



Bull Run TREATMENT PROJECTS

Memorandum

Subject: Response to Testimony of Agricultural Soils Impact

Project #s: **PWB:** W02563 **BC:** 152606 **Designer:** D3460500

Date: July 27, 2023

To: Dan Hogan, Project Manager / Portland Water Bureau

From: Brad Phelps, P.E. Project Manager / Jacobs

Prepared by: Denny Mengel, Ph.D. Certified
Professional Soil Scientist / Jacobs

Reviewed by: Spencer Adams, P.E., Jacobs

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This memorandum responds to a selection of Multnomah County land use review public comments received as of the date of this response that address impact to agricultural soils. Jacobs previously provided a report, “Agricultural Soil Restoration Plan” prepared by Dr. Denny Mengel, Certified Professional Soil Scientist, dated September 21, 2022, which was included in the land use record as staff’s Exhibit A.35 (referred to herein as the “Agricultural Soil Restoration Plan”). This memorandum builds on the Agricultural Soil Restoration Plan and uses defined terms and other concepts from that report.

The responses below are intended to broadly address the themes and concepts in this selection of public comments. For that reason, these responses are likely to also be applicable to other public comments now in the record or that are placed in the record after the date of this response.

Exhibit D.5: Ekstrom comments dated March 14, 2023; Exhibit H.5 Ekstrom comments dated June 28, 2023; Ekstrom oral testimony

Exhibit D.5 / H.5 / Oral Comment 1: “The Portland Water Bureau communicated to us that they will replace the layers of soil exactly how they are now, so the land will not be harmed. Anyone with the slightest bit of soil or geological knowledge, knows that is not possible, especially a farmer. I have farmed in this area for over 40 years and farmed over the existing Portland Water Bureau pipelines on several different properties where the old pipes were laid in the 1930s. The soil and plant growth [over existing Portland Water Bureau pipelines] has never been the same as natural undisturbed soil. I’m not sure whether it is the changes of the interface between the layers of soil or the compaction from equipment or a combination of both issues. The production of the soil in terms of plant growth is not the same.”

Response to Comment 1:

Restoration of soil to a nearly as possible pre-construction condition will be applied to the land area required for temporary easement access and to the land area within the permanent easement that the farmer can use for crop production. The native topsoil will be kept separate from other sub-soil and returned over the pipeline construction zone where nursery plants can again be grown. The Water Bureau will restore agricultural land damaged or disturbed following the best science and soil restoration practices. These best practices are described in the Agricultural Soil Restoration Plan and have been incorporated into the specifications the contractors must follow to restore soil resources.

In addition, a large body of research to restore soil conditions in farmland and other situations after construction has been developed since the 1930s, 90 years ago. Current knowledge has been significantly improved over the more minimal soil restoration practices that were used in the 1930s.

Studies of effects on soils and plant production indicate reduced impacts from modern “two lift” excavations that separate and store topsoil to be placed back on top of the pipeline fill. In the 1930s, this “two lift” practice was not required and was not used due to the increased cost of additional handling. Recent examples of “one lift” pipeline excavation and backfill are apparent on local farms where farmers have installed culverts or buried pipelines without properly replacing topsoil. The

specifications for soil restoration over the Water Bureau pipeline in the Agricultural Soil Restoration Plan are state-of-the-art in the modern pipeline industry.

Exhibit D.5 / H.5 / Oral Comment 2: “In addition, there is the issue of uncovering old weed seeds that have been buried for years. Bringing them up to the surface allows them to come back to life (Horsetail Rush in particular).”

“Horsetail rush is next to impossible to kill and is considered a very noxious weed. This will create a big problem for shipping plants in Oregon and around the nation.”

Response to Comment 2:

A variety of measures will be undertaken pursuant to the Agricultural Soil Restoration Plan to avoid impacts to farmland from weed infestations. Construction equipment will be thoroughly cleaned prior to entering construction areas and all mulch used will be certified weed free. All construction areas will be monitored for noxious weed infestations in areas not previously identified in pre-construction surveys as having noxious weeds. Post construction weed assessments will occur for two years after construction and initial restoration is complete. Any indications of new weed species introduced due to construction will be mechanically or chemically treated by Water Bureau contractors in consultation with the landowner as part of the 2-year remediation monitoring and correction period. These requirements are captured in the construction specifications for contractors.

For clarification, Horsetail rush propagates from rhizomes and spores and does not produce seed. If horsetail is not present prior to construction, it is unlikely that it will become established after construction due to backfilling operations.

Exhibit H.5, Oral Testimony Comment 3: “A test pit was dug this spring in the valving station area. The pit was 12' -15' deep and 6' wide. After the soil was replaced exactly as it was (LOL) much of the soil from the bottom of the pit is still on the surface. If they cannot replace the soil correctly in a small area, how do they expect to do it on a ditch that is 2300' long and 50' wide and 10-25' deep. This will destroy the productivity of the soil for many years to come. There is a tremendous difference in topsoil and the base clay layers of soil regarding the ability to grow trees.”

Response to Comment 3: This comment is surprising to the contractor, as their records show that Steve Ekstrom and Jim Ekstrom were at the site several times during the task and were both at the site the last day of field work. The contractor phoned the farm office to request someone come to the site to look at the conditions before the contractor demobilized from the site. The contractor's records show that Jim Ekstrom came to the site and observed the final conditions and said he did not have concerns before the contractor left the site. The test pit is in the area of the future intertie, which will not be farmed. However, the Water Bureau will reach out to the Ekstroms in the interim and replace the topsoil above the test pit in order to repair any damage the Ekstroms believe was caused.

Exhibit E.1: Jennifer Hart comments dated June 26, 2023

Comment 3: “Putting pipes through fields and with the 100-foot construction easement will ultimately ruin the soil. The soil will never yield nursery stock as it did before construction. This has happened in several fields in the area.”

Response to Comment 3:

See response to comment 1. Adherence to the contractor specifications as developed from the Agricultural Soil Restoration Plan will restore soil conditions as nearly as possible to pre-construction conditions. The reference to impacts to several fields in the area are not for pipelines installed according to the tight specifications included in the Water Bureau pipeline design and Agricultural Soil Restoration Plan. Much of the 100 ft wide construction easement will be used for storage of topsoil and subsoil, materials, and machine access – activities which will not require any digging, removal of topsoil, nor create any risk of soil mixing. These areas of temporary construction impacts will be exposed to compaction and will be ripped and plowed to restore soil tilth and infiltration capacity as part of the site remediation. The pipeline trenching itself will occur predominantly in an area that is currently, and will continue to be, a farm road. This further reduces the potential for significant impacts on yield, as the road area is not farmed.

Monitoring and additional remediation for two years will allow remediating any locations that show significant impact including tillage as agreed by the farmer and addition of fertilizer, mulch, or organic matter if needed. The area of the pipe trench and backfill will have topsoil preserved and replaced and will also have a 2-year period of additional remediation as needed to minimize the impacts of construction.

Exhibit E.17 Lauren Courter comments dated June 29, 2023

Comment 4: “...approximately 4 miles of proposed pipeline routes for both the raw and treated water spans through high value soils of existing farmland. Furthermore, it will negatively impact and permanently destroy future farmland production in these areas. Local farmers and soil scientists with the Oregon Department of Agriculture agree that the valuable topsoil will not recover from the dredging of trenches, construction, and heavy equipment needed to establish the connectivity of redundant 7-9 foot diameter pipes. As a result, the raw and treated water pipeline alone will destroy approximately 10-15 acres of valuable soil across two counties. Maps provided in Figure 5 and Figure 6 illustrate the spatial extent of high value farmland within the agricultural community which the City wishes to build the facility and its pipeline network.”

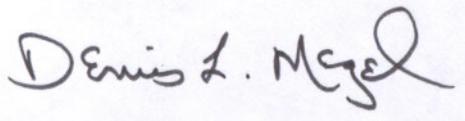
Response to Comment 4:

To clarify, only 0.7 miles of pipeline route through existing farmland, predominantly following existing farm roads and areas that are not in active use for plant growth. The Water Bureau intentionally prioritized routes that use current public right of way in order to avoid farmland and soils impacts.

See response to Comment 1. The Agricultural Soil Restoration Plan is based on the best available science and standard construction practices to restore disturbed agricultural lands. Restoration activities will result in topsoil substantially recovered to pre-construction conditions. Monitoring for

two years will evaluate site conditions and crop performance and a corrective action plan prepared every six months to restore deficiencies identified during monitoring.

Additionally, a recent study of pipeline projects has identified that construction with two lifts that preserves and properly replaces topsoil can result in no significant impact to agricultural lands. Unfortunately, most older pipeline installations – including the original Water Bureau pipelines – did not include this more expensive method of construction and did result in significant impacts to agricultural and native lands. The Water Bureau standard in the Agricultural Soil Restoration Plan for the installation of new pipelines follows the current state-of-the-art specifications for minimal impact construction. The Water Bureau has also included an additional 2 years of monitoring and working with farmers which exceeds the standard of the industry for pipeline construction. Farmers and an agricultural specialist will determine if significant impacts do occur and how they can be best remediated. The Water Bureau has committed to implementing multiple remediations as needed.

A handwritten signature in black ink that reads "Dennis L. Mezel". The signature is written in a cursive style with a large, looped 'M' at the end.

Certified Professional Soil Scientist

Certification Number 03391