newly integrated facilities on a 24-hour basis.  
38

39 Oregon Department of Forestry Fire Season Requirements:  
40

41 Council’s Wildfire Prevention standard and Wildfire Mitigation Plan requirements apply to  
42 construction and operation of the proposed facility. RFA13, Exhibit V, Attachment V-3 provides  
43 a summary of the wildfire risk assessment described above as well as wildfire risk mitigation

1 measures that apply to both construction and operation of the facility, with RFA13 changes.  
2 Notably, the facility with RFA13 changes, is located within a matrix of private timberlands  
3 (commercial timber lands) and is subject to the Oregon Department of Forestry Oregon’s (ODF)  
4 rules and statutes namely Industrial Fire Precaution Level (IFPL) Requirements (WMP  
5 Attachment A<sup>109</sup>) and Fire Season Requirements (WMP Attachment B<sup>110</sup>). The facility, with  
6 proposed RFA13 changes, is located within ODF Predictive Service Area fire district: PSA NW-03.  
7 The requirements specified for industrial facilities within these areas are designated in WMPs  
8 Attachment A and B and become effective when fire season is declared in each ODF Fire  
9 Protection District by an ODF forester. During fire season, ODF identifies the IFPL throughout  
10 fire season as listed below. The Council provides a short summary of some of the restrictions  
11 associated with each IFPL (Attachment A) that may be applicable to the facility:

- 12 • IFPL I – fire season:
  - 13 ○ Fire season requirements are in effect (See WMP Attachment B – summarized
  - 14 below). In addition to other fire prevention measures, a Firewatch is required at
  - 15 this and all higher levels unless otherwise waived.
- 16 • IFPL II – limited shutdown:
  - 17 ○ The following may operate only between the hours of 8 P.M. and 1 P.M.:
  - 18 ■ Power saws except at loading sites;
  - 19 ■ Blasting;
  - 20 ■ Welding, cutting, or grinding metal.
- 21 • IFPL III – restricted shutdown:
  - 22 ○ The following are permitted to operate between the hours of 8 P.M. and 1 P.M.
  - 23 where mechanized equipment capable of constructing fire lines is immediately
  - 24 available to quickly reach and effectively attack a fire start:
    - 25 ■ Ground-based operations;
    - 26 ■ Power saws on ground-based operations;
  - 27 ○ The following are permitted to operate between the hours of 8 P.M. and 1 P.M.:
  - 28 ■ Power saws at loading sites;
  - 29 ■ Loading or hauling of any product or material;
  - 30 ■ Blasting;
  - 31 ■ Welding, cutting, or grinding metal;
  - 32 ■ Any other spark emitting operation not specifically mentioned.
- 33 • IFPL IV – complete shutdown:
  - 34 ○ All operations are prohibited.

35  
36 Once the ODF fire season becomes declared, the following Fire Season Requirements (WMP  
37 Attachment B), become applicable depending on the type of construction or operation activity:

- 38 • No smoking while working or traveling in an operation area;
- 39 • Supply hand tools for each operation site;

---

<sup>109</sup> Industrial Fire Precaution Levels (IFPLs) for Oregon Department of Forestry Protection west of the Cascades.

<sup>110</sup> FIRE SEASON REQUIREMENTS: The following fire season requirements become effective when fire season is declared in each Oregon Department of Forestry Fire Protection District, including those protected by associations (DFPA, CFPA, WRPA).

- 1 • Each internal combustion engine used in an operation, except power saws, shall be
- 2 equipped with a chemical fire extinguisher;
- 3 • Power saws must meet Spark Arrester Guide specifications;
- 4 • Equip each truck driven in forest areas for industrial purposes with:
  - 5 ○ 1 round pointed shovel at least 8 inches wide, with a handle at least 26
  - 6 inches long;
  - 7 ○ 1 axe or Pulaski with 26 inch handle or longer;
  - 8 ○ 1 fire extinguisher rated not less than 2A:10BC (5 pound).
- 9 • All non-turbo charged engines must meet Spark Arrester Guide specifications with a
- 10 list of exceptions;
- 11 • Supply a pump, hose and water supply for equipment used on an operation;
  - 12 ○ Pump must be maintained ready to operate and capable of providing a
  - 13 discharge of not less than 20 gallons per minute at 115 psi at pump level;
  - 14 ○ One water supply is adequate if the operator can deliver water to the fire
  - 15 within 10 minutes.

16  
17 Fire watch Service is also designated in the ODF Fire Season Requirements and described by the  
18 certificate holder in the WMP. Each operation area is to have a Firewatch, unless otherwise  
19 waived.<sup>111</sup> Fire watch shall be on duty during any breaks (up to 3 hours) and for three hours  
20 after all power driven machinery used by the operator has been shut down for the day.<sup>112</sup>

21 Fire watch shall:

- 22 • Be physically capable and experienced to operate firefighting equipment;
- 23 • Have facilities for transportation and communications to summon assistance;
- 24 • Observe all portions of the operation on which activity occurred during the day.
- 25 • Upon discovery of a fire, Firewatch personnel must:
  - 26 ○ First report the fire, summon any necessary firefighting assistance, describe
  - 27 intended fire suppression activities and agree on a checking system; then, after
  - 28 determining a safety zone and an escape route that will not be cut off if the fire
  - 29 increases or changes direction, immediately proceed to control and extinguish
  - 30 the fire, consistent with firefighting training and safety.

31  
32 As noted by the certificate holder, the tasks and actions identified in the IFPL Requirements  
33 WMP Attachment A and Fire Season Requirements WMP Attachment B apply to applicable  
34 activities during both construction and operation of the facility, with RFA13 changes.

35

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<sup>111</sup> OAR 629-043-0030(1) and ORS 477.665 designate the applicability, timing, and requirements for Fire Watch Service. OAR 629-043-0030(2) and (3), identify state that the Oregon State Forrester may waive fire watch requirements. Council added the language of this rule to both the construction and operational WMPs to provide clarity if in the future there may be questions of Fire Watch duties or if any of the Fire Watch requirements may be waived by the Forrester.

<sup>112</sup> Some ODF districts waive this requirement based on the IFPL in place. See Attachment B and OAR 629-043-0030.

1 As stated in the WMPs and required by ODF procedures and policies, the certificate holder will  
2 follow the restrictions associated with each IFPL and the associated best management practices  
3 throughout the season. Both the construction and operational WMP include Attachment C:  
4 Oregon Department of Forestry Forest Activity Inspection Report (ODF Inspection Report). The  
5 ODF Inspection Report is used by ODF and provides a check list of compliance with the above-  
6 listed measures discussed in this section and is discussed further below. The certificate holder  
7 indicates that if it needs to be finalized and/or amended, on an annual basis while construction  
8 is occurring as a record of inspection during construction, it will be submitted to the  
9 Department. As highlighted below and under Wildfire Prevention and Risk Mitigation  
10 Conditions 1 and 2, the Department may also use this inspection form to ensure compliance  
11 with applicable measures outlined in the WMP's and may amend the inspection report to  
12 satisfy any concerns regarding wildfire risk during construction and operation.  
13

#### 14 Facility Construction:

15  
16 The ODF fire season requirements discussed above apply and are included in the construction  
17 WMP. Construction personnel will be trained on the RACE (i.e., Remove, Alarm, Confine and  
18 Extinguish or Evacuate) procedure to implement in the event of a fire start. RACE procedure  
19 includes:

- 20 • Rescue anyone in danger (if safe to do so);
- 21 • Alarm – call the control room, who will then determine if 911 should be alerted;
- 22 • Contain the fire (if safe to do so); and
- 23 • Extinguish the incipient fire stage (if safe to do so).

24  
25 As indicated above, during construction, the Department, certificate holder, and ODF may use  
26 the WMP Attachment C: Oregon Department of Forestry Forest Activity Inspection Report to  
27 record compliance with wildfire risk mitigation measures. If the Department, certificate holder,  
28 or ODF determine different or additional measures are needed to reduce or address wildfire  
29 risk, the ODF Inspection Report may be amended and submitted to the Department. To ensure  
30 the facility is constructed in compliance with a construction WMP, the Council imposes the  
31 Wildfire Prevention and Risk Mitigation Condition 1 which would require that the construction  
32 WMP be implemented by the certificate holder and its contractors during facility construction:  
33

34 **Wildfire Prevention and Risk Mitigation Condition 1 [CON]:** During construction of a  
35 phase or component of the Mist Resiliency Project, as applicable, the certificate holder  
36 shall implement and require all onsite contractors and employees to adhere to, the  
37 Construction Wildfire Mitigation Plan as provided in Attachment V-1 to the Final Order  
38 on RFA13. Updates to the Wildfire Mitigation Plan, including Attachment C: Oregon  
39 Department of Forestry Forest Activity Inspection Report, may be required if  
40 determined necessary by the certificate holder, certificate holder's contractor(s) or the  
41 Department to address wildfire hazard to public health and safety. Any Department  
42 required updates shall be implemented within 14 days, unless otherwise agreed to by  
43 the Department based on a good faith effort to address wildfire hazard.

1 [CON-WF-01; Final Order on AMD13]

2  
3 Facility Operation:

4  
5 *Facility Component Inspections and Vegetation Management*

6  
7 OAR 345-022-0115(1)(b)(B) requires the description of procedures, standards, and time frames  
8 that a certificate holder will use to inspect proposed facility components. Certificate holder  
9 explains that fire safety inspections at a natural gas facility involve a systematic assessment of  
10 various components to identify potential fire hazards and ensure the safety of personnel,  
11 equipment, and the surrounding environment. Up to 12 staff members are on site daily at the  
12 facility and the facility is remotely monitored 24 hours a day, as well as on-site staff present at  
13 the monitoring station for the new operations building at NMCS.

14  
15 Visual inspections for facility components are as followed as described in Attachment V-2 to  
16 this order.<sup>113</sup> Visual inspections for:<sup>114</sup>

- 17 • Electrical systems and surrounding areas (components, grounding, clearances,  
18 vegetation, fencelines): conducted at least annually in accordance with NFPA and  
19 NERC safety requirements;
- 20 • Fuel supply systems occur at least monthly to detect and address gas leaks,  
21 damaged pipelines, or other issues that could lead to combustible gas escaping;
- 22 • Fuel tanks: performed semiannually to check for leaks, corrosion, or other  
23 vulnerabilities that could lead to fuel spillage and potential fires standards;
- 24 • Piping and valves: completed semiannually to detect leaks, damage, or malfunction;
- 25 • In-plant pipe and surround areas: conducted annually to check for leaks;
- 26 • Underground pipelines will be visually inspected on a seven-year assessment  
27 schedule to address any leaks or damage;
- 28 • Emergency shutdown, notification, and venting systems are in place at Miller Station  
29 and will be implemented at the NMCS, all of which will be visually inspected annually  
30 to ensure they are operational and capable of responding quickly to fire or safety  
31 incidents;
- 32 • Fire suppression systems, including fire extinguishers and fire sprinklers, occur  
33 annually or as recommended by the system manufacturer to verify functionality;
- 34 • Emergency response equipment, such as personal protective gear, first-aid kits, and  
35 communication devices, conducted annually;
- 36 • Facility grounds inspections occur weekly to maintain cleanliness, remove  
37 combustible debris, assure proper chemical storage and leak treatment as  
38 applicable, and assure proper maintenance of all heat-producing equipment to

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<sup>113</sup> MSTAMD13Doc70 RFA13 Exhibit V Wildfire 2024-08-09, Attachment V-3, Section 3.2.2; Attachment V-2 to this order.

<sup>114</sup> Inspections are governed by Pipeline and Hazardous Materials Safety Administration (PHMSA) standards and Operational Spill Prevention, Control, and Countermeasure Plan, Subpart L 29 CFR 1910.155-165, as applicable.

1 prevent accidental ignition of combustible materials, in accordance with applicable  
2 equipment guidelines and manuals.

3  
4 A defensible space clearance along RFA13 facility features will be maintained to be free of  
5 combustible vegetation or other materials. Roads and parking areas will be maintained to be  
6 free of vegetation tall enough to contact the undercarriage of the vehicle. Travel off road or  
7 parking in vegetated areas will be restricted during fire season and will adhere to IFPL  
8 restrictions and requirements, cited above. The operational WMP also includes Attachment C:  
9 Oregon Department of Forestry Forest Activity Inspection Report. As highlighted below under  
10 Wildfire Prevention and Risk Mitigation Condition 2, the Department, certificate holder or ODF  
11 may use this form to use as a check list for applicable BMPs that reduce wildfire risk at the site.  
12 The ODF Inspection Reports may be modified, as needed, to address any concerns on the site  
13 and submitted to the Department.

14  
15 A physical vegetation survey assessment of the fenced area will be completed at least annually  
16 to monitor vegetation growth. The initial vegetation survey assessments will occur typically in  
17 the spring, prior to the start of the dry season, a time when wildfire risk is usually heightened  
18 due to low fuel moisture and high temperature. The vegetation survey assessment will be  
19 conducted by operations staff and will be used to assess the frequency of upcoming vegetation  
20 maintenance and identify areas that may need additional attention. Around the NMCS  
21 components will be installed with a gravel base and managed with herbicide or mechanical  
22 application on all associated gravel pads.

23  
24 RFA13, Exhibit P, Attachment P-4 includes the certificate holder's Vegetation Control and  
25 Management Plan. The Vegetation Control and Management Plan includes measures to control  
26 noxious weeds, requirements for herbicide use and recordation, and prioritization and  
27 coordination for vegetation removal standards including tree clearance maintenance. The  
28 Council adds Attachment P-4: Vegetation Control and Management Plan to Attachment V-2, to  
29 the operational WMP because the vegetation management measures are consistent with those  
30 that also reduce and manage wildfire risk as the site and should be consolidated into one  
31 location (plan) for simplified referencing and compliance.

### 32 *Preventative Actions and Programs and Mitigation of Wildfire Risks*

33  
34  
35 OAR 345-022-0115(1)(b)(C) requires the identification of preventative actions that the applicant  
36 will carry out to minimize the risk of proposed facility components causing wildfire. Certificate  
37 holder indicates that all workers and the facility will operate under an OSHA-Compliant Fire  
38 Prevention Plan, which is designated under the Code of Federal Regulations 29 CFR 1910.39 and  
39 Subpart L 29 CFR 1910.155-165, some of these measures include:

- 40 • Procedures to control accumulations of flammable and combustible waste materials;
- 41 • Procedures for regular maintenance of safeguards installed on heat-producing
- 42 equipment to prevent the accidental ignition of combustible materials;
- 43 • The name or job title of employees responsible for maintaining equipment to
- 44 prevent or control sources of ignition or fires;

- Facility contains properly maintained portable fire extinguishers, and staff are trained to use them;
- Automatic sprinkler, fire detection, fixed extinguishing, and employee alarm systems.

### *Plan Updates*

RFA13 WMP states that the certificate holder will review its WMP in accordance with Mist Underground Storage operation and maintenance manuals. After each review, a copy of the updated WMP will be provided to the Department within the annual compliance report required under OAR 345-026-0080(2). In the annual monitoring report, a discussion of any significant changes to the wildfire mitigation program, including the reason for any such changes, will be described. The Council clarifies in the operational WMP that the certificate holder’s review will occur annually. As required under OAR 345-022-0115(1)(b), because the proposed facility site has a moderate to high wildfire risk, and to ensure the measures intended to reduce and mitigate wildfire risk at the site to during operation are conducted in compliance with the WMP, the Council imposes the following condition:

**Wildfire Prevention and Risk Mitigation Condition 2 [OPR]:** During operation, the certificate holder shall:

- Implement the Operational Wildfire Mitigation Plan, included as Attachment V-2 to the Final Order on RFA13.
- After the first operational year, annually review and update the evaluation of wildfire risk under OAR 345-022-0115(1)(b) and submit the results in the annual report for that year, including any updates to Attachment C: Oregon Department of Forestry Forest Activity Inspection Report.
- Submit an updated Operational Wildfire Mitigation Plan to the Department if substantive changes are made to the plan because of the review under sub (b) of this condition, or at any other time substantiative revisions are made to Attachment V-2 of the Final Order on RFA13.  
[OPR-WF-01; Final Order on AMD13]

### **III.N.2. Conclusions of Law**

Based on the foregoing findings of fact, and subject to compliance with site certificate conditions, Council finds that the certificate holder has adequately characterized wildfire risk at the site using current data from reputable sources, and that the facility, with proposed RFA13 changes, will be constructed and operated in compliance with a Wildfire Mitigation Plan approved by Council.

### **III.O. WASTE MINIMIZATION: OAR 345-022-0120**

*(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that, to the extent reasonably practicable:*

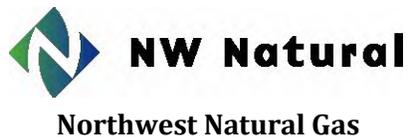
**Exhibit L – Mist Facility’s Construction Wildfire Mitigation Plan**

# **Construction Wildfire Mitigation Plan**

**Mist Resiliency Project  
August 2024**

**Amended by Department August 2024**

**Prepared for**



**Prepared by**



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## List of Attachments

Attachment A. ODF Industrial Fire Precaution Levels (IFPLs) for West of the Cascades

Attachment B. ODF’s Fire Season Requirements

Attachment C. Oregon Department of Forestry Forest Activity Inspection Report

## Acronyms and Abbreviations

CFR	Code of Federal Regulations
CWPP	Community Wildfire Protection Plan
ERRP	Emergency Response and Recovery Plan
Facility	Mist Underground Natural Gas Storage Facility
IFPL	Industrial Fire Precaution Levels
NERC	North American Electric Reliability Corporation
NMCS	North Mist Compressor Station
NWN	Northwest Natural Gas
OAR	Oregon Administrative Rule
ODF	Oregon Department of Forestry
Plan	Wildfire Mitigation Plan
RACE	Remove, Alarm, Confine and Extinguish or Evacuate
RFA	Request for Amendment

## 1.0 Introduction

Northwest Natural Gas (NWN) and its contractor(s) will follow all relevant Occupational Safety and Health Administration and National Fire Protection Association requirements related to fire hazards including a no smoking policy, fire permit requirement, hazardous material and combustible storage areas, pre-task planning to assess fire risks, relevant fire awareness training, lockout-tagout requirement, hazardous materials documentation, appropriate management, and disposal. NWN and its contractor(s) will follow Oregon Department of Forestry's (ODF) Industrial Fire Precaution Levels (IFPL; Attachment A) and general fire season requirements (Attachment B).

NWN will submit a Notification of Operations and Application for Permit NO/AP to ODF prior to any well work or major construction; note that a NO/AP is technically not required for work outside of the fence lines of the Facility, but travel to and from the Facility (outside of the Facility fence line) will still adhere to IFPL restrictions and requirements.

NWN will also provide ODOE with an ODF Forest Activity Inspection Report (Attachment C), to be finalized and/or amended as needed, on an annual basis while construction is occurring as a record of inspection during construction.

## 2.0 Design Features Applicable to Construction for Reducing Wildfire Risk

NWN will design the Facility to maintain a defensible space clearance along Facility features. Defensible space will be free of combustible vegetation or other materials. Roads and parking areas will be maintained to be free of vegetation tall enough to contact the undercarriage of the vehicle. Travel off road or parking in vegetated areas will be restricted during fire season. The existing county roads will form a fire break between fields that will discourage the spread of wildfire between fields into wildlife habitat. The fenced areas around Facility infrastructure will be graveled, with no vegetation present.

## 3.0 Fire Watch, Hot Work, and Fire Weather Monitoring

During fire season (as identified by ODF) each construction area is required to have a Firewatch unless otherwise waived (see Attachment B; ORS 477.665, OAR 629-043-0030)<sup>1</sup>. As described in

---

<sup>1</sup> OAR 629-043-0030

(1) Pursuant to ORS 477.665 (Fire watch service), during fire season inside or within one-eighth of one mile of a forest protection district, operators must comply with the following fire watch requirements. A person performing fire watch service must:

(a) Constantly observe the operation area during any breaks (up to three hours) in operation activity and for three hours after the power driven machinery used by the operator has been shut down for the day;

Attachment A, a fire watch shall be on during any breaks and for three hours after all power-driven machinery used by the operator has been shut down for the day. Based on weather and the probability of fire, ODF identifies different IPFLs which have associated rules about what work may occur, as well as when and where that work may occur (ODF 2024). For example, IFPL II allows for most activities between 8pm and 1pm, whereas IFPL IV represents a complete shutdown of operations. For construction outside of fire season, hot work permits will be in-place, issued by managers at Miller Station and NMCS.

Fire watch shall be on duty during any breaks (up to 3 hours) and for three hours after all power driven machinery used by the operator has been shut down for the day. Note: Some ODF districts waive this requirement based on the IFPL in place.

Fire watch shall:

- Be physically capable and experienced to operate firefighting equipment.
- Have facilities for transportation and communications to summon assistance.
- Observe all portions of the operation on which activity occurred during the day.

Upon discovery of a fire, Firewatch personnel must: first report the fire, summon any necessary firefighting assistance, describe intended fire suppression activities and agree on a checking system; then, after determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, immediately proceed to control and extinguish the fire, consistent with firefighting training and safety. Regular coordination with ODF will continue to occur during the fire season.

Classification of Fire Precaution Level is decided by ODF and communicated directly to NWN staff at Miller Station, posted online, and posted at all area fire stations. In addition, ODF operates a guard station at the northern end of Facility on Palm Hill Road, which is staffed during fire season.

## 4.0 Vegetation Management

NWN and contractor(s) will maintain vegetation within the Amended Site Boundary and will also maintain a defensible space clearance along Facility features, per their existing Vegetation Control

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(b)Visually observe all portions of the operation area on which operation activity occurred during the preceding period of activity; and

(c)Be qualified in the use and operation of assigned firefighting equipment and tools; be physically capable of performing assigned fire suppression activities; and be advised of single employee assignment responsibilities (OAR 437-007-1315 (Single Personnel Assignments)), when working alone.

(2)After a measurable amount of rain on the operation area, the forester may suspend the requirements of subsection (1) of this rule until such time as, in the judgment of the forester, conditions warrant reinstatement.

(3)The forester may reduce or waive any requirement of subsection (1)(a) or (b) of this rule in a written order if, in the judgment of the forester, conditions so warrant.

(4)Immediately following a period when the only operation activity has been the use of self-loading log trucks on improved roads or landings cleared of flammable material, fire watch service is not required.\*\*\*

and Management Plan (see Attachment P-4). Defensible space will be free of combustible vegetation or other materials. Roads and parking areas will be maintained to be free of vegetation tall enough to contact the undercarriage of the vehicle. Travel off road or parking in vegetated areas will be restricted during fire season and will adhere to IFPL restrictions and requirements. Per ODF fire season requirements, Attachment B, all power driven machinery will be kept free of excess flammable material which may create a risk of fire (ORS 477.625, OAR 629-043-0026); line-rub on rock or woody material will also be avoided, which may result in sparks or sufficient heat to cause ignition of a fire. Additionally, all non-turbo charged engines must meet Spark Arrester Guide specifications outlined in ODF fire season requirements, spark arresters and mufflers, Attachment B (ORS 477.645, OAR 529-043-0015).

## **5.0 Minimization of Fire Risk from Construction Activities and Best Management Practices**

Best management practices to minimize fire risk from vehicle travel and fueling activities would be implemented at the site during fire season (typically June/July through September/October) per ODF IFPL requirements and fire season requirements (see Attachments A and B). Additional measures identified in the Request for Amendment 11 Exhibit U, and RFA 13, Exhibit U, may be required by the Oregon Department of Energy.

## **6.0 Emergency Response**

Personnel will be trained on the Remove, Alarm, Confine and Extinguish or Evacuate (RACE) procedure to implement in the event of a fire start. RACE procedure includes:

- Rescue anyone in danger (if safe to do so);
- Alarm – call the control room, who will then determine if 911 should be alerted;
- Contain the fire (if safe to do so); and
- Extinguish the incipient fire stage (if safe to do so).

Personnel on site will carry fire suppression equipment during the fire season in their vehicles. Per ODF fire season requirements, Attachment B (fire tools, extinguishers for trucks; ORS 477.655, OAR 629-043-0025), each truck shall be equipped with:

- 1 round pointed shovel at least 8 inches wide, with a handle at least 26 inches long
- 1 axe or Pulaski with 26 inch handle or longer
- 1 fire extinguisher rated not less than 2A:10BC (5-pound).

Miller Station and the NMCS will also maintain emergency firefighting equipment including shovels, portable water for hand sprayers, fire extinguishers, and other equipment (see also Section 3.2.6,

Fire Protection (Subpart L 29 CFR 1910.155-165)). Per ODF fire season requirements, Attachment B (hand tools; ORS 477.655, OAR 629-043-0025), hand tools will be available at each construction site. Tools will be stored in a sturdy box clearly identified as containing firefighting tools. One box will be provided for each construction area. Crews of four or less are not required to have a fire tools box as long as each person has a shovel, suitable for fire-fighting that is available for immediate use during construction.

Additionally, each internal combustion engine used in construction, except power saws, shall be equipped with a chemical fire extinguisher rated as not less than 2A:10BC (5-pound).

Personnel will receive training on use of suppression equipment and have onsite fire extinguishers to respond to small fires. In the event of a large fire, 911 will be called and emergency responders will be dispatched. Prior to construction of the Facility, NWN will provide employee fire prevention and response training that shall include instruction on Facility fire hazards, fire safety, emergency notification procedures, use of fire safety equipment, and fire safety rules and regulations. Equivalent training shall be provided to new employees or subcontractors working on site that are hired after the start of construction. All personnel shall be equipped with communication equipment capable of reaching the control room from all locations within the Amended Site Boundary.

To minimize wildfire impacts, NWN will utilize the expertise of local fire brigades in the event of a fire. NWN has written agreements with the Clatskanie Rural Fire Protection District and the Mist-Birkenfeld Rural Fire Protection District dating back to 2015 (Request for Amendment 11, Attachment U-2). Both groups have willingness and ability to respond as staffing allows to any fire protection issues which may arise during construction of the Facility. Additionally, NWN will continue to provide notice to Mist-Birkenfeld Rural Fire Protection District whenever they are performing well work or major construction for emergency response purposes.

## 7.0 References

ODF. 2024. Industrial Fire Precaution Levels.

<https://gisapps.odf.oregon.gov/firerestrictions/IFPL.html>. Accessed July 11, 2024.

# **Attachment A. ODF Industrial Fire Precaution Levels (IFPLs) for West of the Cascades**

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## **FIRE SEASON REQUIREMENTS**

The following fire season requirements become effective when fire season is declared in each Oregon Department of Forestry Fire Protection District, including those protected by associations (DFPA, CFPA, WRPA).

### **NO SMOKING (477.510)**

No smoking while working or traveling in an operation area.



### **HAND TOOLS (ORS 477.655, OAR 629-43-0025)**

Supply hand tools for each operation site - 1 tool per person with a mix of pulaskis, axes, shovels, hazel hoes. Store all hand tools for fire in a sturdy box clearly identified as containing firefighting tools. Supply at least one box for each operation area. Crews of 4 or less are not required to have a fire tools box as long as each person has a shovel, suitable for fire-fighting and available for immediate use while working on the operation.



### **FIRE EXTINGUISHERS (ORS 477.655, OAR 629-43-0025)**

Each internal combustion engine used in an operation, except power saws, shall be equipped with a chemical fire extinguisher rated as not less than 2A:10BC (5 pound).



### **POWER SAWS ( ORS 477.640, OAR 629-043-0036)**

Power saws must meet Spark Arrester Guide specifications - a stock exhaust system and screen with  $\leq$  .023 inch holes.

The following shall be immediately available for prevention and suppression of fire:

- ◆ One gallon of water or pressurized container of fire suppressant of at least eight ounce capacity
- ◆ 1 round pointed shovel at least 8 inches wide with a handle at least 26 inches long
- ◆ The power saw must be moved at least 20' from the place of fueling before it is started.



### **FIRE TOOLS, EXTINGUISHERS FOR TRUCKS (ORS 477.655, OAR 629-043-0025)**

Equip each truck driven in forest areas for industrial purposes with:

- ◆ 1 round pointed shovel at least 8 inches wide, with a handle at least 26 inches long
- ◆ 1 axe or Pulaski with 26 inch handle or longer
- ◆ 1 fire extinguisher rated not less than 2A:10BC (5 pound).



### **SPARK ARRESTERS AND MUFFLERS (ORS 477.645, OAR 629-043-0015)**

All non-turbo charged engines must meet Spark Arrester Guide specifications except:

- ◆ Fully turbo charged engines.
- ◆ Engines in motor vehicles operating on improved roads equipped with an adequate muffler and exhaust system.
- ◆ Engines in light trucks (26,000 GVW or less) that are equipped with an adequate muffler and an exhaust system.
- ◆ Engines in heavy trucks (greater than 26,000 GVW) that are equipped with an adequate muffler and exhaust system.
- ◆ If a truck engine is not fully turbo-charged, then the exhaust must extend above the cab and discharge upward or to the rear, or to the end of the truck frame.
- ◆ Water pumping equipment used exclusively for fighting fire.
- ◆ Engines of 50 cubic inch displacement or less, except ATV's and motorcycles, shall be equipped with an adequate muffler and an exhaust system.
- ◆ Engines in ATV's and motorcycles must be equipped with an adequate muffler and exhaust system or an approved screen, which completely encloses exhaust system.
- ◆ Power saws. (See power saw requirements)



**PUMP, HOSE, AND WATER SUPPLY (ORS 477.650, 477.625, OAR 629-043-0026, 629-43-0020)**

Supply a pump, hose and water supply for equipment used on an operation.



- ◆ Pump must be maintained ready to operate and capable to provide a discharge of not less than 20 gallons per minute at 115 psi at pump level. **Note: Volume pumps will not produce the necessary pressure to effectively attack a fire start. Pressure pumps are recommended.**
- ◆ Water supply shall be a minimum of 300 gallons if a self-propelled engine.  
Water supply shall be a minimum of 500 gallons if not self-propelled (pond, stream, tank, sump, trailer, etc.)
- ◆ One water supply is adequate as long as the operator can deliver water to the fire within 10 minutes
- ◆ Provide enough hose (500 feet minimum) not less than 3/4" inside diameter to reach areas where power driven machinery has worked.

*Note: Should a fire occur, the operator must be able to position the water supply in a location where enough hose is available to reach the area worked by power driven machinery. This includes mobile equipment as well as motorized carriages and their moving lines. Moving lines are defined as main lines and haul back lines. This can be achieved in many ways, including the practice of having a water tank and hose attached to a piece of equipment, like a skidgen or skidder, that can get the water to the fire.*

- ◆ Water supply, pump, and at least 250' of hose with nozzle must be maintained as a connected, operating unit ready for immediate use.

**CABLE LOGGING OPERATIONS (ORS 477.625, 477.655, OAR 629-043-0026, 629-043-0025)**

Clear the ground of flammable debris within a 10-foot radius around any block. This cleared area shall be kept free of flammable debris while the block is in use.

Provide at each block:

- ◆ 5 gallon pump can filled with water
- ◆ 1 round pointed shovel at least 8 inches wide with a handle at least 26 inches long.

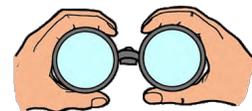
**FIRE WATCH SERVICE (477.665, 629-043-0030)**

Each operation area is to have a Firewatch.

Fire watch shall be on duty during any breaks (up to 3 hours) and for three hours after all power driven machinery used by the operator has been shut down for the day. *Note: Some ODF districts waive this requirement based on the IFPL in place. Check with the district in which you are working.*

Fire watch shall:

- ◆ Be physically capable and experienced to operate firefighting equipment.
- ◆ Have facilities for transportation and communications to summon assistance.
- ◆ Observe all portions of the operation on which activity occurred during the day.



Upon discovery of a fire, Firewatch personnel must: First report the fire, summon any necessary firefighting assistance, describe intended fire suppression activities and agree on a checking system; then, after determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, immediately proceed to control and extinguish the fire, consistent with firefighting training and safety.

**OPERATION AREA FIRE PREVENTION (477.625, 629-043-0026)**

- ◆ Keep all power driven machinery free on excess flammable material which may create a risk of fire.
- ◆ Avoid line-rub on rock or woody material, which may result in sparks or sufficient heat to cause ignition of a fire.
- ◆ Disconnect main batteries from powered components (other than what may be necessary to retain computer memory) through a shut-off switch or other means or, leave equipment on ground cleared of flammable material.

**NOTICE:**

**THESE ARE MINIMUM STANDARDS BY LAW. MANY LANDOWNERS REQUIRE ADDITIONAL REQUIREMENTS.**

# **Attachment B. ODF's Fire Season Requirements**

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## Industrial Fire Precaution Levels (IFPLs) for Oregon Department of Forestry Protection west of the Cascades

### IFPL I. Fire Season

Fire season requirements are in effect. In addition to other fire prevention measures, a Firewatch is required at this and all higher levels unless otherwise waived.

### IFPL II. Limited Shutdown

The following may operate only between the hours of 8 P.M. and 1 P.M.:

- ◆ Power saws except at loading sites;
- ◆ Feller-bunchers with rotary head saws;
- ◆ Cable yarding;
- ◆ Blasting;
- ◆ Welding, cutting, or grinding of metal.



### IFPL III. Restricted Shutdown

The following is prohibited except as indicated:

- ◆ Cable yarding - except that gravity operated logging systems employing non-motorized carriages or approved motorized carriages (defined below), may operate between 8 P.M. and 1 P.M. when all blocks and moving lines are suspended 10 feet above the ground except the line between the carriage and the chokers and during rigging.

The following are permitted to operate between the hours of 8 P.M. and 1 P.M. where mechanized equipment capable of constructing fire line is immediately available to quickly reach and effectively attack a fire start:

- ◆ Ground-based operations (defined below);
- ◆ Power saws on ground-based operations;
- ◆ Rotary head saw feller-bunchers with a continuous Firewatch;
- ◆ Non-rotary head saw feller-bunchers;
- ◆ Tethered logging systems (defined below).

The following are permitted to operate between the hours of 8 P.M. and 1 P.M.:

- ◆ Power saws at loading sites;
- ◆ Loading or hauling of any product or material;
- ◆ Blasting;
- ◆ Welding, cutting, or grinding of metal;
- ◆ Any other spark emitting operation not specifically mentioned.



### IFPL IV. Complete Shutdown

All operations are prohibited.

NOTE: Where hauling involves transit through more than one shutdown/regulated use area, the precaution level at the woods loading site shall govern the level of haul restriction, unless otherwise prohibited by other than the IFPL system. Under IFPL III, all trucks must be loaded and leaving the loading site no later than 1 P.M.

### IFPL Definitions

**Approved motorized carriage:** a cable yarding system employing a motorized carriage with two fire extinguishers, each with at least a 2A:10BC rating, mounted securely on opposite sides of the carriage, an emergency motor cutoff, and an approved exhaust system.

**Cable yarding system:** a yarding system employing cables, and winches in a fixed position.

**Fire Season:** that season of the year when a fire hazard exists as declared by the responsible agency official.

**Ground-based operations:** mobile and stationary equipment operations other than cable yarding systems, including but not limited to tractor/skidder, feller-buncher, forwarder, processor, and shovel operations.

**Loading sites:** a place where any product or material (including, but not limited to logs, firewood, slash, soil, rock, poles, etc.) is placed in or upon a truck or other vehicle. loading site shall govern the level of haul restriction, unless otherwise prohibited by other than the industrial precaution level system.

**Tethered logging system:** winch-assisted, cable-assisted, traction-assisted, etc., which enable ground-based timber harvesting machines to operate on steep slopes.

**Waivers**

Waivers, written in advance, may be used for any and all activities. Activities for which waivers may be issued include, but are not limited to:

- ◆ mechanized loading and hauling.
- ◆ road maintenance such as sprinkling, graveling, grading and paving.
- ◆ cable yarding using gravity systems or suspended lines and blocks, or other yarding systems where extra prevention measures will significantly reduce the risk of fire.
- ◆ power saws at loading sites or in felling and bucking where extra prevention measures will significantly reduce the risk of fire.
- ◆ maintenance of equipment (other than metal cutting and welding) or improvements such as structures, fences and powerlines.

**Best Management Practices for Forest Operations Checklist**

- ◆ Assure good communications are established with protection district.
- ◆ Keep all equipment clean of flammable material and debris.
- ◆ Utilize and keep in good working condition manufacturer recommended non-sparking clamping jaws on braking systems on carriages.
- ◆ Clean out spark arrester ports.
- ◆ Hydraulic and fuel lines are in good condition.
- ◆ Battery hold-downs are in good repair and positive terminal is insulated;
- ◆ Electrical wiring and circuit breakers are in good working order according to manufacturer specifications;
- ◆ Pumps and fire trucks are in good working condition;
- ◆ Line rub is eliminated;
- ◆ Where possible, and when not in use, park equipment overnight in location clear of flammable material.
- ◆ Monitor relative humidity hourly and consider shut down when relative humidity drops below 30 percent.

NOTE: The IFPL system does not apply on lands protected by ODF east of the summit of the Cascades.

# **Attachment C. Oregon Department of Forestry Forest Activity Inspection Report**

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# Oregon Department of Forestry Forest Activity Inspection Report

Date: \_\_\_\_\_  
Notification / Unit No.: \_\_\_\_\_  
Sale or Job Name: \_\_\_\_\_  
FPF Name/No.: \_\_\_\_\_

Operator: \_\_\_\_\_ Landowner: \_\_\_\_\_ Timber Owner: \_\_\_\_\_

## FIRE PREVENTION

- REQUIRED      OK THIS DATE       Slash Hazard Inspection       Not Active This Date
- Fire Tools: Number of workers in operation: \_\_\_\_\_  
Power Saws: Number in operation: \_\_\_\_\_ Number Checked \_\_\_\_\_
- Spark Arresters / Exhaust Systems  
  Shovels and Fire Extinguishers
- Trucks: Number in operation: \_\_\_\_\_ Number Checked \_\_\_\_\_
- Exhaust Systems  
  Tools and Fire Extinguishers
- Other Power Driven Machinery and Engines:
- Spark Arresters / Exhaust Systems  
  Debris Accumulation Removed  
  Fire Extinguishers
- Cable Logging Systems:
- Cable lines clear  
  Blocks cleared Number checked: \_\_\_\_\_  
  Shovels and water at blocks
- Water Supply / Pump / Hose / Nozzle
- Fire Watch Hours after operation: \_\_\_\_\_
- Alternate methods or equipment, as described below are approved for use.  
  Other: \_\_\_\_\_  
  Other: \_\_\_\_\_
- IFPL Waiver, as described below, is approved
- Order: For the items described below, you are hereby ordered to cease violation of ORS Chapter 477. Your Permit to Use Fire or Power Driven Machinery is suspended for these items until compliance is restored.

## FOREST PRACTICES

- Pre-Operation Inspection       Active or Post-Operation Inspection       Complaint Investigation       Waiver of 15 Day Waiting Period

### Prior Approval / Written Plans

- Prior Approval Granted: Applicable rule(s) \_\_\_\_\_

Written Plan Action:       Required       Approved       Approval Denied

Written plan rule(s): \_\_\_\_\_

Written plan resources: \_\_\_\_\_

### RECOMMENDATIONS

Written below are recommendations. The inspecting Forest Practices Forester recommends these actions to prevent an unsatisfactory condition which may result in a violation of the Forest Practices Act. These recommendations pertain to the following rules:

- Written Plans       Chemicals       Water Protection  
 Reforestation       Road Construction       Other \_\_\_\_\_  
 Slash       Harvesting

### WRITTEN STATEMENT OF UNSATISFACTORY CONDITION

This operation is not in compliance with the Forest Practices Act. Further enforcement action will begin if damage occurs or if you do not comply with the instructions written below by this compliance date: \_\_\_\_\_

This unsatisfactory condition(s) pertain to rule(s) or statute(s):

- Written Plans       Chemicals       Water Protection  
 Reforestation       Road Construction       Other \_\_\_\_\_  
 Slash       Harvesting

ORS/OAR(s): \_\_\_\_\_

### INFORMATION ON ITEMS CHECKED ABOVE:

Page \_\_\_\_ of \_\_\_\_

THIS REPORT INDICATES THE CONDITIONS FOUND TO EXIST AT THE TIME OF THIS INSPECTION FOR THOSE ITEMS CHECKED OR NOTED ABOVE. IT DOES NOT IMPLY THAT ALL PARTS OF THE OPERATION WERE INSPECTED NOR DOES IT INDICATE ITEMS NOT INSPECTED ARE SATISFACTORY.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_ Received By: \_\_\_\_\_ Date \_\_\_\_\_

Copies Mailed \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
State Forester's Representative      Date \_\_\_\_\_

**Attachment V-2: Operational Wildfire Mitigation Plan  
Mist Underground Natural Gas Storage Facility RFA13**

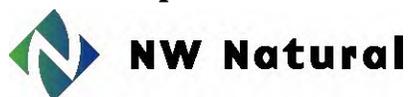
**Exhibit M – Mist Facility’s Operational Wildfire Mitigation Plan**

# **Operational Wildfire Mitigation Plan**

**Mist Resiliency Project  
August 2024**

**Amended by Department August 2024**

**Prepared for**



**NW Natural**

Northwest Natural Gas

**Prepared by**



**TETRA TECH**

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- Attachment B. ODF’s Fire Season Requirements
- Attachment C. Oregon Department of Forestry Forest Activity Inspection Report

## Acronyms and Abbreviations

CFR	Code of Federal Regulations
CWPP	Community Wildfire Protection Plan
ERRP	Emergency Response and Recovery Plan
Facility	Mist Underground Natural Gas Storage Facility
IFPL	Industrial Fire Precaution Levels
NERC	North American Electric Reliability Corporation
NMCS	North Mist Compressor Station
NWN	Northwest Natural Gas
OAR	Oregon Administrative Rule
ODF	Oregon Department of Forestry
Plan	Wildfire Mitigation Plan
RACE	Remove, Alarm, Confine and Extinguish or Evacuate
RFA	Request for Amendment

## 1.0 Introduction

NWN and its contractor(s) will follow all relevant Occupational Safety and Health Administration and National Fire Protection Association requirements related to fire hazards including: no smoking policy, fire permit requirement, hazardous material and combustible storage areas, pre task planning to assess fire risks, relevant fire awareness training, lockout-tagout requirement, hazardous materials documentation, appropriate management, and disposal. NWN and its contractor(s) will follow Oregon Department of Forestry's (ODF) Industrial Fire Precaution Levels (IFPL; Attachment A) and general fire season requirements (Attachment B).

NWN will submit an annual Notification of Operations and Application for Permit NO/AP to ODF prior to any well work or major construction; note that a NO/AP is technically not required for work outside of the fence lines of the Facility, but travel to and from the Facility (outside of the Facility fence line) will still adhere to IFPL restrictions and requirements. NWN will also provide ODOE with an ODF Inspection Form (Attachment C), to be finalized and/or amended throughout operations as needed, on an annual basis as a record of inspection during operations.

## 2.0 Wildfire Mitigation Through Facility Design

The Facility's components, and overall project design, will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards and will not pose a significant fire risk. Emergency shutdown systems, notification systems, and venting systems at the Miller Station and NMCS will be in place in the event of mechanical failure that could cause fire and will be equipped with internal fire suppression systems to reduce the potential for structural fires.

NWN will design the Facility to maintain a defensible space clearance along Facility features. Defensible space will be free of combustible vegetation or other materials. Roads and parking areas will be maintained to be free of vegetation tall enough to contact the undercarriage of the vehicle. Travel off road or parking in vegetated areas will be restricted during fire season. The existing county roads will form a fire break between fields that will discourage the spread of wildfire between fields into wildlife habitat.

Vegetation within the fence line will be managed as needed to reduce fuels for fire. Facility access roads are sufficiently sized for emergency vehicle access, in accordance with local building code and local fire department requirements. The fenced areas around Facility infrastructure will be graveled, with no vegetation present. The public will also be excluded from the well pads, Miller Station, and NMCS facilities by this fencing. Installation of fire detection systems (including smoke detectors and fire alarms; see also Section 3.2.6, Fire Protection (Subpart L 29 CFR 1910.155-165)) will be installed throughout the operations buildings to detect and control fires in their early stages. A water truck, water buffalo or tank of at least 500 gallons will also be available onsite. Any potential fires inside the Amended Site Boundary will be controlled by onsite trained staff who will be able to access the Facility around the clock. These measures will help keep external fires out or

internal fires in. NWN shall provide an updated site plan to all fire protection districts, first responders identified in RFA 13 Exhibit U, and the Department if additional structures are later added to the Facility.

### 3.0 Vegetation Management

NWN and contractor(s) will maintain vegetation within the Amended Site Boundary and will also maintain a defensible space clearance along Facility features. The vegetation will be managed in accordance with their existing Vegetation Control and Management Plan (see Attachment P-4). Defensible space will be free of combustible vegetation or other materials. Roads and parking areas will be maintained to be free of vegetation tall enough to contact the undercarriage of the vehicle. Travel off road or parking in vegetated areas will be restricted during fire season and will adhere to IFPL restrictions and requirements. Per ODF fire season requirements (Attachment B), all power - driven machinery will be kept free of excess flammable material which may create a risk of fire (ORS 477.625, OAR 629-043-0026); line-rub on rock or woody material will also be avoided, which may result in sparks or sufficient heat to cause ignition of a fire. Additionally, all non-turbo charged engines must meet Spark Arrester Guide specifications outlined in ODF fire season requirements, spark arresters and mufflers, Attachment B (ORS 477.645, OAR 529-043-0015).

A physical vegetation survey assessment of the fenced area will be completed at least annually to monitor for vegetation growth. This survey will focus on areas of heightened risk and high fire consequences as described in Section 2.0 and displayed in Figures V-1 through V-6 (see Exhibit V). The initial vegetation survey assessments will occur typically in the spring, prior to the start of the dry season, a time when wildfire risk is usually heightened due to low fuel moisture and high temperature. The vegetation survey assessment will be conducted by operations staff and will be used to assess the frequency of upcoming vegetation maintenance and identify areas that may need additional attention.

To reduce the availability of fuels for wildfire near electrical components, NWN will install a non-flammable gravel base around the NMCS components and implement ongoing vegetation management outlined in Table 1 to ensure that vegetation does not grow in these graveled areas.

**Table 1. Vegetation Management Procedures by Facility Component**

Vegetation Management	Procedure	Standard	Time Frame
NMCS	Herbicide or mechanical application on all associated gravel pads (e.g., compressor stations). Highly compacted gravel foundations are not suitable for vegetation.	IEEE 80 <sup>1</sup> NEC 70 <sup>2</sup> North American Electric Reliability Corporation (NERC) <sup>3</sup>	Yearly, depending on vegetation condition.
1. IEEE (2015) 2. NFPA (2023) 3. NERC (2023)			

Vegetation control will begin following the surveys and employ best management practices and techniques that are most appropriate for the local environment. In areas where vegetation is present and could pose a fire risk, vegetation management and removal measures shall be implemented prior to fire season. Encroaching vegetation near aboveground structures within Miller Station and NMCS, along with the newly built well pads will be treated accordingly depending on the location, soil type, etc., in accordance with Exhibit P and the Habitat Mitigation Plan (Attachment P-2), Restoration of Temporary Impacts Plan (Attachment P-3), and the Vegetation Control and Management Plan (Attachment P-4). Any herbicides used for vegetation management the site will be selected and used in a manner that fully complies with all applicable laws and regulations and will adhere to the No-Spray guidelines outlined in the Vegetation Control and Management Plan (see Exhibit P, Attachment P-4). Noxious weeds within the Site Boundary will be controlled in accordance with the Vegetation Control and Management Plan (see Exhibit P, Attachment P-4).

## 4.0 Fire Weather Monitoring

During fire season (as identified by ODF) a fire watch is required (ORS 477.665, OAR 629-043-0030) for each operation area<sup>1</sup>. As described in Attachment A, a fire watch shall be on duty during any breaks (up to 3 hours) and for three hours after all power-driven machinery used by the operator has been shut down for the day. Note: Some ODF districts waive this requirement based on the IFPL in place; the current IFPL for the Facility site is IFPL II which requires a fire watch.

Fire watch shall:

- Be physically capable and experienced to operate firefighting equipment.

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<sup>1</sup> OAR 629-043-0030

(1) Pursuant to ORS 477.665 (Fire watch service), during fire season inside or within one-eighth of one mile of a forest protection district, operators must comply with the following fire watch requirements. A person performing fire watch service must:

(a) Constantly observe the operation area during any breaks (up to three hours) in operation activity and for three hours after the power driven machinery used by the operator has been shut down for the day;

(b) Visually observe all portions of the operation area on which operation activity occurred during the preceding period of activity; and

(c) Be qualified in the use and operation of assigned firefighting equipment and tools; be physically capable of performing assigned fire suppression activities; and be advised of single employee assignment responsibilities (OAR 437-007-1315 (Single Personnel Assignments)), when working alone.

(2) After a measurable amount of rain on the operation area, the forester may suspend the requirements of subsection (1) of this rule until such time as, in the judgment of the forester, conditions warrant reinstatement.

(3) The forester may reduce or waive any requirement of subsection (1)(a) or (b) of this rule in a written order if, in the judgment of the forester, conditions so warrant.

(4) Immediately following a period when the only operation activity has been the use of self-loading log trucks on improved roads or landings cleared of flammable material, fire watch service is not required.\*\*\*

- Have facilities for transportation and communications to summon assistance.
- Observe all portions of the operation on which activity occurred during the day.

Upon discovery of a fire, fire watch personnel must: first report the fire, summon any necessary firefighting assistance, describe intended fire suppression activities and agree on a checking system; then, after determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, immediately proceed to control and extinguish the fire, consistent with firefighting training and safety. Regular coordination with ODF will occur during the fire season.

Classification of Fire Precaution Level is decided by ODF and communicated directly to NWN staff at Miller Station, posted online, and posted at all area fire stations. In addition, ODF operates a guard station at the northern end of Facility on Palm Hill Road, which is staffed during fire season.

## 5.0 Emergency Response

Personnel will be trained on the RACE (i.e., Remove, Alarm, Confine and Extinguish or Evacuate) procedure to implement in the event of a fire start. RACE procedure includes:

- Rescue anyone in danger (if safe to do so);
- Alarm – call the control room, who will then determine if 911 should be alerted;
- Contain the fire (if safe to do so); and
- Extinguish the incipient fire stage (if safe to do so).

Personnel on site will carry fire suppression equipment during the fire season in their vehicles. Per ODF fire season requirements, Attachment B (fire tools, extinguishers for trucks; ORS 477.655, OAR 629-043-0025), each truck shall be equipped with:

- 1 round pointed shovel at least 8 inches wide, with a handle at least 26 inches long
- 1 axe or Pulaski with 26 inch handle or longer
- 1 fire extinguisher rated not less than 2A:10BC (5 pound).

Miller Station and the NMCS will maintain emergency firefighting equipment including shovels, portable water for hand sprayers, fire extinguishers, and other equipment (see also Section 3.2.6, Fire Protection (Subpart L 29 CFR 1910.155-165)). Per ODF fire season requirements, Attachment B (hand tools; ORS 477.655, OAR 629-043-0025), hand tools will be available for each operation site. Tools will be stored in a sturdy box clearly identified as containing firefighting tools. One box will be provided for each operation area. Crews of four or less are not required to have a fire tools box as long as each person has a shovel, suitable for fire-fighting and available for immediate use during operations. Additionally, per ODF fire season requirements, Attachment B (fire tools, extinguishers for trucks; ORS 477.655, OAR 629-043-0025), each truck shall be equipped with:

- 1 round pointed shovel at least 8 inches wide, with a handle at least 26 inches long

- 1 axe or Pulaski with 26 inch handle or longer
- 1 fire extinguisher rated not less than 2A:10BC (5 pound).

Additionally, each internal combustion engine used in an operation, except power saws, shall be equipped with a chemical fire extinguisher rated as not less than 2A:10BC (5 pound).

Personnel will receive training on use of suppression equipment and have onsite fire extinguishers to respond to small fires. In the event of a large fire, 911 will be called and emergency responders will be dispatched. Prior to construction of the Facility, NWN will provide employee fire prevention and response training that shall include instruction on Facility fire hazards, fire safety, emergency notification procedures, use of fire safety equipment, and fire safety rules and regulations. Equivalent training shall be provided to new employees or subcontractors working on site that are hired after the start of construction. All personnel shall be equipped with communication equipment capable of reaching the control room from all locations within the Amended Site Boundary.

To minimize wildfire impacts, NWN will utilize the expertise of local fire brigades in the event of a fire. NWN has written agreements with the Clatskanie Rural Fire Protection District and the Mist-Birkenfeld Rural Fire Protection District dating back to 2015 (Amendment 11, Attachment U-2). Both groups have willingness and ability to respond as staffing allows to any fire protection issues which may arise during the operation of the Facility. NWN shall provide the Mist Birkenfeld Rural Fire Protection District with an annual tour of the Miller Station to familiarize personnel with the facility in case of an emergency; these meetings will also cover any updated firefighting responses to electrical and gas leak fires. Additionally, NWN will continue to provide notice to Mist-Birkenfeld Rural Fire Protection District whenever they are performing well work or major construction for emergency response purposes.

## **6.0 Plan Updates and Modifications - OAR 345-022-0115(1)(b)(E)**

*OAR 345-022-0115(1)(b)(E) Describe methods the applicant will use to ensure that updates of the plan incorporate best practices and emerging technologies to minimize and mitigate wildfire risk.*

NWN will annually review this WMP in accordance with NWN Mist Underground Storage operation and maintenance manuals. Evaluation of wildfire risk will be consistent with the requirements of OAR 345-022-0115(1) using current data from reputable sources. Updates to this Plan will account for changes in local fire protection agency personnel and changes in best practices for minimizing and mitigating fire risk. NWN will consult with Columbia County, the local fire department, and the Columbia County Emergency Manager.

After each review, a copy of the updated Plan will be provided to the Oregon Department of Energy within the annual compliance report required under OAR 345-026-0080(2). In the annual report's

monitoring report, a discussion of any significant changes to the wildfire mitigation program, including the reason for any such changes, will be described (OAR 345-026-0080(2)(e)). If after the review of the Plan by ODOE (as appended to the annual report), a determination is made that no changes are required, an explanation of this determination will be provided. Additionally, the annual report’s compliance report will describe the certificate holder’s compliance with all site certificate conditions that are applicable during the preceding year (OAR 345-026-0080(2)(f)).

Updates to this Plan will be submitted to the Department for approval or Council approval prior to adopting any changes. NWN shall document and report annually to the Department (pursuant to OAR 345-022-0080(2)):

- Whether wildfire risk has changed significantly at the site.
- Whether the industry groups and applicable design standards outlined in Table 2 have changed or been updated to resulting in new future technologies or best practices that could be implemented at the Facility. The Plan shall be updated based on changes in best practices or technologies deemed necessary and appropriate at the site, or as needed at the site based on changes in site conditions and modeled wildfire risk.
- Any significant changes in vegetation management.

NWN shall update Table 2 below prior to operation, subject to Department approval. Emerging technologies will likely contribute to increased knowledge of wildfire risk and wildfire mitigation. Improvements in wildfire modeling and detection will be monitored and integrated into the plan. Specifically, this document will be updated if wildfire models cited in this report are updated.

**Table 2. Resources for Future Best Practices**

Reference	Description	Method
ODF’s Fire Season Requirements (Attachment B; ODF 2023a)	Fire season requirements which come into effect by PSA, according to ODF foresters.	Facility personnel will keep up-to-date with changes to ODF’s Fire Season Requirements document for PSA NW03.
Industrial Fire Precaution Levels (IFPLs) for Oregon Department of Forestry Protection west of the Cascades (Attachment A; ODF 2023b, ODF 2023c)	Additional fire season requirements and Best Management Practices, which change according to the local severity of fire risk.	Facility personnel will keep up-to-date with changes to ODF’s IFPL requirements for PSA NW03.
North American Electric Reliability Corporation (NERC; NERC 2023)	NERC develops electrical standards for large energy facilities.	NWN will follow the NERC reliability guidelines for natural gas, as outlined in their March, 2023 report.
Pipeline and Hazardous Materials Safety Administration (PHMSA 2021)	PHMSA exists through the US Department of Transportation and is responsible for developing and enforcing regulations for the safe, reliable, and environmentally sound transportation of energy and other hazardous materials.	Remain up to date with new bulletins shared through PHMSA regarding changes to regulations or recommended safety procedures.

Reference	Description	Method
ODF's Fire Season Requirements (Attachment B; ODF 2023a)	Fire season requirements which come into effect by PSA, according to ODF foresters.	Facility personnel will keep up-to-date with changes to ODF's Fire Season Requirements document for PSA NW03.
Industrial Fire Precaution Levels (IFPLs) for Oregon Department of Forestry Protection west of the Cascades (Attachment A; ODF 2023b, ODF 2023c)	Additional fire season requirements and Best Management Practices, which change according to the local severity of fire risk.	Facility personnel will keep up-to-date with changes to ODF's IFPL requirements for PSA NW03.
Oregon Structural Specialty Code (OSSC 2022)	Building codes applicable to inhabitable spaces, including the Operations and Maintenance building, and written according to the 2021 International Fire Code.	Remodeling to the Operations and Maintenance building that requires permits will follow any updates to the Oregon Structural Specialty Code at that time.

## 7.0 References

- NERC (North American Electric Reliability Corporation). 2023. Reliability Guideline Natural Gas and Electrical Operational Coordination Considerations. [https://www.nerc.com/comm/RSTC\\_Reliability\\_Guidelines/Reliability%20Guideline%20-%20Gas%20and%20Electric%20Operational%20Coord%20Considerations.pdf](https://www.nerc.com/comm/RSTC_Reliability_Guidelines/Reliability%20Guideline%20-%20Gas%20and%20Electric%20Operational%20Coord%20Considerations.pdf). Accessed October 2023.
- ODF (Oregon Department of Forestry). 2023a. Fire Season Requirements. <https://www.oregon.gov/odf/fire/documents/fire-season-requirements-for-industrial-operations.pdf>. Accessed October 2023.
- ODF. 2023b. Industrial Fire Restrictions. <https://gisapps.odf.oregon.gov/firerestrictions/IFPL.html>. Accessed October 2023.
- ODF. 2023c. Industrial Fire Precaution Levels (IFPLs) for Oregon Department of Forestry Protection west of the Cascades. <https://www.oregon.gov/odf/fire/documents/industrial-fire-precaution-levels.pdf>. Accessed October 2023.
- OSSC (Oregon Structural Specialty Code). 2022. Commercial Structures Code Program. <https://www.oregon.gov/bcd/codes-stand/pages/commercial-structures.aspx>. Accessed November 14, 2023.
- PHMSA (Pipeline and Hazardous Materials Safety Administration). 2021. Underground Natural Gas Storage. December 20, 2021. <https://www.phmsa.dot.gov/pipeline/underground-natural-gas-storage/underground-natural-gas-storage>. Accessed November 14, 2023.

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# **Attachment A. ODF Industrial Fire Precaution Levels (IFPLs) for West of the Cascades**

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## **FIRE SEASON REQUIREMENTS**

The following fire season requirements become effective when fire season is declared in each Oregon Department of Forestry Fire Protection District, including those protected by associations (DFPA, CFPA, WRPA).

### **NO SMOKING (477.510)**

No smoking while working or traveling in an operation area.



### **HAND TOOLS (ORS 477.655, OAR 629-43-0025)**

Supply hand tools for each operation site - 1 tool per person with a mix of pulaskis, axes, shovels, hazel hoes. Store all hand tools for fire in a sturdy box clearly identified as containing firefighting tools. Supply at least one box for each operation area. Crews of 4 or less are not required to have a fire tools box as long as each person has a shovel, suitable for fire-fighting and available for immediate use while working on the operation.



### **FIRE EXTINGUISHERS (ORS 477.655, OAR 629-43-0025)**

Each internal combustion engine used in an operation, except power saws, shall be equipped with a chemical fire extinguisher rated as not less than 2A:10BC (5 pound).



### **POWER SAWS (ORS 477.640, OAR 629-043-0036)**

Power saws must meet Spark Arrester Guide specifications - a stock exhaust system and screen with  $\leq$  .023 inch holes.

The following shall be immediately available for prevention and suppression of fire:

- ◆ One gallon of water or pressurized container of fire suppressant of at least eight ounce capacity
- ◆ 1 round pointed shovel at least 8 inches wide with a handle at least 26 inches long
- ◆ The power saw must be moved at least 20' from the place of fueling before it is started.



### **FIRE TOOLS, EXTINGUISHERS FOR TRUCKS (ORS 477.655, OAR 629-043-0025)**

Equip each truck driven in forest areas for industrial purposes with:

- ◆ 1 round pointed shovel at least 8 inches wide, with a handle at least 26 inches long
- ◆ 1 axe or Pulaski with 26 inch handle or longer
- ◆ 1 fire extinguisher rated not less than 2A:10BC (5 pound).



### **SPARK ARRESTERS AND MUFFLERS (ORS 477.645, OAR 629-043-0015)**

All non-turbo charged engines must meet Spark Arrester Guide specifications except:

- ◆ Fully turbo charged engines.
- ◆ Engines in motor vehicles operating on improved roads equipped with an adequate muffler and exhaust system.
- ◆ Engines in light trucks (26,000 GVW or less) that are equipped with an adequate muffler and an exhaust system.
- ◆ Engines in heavy trucks (greater than 26,000 GVW) that are equipped with an adequate muffler and exhaust system.
- ◆ If a truck engine is not fully turbo-charged, then the exhaust must extend above the cab and discharge upward or to the rear, or to the end of the truck frame.
- ◆ Water pumping equipment used exclusively for fighting fire.
- ◆ Engines of 50 cubic inch displacement or less, except ATV's and motorcycles, shall be equipped with an adequate muffler and an exhaust system.
- ◆ Engines in ATV's and motorcycles must be equipped with an adequate muffler and exhaust system or an approved screen, which completely encloses exhaust system.
- ◆ Power saws. (See power saw requirements)



### **PUMP, HOSE, AND WATER SUPPLY (ORS 477.650, 477.625, OAR 629-043-0026, 629-43-0020)**

Supply a pump, hose and water supply for equipment used on an operation.



- ◆ Pump must be maintained ready to operate and capable to provide a discharge of not less than 20 gallons per minute at 115 psi at pump level. **Note: Volume pumps will not produce the necessary pressure to effectively attack a fire start. Pressure pumps are recommended.**
- ◆ Water supply shall be a minimum of 300 gallons if a self-propelled engine.  
Water supply shall be a minimum of 500 gallons if not self-propelled (pond, stream, tank, sump, trailer, etc.)
- ◆ One water supply is adequate as long as the operator can deliver water to the fire within 10 minutes
- ◆ Provide enough hose (500 feet minimum) not less than 3/4" inside diameter to reach areas where power driven machinery has worked.

**Note: Should a fire occur, the operator must be able to position the water supply in a location where enough hose is available to reach the area worked by power driven machinery. This includes mobile equipment as well as motorized carriages and their moving lines. Moving lines are defined as main lines and haul back lines. This can be achieved in many ways, including the practice of having a water tank and hose attached to a piece of equipment, like a skidgen or skidder, that can get the water to the fire.**

- ◆ Water supply, pump, and at least 250' of hose with nozzle must be maintained as a connected, operating unit ready for immediate use.

### **CABLE LOGGING OPERATIONS (ORS 477.625, 477.655, OAR 629-043-0026, 629-043-0025)**

Clear the ground of flammable debris within a 10-foot radius around any block. This cleared area shall be kept free of flammable debris while the block is in use.

Provide at each block:

- ◆ 5 gallon pump can filled with water
- ◆ 1 round pointed shovel at least 8 inches wide with a handle at least 26 inches long.

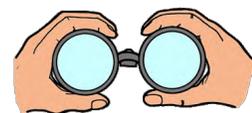
### **FIRE WATCH SERVICE (477.665, 629-043-0030)**

Each operation area is to have a Firewatch.

Fire watch shall be on duty during any breaks (up to 3 hours) and for three hours after all power driven machinery used by the operator has been shut down for the day. **Note: Some ODF districts waive this requirement based on the IFPL in place. Check with the district in which you are working.**

Fire watch shall:

- ◆ Be physically capable and experienced to operate firefighting equipment.
- ◆ Have facilities for transportation and communications to summon assistance.
- ◆ Observe all portions of the operation on which activity occurred during the day.



Upon discovery of a fire, Firewatch personnel must: First report the fire, summon any necessary firefighting assistance, describe intended fire suppression activities and agree on a checking system; then, after determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, immediately proceed to control and extinguish the fire, consistent with firefighting training and safety.

### **OPERATION AREA FIRE PREVENTION (477.625, 629-043-0026)**

- ◆ Keep all power driven machinery free on excess flammable material which may create a risk of fire.
- ◆ Avoid line-rub on rock or woody material, which may result in sparks or sufficient heat to cause ignition of a fire.
- ◆ Disconnect main batteries from powered components (other than what may be necessary to retain computer memory) through a shut-off switch or other means or, leave equipment on ground cleared of flammable material.

### **NOTICE:**

**THESE ARE MINIMUM STANDARDS BY LAW. MANY LANDOWNERS REQUIRE ADDITIONAL REQUIREMENTS.**

# **Attachment B. ODF's Fire Season Requirements**

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## Industrial Fire Precaution Levels (IFPLs) for Oregon Department of Forestry Protection west of the Cascades

### IFPL I. Fire Season

Fire season requirements are in effect. In addition to other fire prevention measures, a Firewatch is required at this and all higher levels unless otherwise waived.

### IFPL II. Limited Shutdown

The following may operate only between the hours of 8 P.M. and 1 P.M.:

- ◆ Power saws except at loading sites;
- ◆ Feller-bunchers with rotary head saws;
- ◆ Cable yarding;
- ◆ Blasting;
- ◆ Welding, cutting, or grinding of metal.



### IFPL III. Restricted Shutdown

The following is prohibited except as indicated:

- ◆ Cable yarding - except that gravity operated logging systems employing non-motorized carriages or approved motorized carriages (defined below), may operate between 8 P.M. and 1 P.M. when all blocks and moving lines are suspended 10 feet above the ground except the line between the carriage and the chokers and during rigging.

The following are permitted to operate between the hours of 8 P.M. and 1 P.M. where mechanized equipment capable of constructing fire line is immediately available to quickly reach and effectively attack a fire start:

- ◆ Ground-based operations (defined below);
- ◆ Power saws on ground-based operations;
- ◆ Rotary head saw feller-bunchers with a continuous Firewatch;
- ◆ Non-rotary head saw feller-bunchers;
- ◆ Tethered logging systems (defined below).

The following are permitted to operate between the hours of 8 P.M. and 1 P.M.:

- ◆ Power saws at loading sites;
- ◆ Loading or hauling of any product or material;
- ◆ Blasting;
- ◆ Welding, cutting, or grinding of metal;
- ◆ Any other spark emitting operation not specifically mentioned.



### IFPL IV. Complete Shutdown

All operations are prohibited.

NOTE: Where hauling involves transit through more than one shutdown/regulated use area, the precaution level at the woods loading site shall govern the level of haul restriction, unless otherwise prohibited by other than the IFPL system. Under IFPL III, all trucks must be loaded and leaving the loading site no later than 1 P.M.

### IFPL Definitions

**Approved motorized carriage:** a cable yarding system employing a motorized carriage with two fire extinguishers, each with at least a 2A:10BC rating, mounted securely on opposite sides of the carriage, an emergency motor cutoff, and an approved exhaust system.

**Cable yarding system:** a yarding system employing cables, and winches in a fixed position.

**Fire Season:** that season of the year when a fire hazard exists as declared by the responsible agency official.

**Ground-based operations:** mobile and stationary equipment operations other than cable yarding systems, including but not limited to tractor/skidder, feller-buncher, forwarder, processor, and shovel operations.

**Loading sites:** a place where any product or material (including, but not limited to logs, firewood, slash, soil, rock, poles, etc.) is placed in or upon a truck or other vehicle. loading site shall govern the level of haul restriction, unless otherwise prohibited by other than the industrial precaution level system.

**Tethered logging system:** winch-assisted, cable-assisted, traction-assisted, etc., which enable ground-based timber harvesting machines to operate on steep slopes.

**Waivers**

Waivers, written in advance, may be used for any and all activities. Activities for which waivers may be issued include, but are not limited to:

- ◆ mechanized loading and hauling.
- ◆ road maintenance such as sprinkling, graveling, grading and paving.
- ◆ cable yarding using gravity systems or suspended lines and blocks, or other yarding systems where extra prevention measures will significantly reduce the risk of fire.
- ◆ power saws at loading sites or in felling and bucking where extra prevention measures will significantly reduce the risk of fire.
- ◆ maintenance of equipment (other than metal cutting and welding) or improvements such as structures, fences and powerlines.

**Best Management Practices for Forest Operations Checklist**

- ◆ Assure good communications are established with protection district.
- ◆ Keep all equipment clean of flammable material and debris.
- ◆ Utilize and keep in good working condition manufacturer recommended non-sparking clamping jaws on braking systems on carriages.
- ◆ Clean out spark arrester ports.
- ◆ Hydraulic and fuel lines are in good condition.
- ◆ Battery hold-downs are in good repair and positive terminal is insulated;
- ◆ Electrical wiring and circuit breakers are in good working order according to manufacturer specifications;
- ◆ Pumps and fire trucks are in good working condition;
- ◆ Line rub is eliminated;
- ◆ Where possible, and when not in use, park equipment overnight in location clear of flammable material.
- ◆ Monitor relative humidity hourly and consider shut down when relative humidity drops below 30 percent.

NOTE: The IFPL system does not apply on lands protected by ODF east of the summit of the Cascades.



# Oregon Department of Forestry Forest Activity Inspection Report

Date: \_\_\_\_\_  
Notification / Unit No.: \_\_\_\_\_  
Sale or Job Name: \_\_\_\_\_  
FPF Name/No.: \_\_\_\_\_

Operator: \_\_\_\_\_ Landowner: \_\_\_\_\_ Timber Owner: \_\_\_\_\_

## FIRE PREVENTION

- REQUIRED      OK THIS DATE       Slash Hazard Inspection       Not Active This Date
- Fire Tools: Number of workers in operation: \_\_\_\_\_  
Power Saws: Number in operation: \_\_\_\_\_ Number Checked \_\_\_\_\_
- Spark Arresters / Exhaust Systems  
  Shovels and Fire Extinguishers
- Trucks: Number in operation: \_\_\_\_\_ Number Checked \_\_\_\_\_
- Exhaust Systems  
  Tools and Fire Extinguishers
- Other Power Driven Machinery and Engines:
- Spark Arresters / Exhaust Systems  
  Debris Accumulation Removed  
  Fire Extinguishers
- Cable Logging Systems:
- Cable lines clear  
  Blocks cleared Number checked: \_\_\_\_\_  
  Shovels and water at blocks
- Water Supply / Pump / Hose / Nozzle
- Fire Watch Hours after operation: \_\_\_\_\_
- Alternate methods or equipment, as described below are approved for use.
- Other: \_\_\_\_\_  
  Other: \_\_\_\_\_
- IFPL Waiver, as described below, is approved
- Order: For the items described below, you are hereby ordered to cease violation of ORS Chapter 477. Your Permit to Use Fire or Power Driven Machinery is suspended for these items until compliance is restored.

## FOREST PRACTICES

- Pre-Operation Inspection       Active or Post-Operation Inspection       Complaint Investigation       Waiver of 15 Day Waiting Period

### Prior Approval / Written Plans

- Prior Approval Granted: Applicable rule(s) \_\_\_\_\_

Written Plan Action:  Required       Approved       Approval Denied

Written plan rule(s): \_\_\_\_\_

Written plan resources: \_\_\_\_\_

### RECOMMENDATIONS

Written below are recommendations. The inspecting Forest Practices Forester recommends these actions to prevent an unsatisfactory condition which may result in a violation of the Forest Practices Act. These recommendations pertain to the following rules:

- Written Plans       Chemicals       Water Protection  
 Reforestation       Road Construction       Other \_\_\_\_\_  
 Slash       Harvesting

### WRITTEN STATEMENT OF UNSATISFACTORY CONDITION

This operation is not in compliance with the Forest Practices Act. Further enforcement action will begin if damage occurs or if you do not comply with the instructions written below by this compliance date: \_\_\_\_\_

This unsatisfactory condition(s) pertain to rule(s) or statute(s):

- Written Plans       Chemicals       Water Protection  
 Reforestation       Road Construction       Other \_\_\_\_\_  
 Slash       Harvesting

ORS/OAR(s) \_\_\_\_\_

### INFORMATION ON ITEMS CHECKED ABOVE:

Page \_\_\_\_ of \_\_\_\_

THIS REPORT INDICATES THE CONDITIONS FOUND TO EXIST AT THE TIME OF THIS INSPECTION FOR THOSE ITEMS CHECKED OR NOTED ABOVE. IT DOES NOT IMPLY THAT ALL PARTS OF THE OPERATION WERE INSPECTED NOR DOES IT INDICATE ITEMS NOT INSPECTED ARE SATISFACTORY.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_ Received By: \_\_\_\_\_ Date \_\_\_\_\_

Copies Mailed \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
State Forester's Representative Date \_\_\_\_\_

**Exhibit N – Mist-Birkenfeld RFPD 2025 Annual Inspection Letter**



# Mist-Birkenfeld Rural Fire Protection District

12525 Highway 202, Mist, OR 97016  
Office- 503-755-2710 Fax- 503-755-2556

April 17, 2025

RE: NW Natural  
Columbia County

## Board Members

President

Pamela Owen

::

Vice President

Paul Ramsey

::

Treasurer

Barbara Smith

::

Secretary

Rene Armstrong

::

Member

Larry Boxman

::

Fire Chief

Joe Kaczenski

To Whom It May Concern,

I was contacted by a NW Natural Representative requesting documentation that the facilities within Columbia County meet current requirements as outlined for site access:

This requirement comes from Section 10.3.2 (Fences and Enclosures) of API RP 1171 (Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs) which states:

*Ingress or egress of the site may be controlled by fences or enclosures. When used at well locations, fences or enclosures shall comply with applicable fire codes and regulations.*

The NW Natural sites located within the boundaries of this Fire District meet all required access conditions per the 2022 Oregon Fire Codes, Chapter 5, Section 503, and Section 506.

Please feel free to contact our office if you have questions or concerns.

Sincerely,

Joe Kaczenski  
Fire Chief  
Mist-Birkenfeld RFPD  
503-755-2710  
joek@mistbirkenfeldrfd.org

**Exhibit O – Mist Facility's Habitat Mitigation Plan**

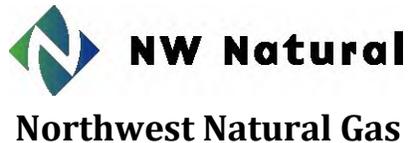
# Habitat Mitigation Plan

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## Mist Resiliency Project August 2024

Amended by the Department as part of recommendations in DPO, August 2024

Prepared for



Prepared by



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## 1.0 Introduction

This Habitat Mitigation Plan (HMP or Plan) describes how Northwest Natural Gas (NWN), the Certificate Holder, proposes to mitigate for the unavoidable impacts of the Mist Resiliency Project (Project) on habitats based on the Oregon Department of Fish and Wildlife (ODFW) Habitat Mitigation Policy. This Plan addresses mitigation for both the temporary and permanent impacts of Project construction associated with Request for Amendment 13. NWN proposes to protect and enhance a nearby mitigation area.

### 1.1 Plan Finalization

- Prior to fully securing the legal right to the habitat mitigation area, if other than HMA Site – Option 1 as presented in the draft HMP, certificate holder shall be required to complete desktop and field surveys of the HMA site and propose suitable enhancement actions for the site, and obtain concurrence from ODOE, in coordination with ODFW, on the adequacy of the enhancement actions in meeting the Category 3 mitigation goal for no net loss of habitat quality. If concurrence is not obtained from ODOE and ODFW, certificate holder shall propose another HMA site.
- Certificate holder shall be required to demonstrate that it has acquired the legal right to create, enhance, maintain and protect the HMA site concurred with by ODOE and ODFW, by means of outright purchase, conservation easement or similar conveyance.
- Certificate holder shall finalize the plan by specifying the scope and schedule of the selected enhancement actions, including monitoring protocol and success criteria that applies both short-term and for the operational life of the facility.

## 2.0 Description of the Impacts Addressed by the HMP

Project impacts will include primarily temporary impacts to wildlife habitat. Temporary impact areas are those areas that will be disturbed during construction activities but will be restored and revegetated following construction. Permanent impacts will occur at the Miller Station storage yard, Newton wellpad, Stegosaur wellpad, and Medicine wellpad. Temporary impacts will occur at the powerline replacement corridor, transmission pipeline corridors, construction storage and laydown yards, and North Mist Compressor Station improvement areas.

The Project would create impacts to habitat field-mapped as ODFW Habitat Categories 3, 4, and 6. These categories and the accompanying mitigation goals are set forth in OAR 635-415-0025, as follows:

- **Habitat Category 3:** Essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.

*Mitigation Goal:* No net loss in either existing habitat quantity or quality. Mitigation must be in-kind and in-proximity.

- **Habitat Category 4:** Important habitat for fish and wildlife species.

*Mitigation Goal:* No net loss in either existing habitat quantity or quality. Mitigation may be in-kind or out-of-kind, and in-proximity or off-proximity.

- **Habitat Category 6:** Habitat that has low potential to become essential or important habitat for fish and wildlife.

*Mitigation Goal:* Minimize impacts. Mitigation may include actions that minimize direct habitat loss and avoid impacts to off-site habitat.

NWN mapped the habitat type and category of each area potentially impacted by the Project, as required in OAR 345-021-0010(1)(p)(B) and (C). Details and methods for habitat categorization and mapping effort can be found in Exhibit P and Attachment P-1. Based on the habitat categorization mapping, NWN calculated the expected Project impacts by habitat type and category (Table 1). Preliminary habitat categories were assigned based on vegetative characteristics observed in the field (Exhibit P, Attachment P-1), while final habitat categories provided in Table 1 below were determined based on overlap with Year-Round Peripheral (Category 4) and Year-Round Major (Category 3) habitats defined in the ODFW West Side Big Game Habitat overlay.

The area of impact to each habitat type and category will depend on final Project design. The impact areas presented in this Plan are preliminary and are based on NWN’s estimate of reasonable maximum potential impacts. Impact areas are expected to decrease overall through continued avoidance measures.

**Table 1. Acres of Impact to Habitat Categories and Types**

Final Habitat Category	Preliminary Habitat Category	Habitat Type-Subtype <sup>1</sup>	Permanent Impact	Temporary Impact
3 Year-Round Major Big Game Habitat	3	Upland Forests and Woodlands- Westside Lowlands Conifer-Hardwood Forest	-	0.004
		Wetlands- Emergent Wetlands	-	0.01
		Wetlands- Scrub-Shrub Wetlands	-	0.005
	4	Agriculture, Pasture, and Mixed Environs- Irrigated Pastures and Hay Meadows	-	5.55
		Open Water- Lakes, Rivers, Streams- Ephemeral Streams	-	0.01
		Upland Forests and Woodlands- Westside Lowlands Conifer-Hardwood Forest	26.90	27.55
<b>Category 3 Final Total</b>			<b>26.90</b>	<b>33.13</b>
4 Year-Round Peripheral	4	Agriculture, Pasture, and Mixed Environs- Irrigated Pastures and Hay Meadows	-	0.24
		Open Water- Lakes, Rivers, Streams- Ephemeral Streams	-	-

Final Habitat Category	Preliminary Habitat Category	Habitat Type-Subtype <sup>1</sup>	Permanent Impact	Temporary Impact
Big Game Habitat		Riparian Forest and Shrubland Complexes- Westside Riparian	-	0.50
		Upland Forests and Woodlands- Westside Lowlands Conifer-Hardwood Forest	-	12.59
	6	Agriculture, Pasture, and Mixed Environs- Orchards, Vineyards, Wheat Fields, Other Row Crops, Irrigated Poplar Plantations	-	5.26
<b>Category 4 Final Total</b>			-	<b>18.58</b>
	6	Urban and Mixed Environs- Urban and Mixed Environs	0.83	11.98
<b>Category 6 Final Total</b>			<b>0.83</b>	<b>11.98</b>
<b>Grand Total</b>			<b>27.73</b>	<b>63.69</b>
Note: Totals in this table may not be precise due to rounding.				
1. Only impacted Habitat Types-Subtypes present within the proposed micro-siting corridor are represented.				

## 3.0 Mitigation Approach

### 3.1 Temporary Impacts

Temporary impact areas are addressed in the Restoration of Temporary Impacts Plan (Attachment P-3).

### 3.2 Permanent Impacts

For the up to approximately 28 acres permanently impacted by the Project, NWN has identified two options for addressing the mitigation obligation where habitat protection or commensurate funding are feasible and consistent with this HMP. NWN may use one or both options to mitigate for habitat impacts and will determine the mitigation option that best correlates to the impacted areas in consultation with ODFW and the affected landowners, subject to approval by the Oregon Department of Energy (ODOE). The final mitigation approach will offer enough suitable habitat to achieve the ODFW goal of no net loss of habitat quantity or quality. NWN met with ODFW and ODOE at the Project site on June 6, 2024 to view the general area, as well as the proposed habitat mitigation area. At this meeting, ODFW and ODOE provided recommendations on the range of enhancement actions that could occur at the habitat mitigation area.

### ***3.2.1 Option 1. Habitat Mitigation Area Adjacent to the North Mist Compressor Station***

Under this option, NWN has identified a parcel available for establishing a habitat mitigation area adjacent to the Project (Figure 1). The parcel is proximate to the Project, provides ample acreage, and is composed of similar habitat types suitable for in-kind mitigation.

NWN has performed a desktop analysis of the mitigation parcels (Figure 1). The desktop review confirmed the identified parcels are currently managed for timber harvest, which would provide in-kind forest habitat beneficial to big game and other forest-associated species. As the potential mitigation location is within ODFW-mapped West Side Big Game Year-Round Major Habitat, acquisition of this area constitutes acquisition of Category 3 habitat regardless of the habitat condition and thus meets the ODFW goal of no net loss of habitat quantity or quality.

This area would be taken out of timber harvest rotation, thus allowing the habitat to improve over time. NWN would reshape the existing rock quarry by adding soil to fill in the quarry, restoring contours and installing erosion control structures as needed, and replanting with an ODFW-approved seed mix. NWN will manage the mitigation area over the long-term for overall forest health and habitat in consultation with a forestry and habitat consultant. NWN would conduct an assessment of the HMA every 5 years to understand and document current status of the HMA and identify actions that may continue to increase habitat quality. These actions may include but would not be limited to: removing individual trees by hand to increase spacing between trees, placement of downed wood, creation of snags by girdling, or planting of native forage species. NWN will review proposed actions with ODFW and ODOE prior to implementation. The HMA would be incorporated into NWN's standard vegetation management program to minimize and treat noxious weeds.

Prior to operation of the Project, NWN will acquire the legal right to create, maintain, and protect the habitat mitigation area for the life of the Project<sup>1</sup> by means of an outright purchase and will provide a copy of the documentation to ODOE.

### ***3.2.2 Option 2. Habitat Mitigation Area Adjacent to Miller Station***

NWN identifies Option 2 as a parcel that is located just west of Miller Station. This parcel has been cleared and replanted within the last 5 years and falls within ODFW West Side Big Game Year-Round Major Habitat. In addition, NWN will reclaim a rock quarry on another parcel near the Project.

Similar to Option 1, this area would be taken out of timber harvest rotation, thus allowing the habitat to improve over time. NWN would manage the mitigation area over the long-term for overall forest health and habitat in consultation with a forestry and habitat consultant. NWN would work with ODFW and ODOE to identify a set of appropriate enhancement actions to meet the ODFW

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<sup>1</sup> As used in this Plan, "life of the Project" means continuously until the Project site is restored and the site certificate is terminated in accordance with Oregon Administrative Rules 345-027-0110.

Habitat Mitigation Policy goal of no net loss. NWN would conduct an assessment of the HMA every 5 years to understand and document current status of the HMA and identify actions that may continue to increase habitat quality. These actions may include but would not be limited to: removing individual trees by hand to increase spacing between trees, placement of downed wood, creation of snags by girdling, or planting of native forage species. NWN would review proposed actions with ODFW and ODOE prior to implementation. The HMA would be incorporated into NWN's standard vegetation management program to minimize and treat noxious weeds. NWN would reshape the existing rock quarry by adding soil to fill in the quarry, restoring contours and installing erosion control structures as needed, and replanting with an ODFW-approved seed mix.

Prior to operation of the Project, NWN will acquire the legal right to create, maintain, and protect the habitat mitigation area for the life of the Project<sup>2</sup>, the details of that control are currently being negotiated with the property owner(s). NWN will provide an agreement letter between the parties to ODOE for their records. NWN cannot provide contractual documentation to ODOE as the property owners have asked that the terms of any signed lease or purchase agreements remain confidential.

### ***3.2.3 Option 3. Habitat Mitigation Area Near the Project***

To address any uncertainty associated with Options 1 and 2, NWN identifies Option 3 as an as yet unidentified parcel within the vicinity of the Project. The region southwest of Clatskanie, Oregon where the Project occurs, is marked by large areas of privately owned timber lands. If NWN is unable to secure the parcel identified in Options 1 or 2, they will identify a similar parcel as close to the Project as possible. This parcel would ideally also fall within ODFW West Side Big Game Year-Round Major Habitat to be categorized as Category 3 habitat.

Similar to Option 1, this area would be taken out of timber harvest rotation, thus allowing the habitat to improve over time. NWN would manage the mitigation area over the long-term for overall forest health and habitat in consultation with a forestry and habitat consultant. NWN would work with ODFW and ODOE to identify a set of appropriate enhancement actions to meet the ODFW Habitat Mitigation Policy goal of no net loss. NWN would conduct an assessment of the HMA every 5 years to understand and document current status of the HMA and identify actions that may continue to increase habitat quality. These actions may include but would not be limited to: removing individual trees by hand to increase spacing between trees, placement of downed wood, creation of snags by girdling, or planting of native forage species. NWN would review proposed actions with ODFW and ODOE prior to implementation. The HMA would be incorporated into NWN's standard vegetation management program to minimize and treat noxious weeds.

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<sup>2</sup> As used in this Plan, "life of the Project" means continuously until the Project site is restored and the site certificate is terminated in accordance with Oregon Administrative Rules 345-027-0110.

Prior to operation of the Project, NWN will acquire the legal right to create, maintain, and protect the habitat mitigation area for the life of the Project<sup>3</sup>. NWN will provide a copy of the documentation to ODOE.

### **3.2.4 Option 4. ODFW Payment to Provide**

NWN understands that ODFW is considering a payment-to-provide program that could be used to mitigate habitat impacts related to energy facilities. However, at this time, this program is not yet available. Should such a program become available in the future, NWN could use a payment-to-provide mitigation option with the approval of ODOE and ODFW.

## **4.0 Implementation Schedule**

Within temporary impact areas affected by construction of the Project, mitigation in the form of restoration will occur no later than fall of the year of construction in order to stabilize the area for winter weather. The legal mechanism to secure the mitigation areas for permanent impacts would be secured prior to construction.

## **5.0 Monitoring and Reporting**

NWN will provide a copy of the documentation to ODOE showing purchase or other protective conveyance of the Habitat Mitigation Area. NWN will provide a memo report summarizing actions taken at the Habitat Mitigation Area the year following completed construction, and every five years after that year. This memo report will provide general site photos and a summary of any actions taken on the property. As mentioned above, NWN would conduct an assessment of the HMA every 5 years to understand and document current status of the HMA and identify actions that may continue to increase habitat quality. NWN will review proposed actions with ODFW and ODOE prior to implementation.

## **6.0 Amendment of the Plan**

This Habitat Mitigation Plan may be amended from time to time by agreement between NWN and the Energy Facility Siting Council (EFSC). Such amendments may be made without amendment of the Site Certificate. EFSC authorizes ODOE to agree to amendments to this Plan and to mitigation actions that may be required under this Plan. ODOE-approved amendments to this Plan will be in consultation with ODFW. ODOE shall notify EFSC of all amendments and

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<sup>3</sup> As used in this Plan, “life of the Project” means continuously until the Project site is restored and the site certificate is terminated in accordance with Oregon Administrative Rules 345-027-0110.

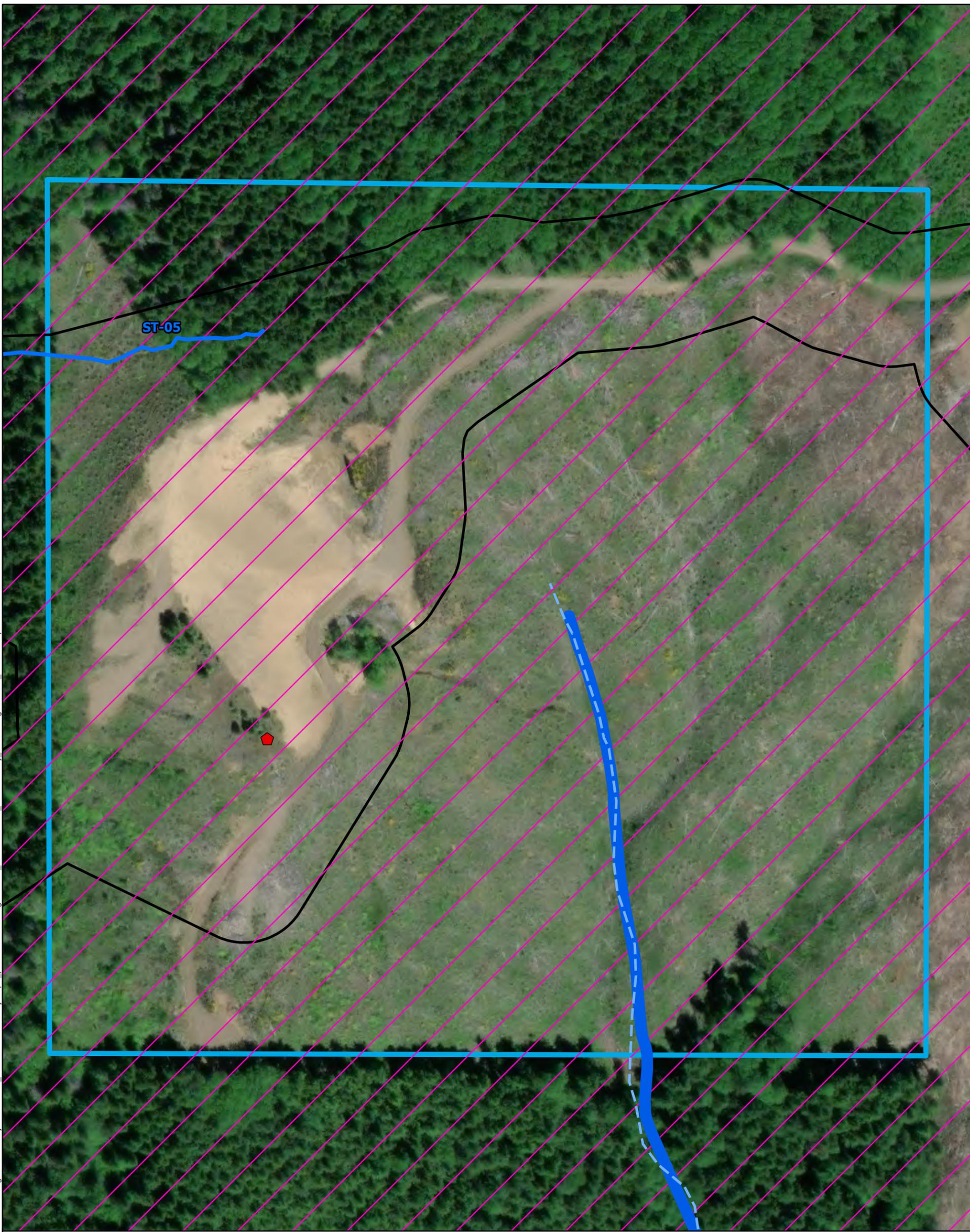
mitigation actions, and EFSC retains the authority to approve, reject, or modify any amendment of this Plan or mitigation action agreed to by ODOE.

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# Figure

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ST-05

1:1,700 WGS 1984 UTM Zone 10N 0 NOT FOR CONSTRUCTION

Mist Resiliency Project
Figure 1 Potential Habitat Mitigation Areas
COLUMBIA COUNTY, OREGON

- Site Boundary
Potential Habitat Mitigation Areas
Olive-sided Flycatcher
Field Delineated Stream
Wetlands and Waters
Riverine (NWI) Stream
Intermittent Stream (NHD)

ODFW West Side Big Game Overlay
Year-round Major Habitat

