



Bull Run Filtration Pipelines W02563

BRCP Noise Control Plan

08/26/2024



FILTRATION PIPELINE PROJECT

BRCP Noise Control Plan

Client: Portland Water Bureau	Date Issued: 08/26/2024
Address: 1120 SW 5 th Ave, Portland, OR 97204	Project Number: W02563
Project Name: Bull Run Filtration Pipelines	Revision No: 2
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References:

Specification 01 35 43, Environmental Protection

Specification 01 50 00, Temporary Facilities and Controls

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Introduction

Chapter 15 of Multnomah County's Code regulates noise within the unincorporated areas of the County. Section 15.270 specifically exempts noise generated by construction activity.

Notwithstanding this provision, this plan has been developed in accordance with the following two Conditions of Approval from Multnomah County Land Use Case No. T3-2022-16220, page 85:

- "Applicant shall implement a Noise Pollution Control Plan (NPCP) during construction consistent with the description at Exhibit I.80, page 8. The NPCP shall require use of a sound level meter to check for sound level verification."
- "Applicant will require the contractor to use noise mitigation strategies in order to ensure that the nighttime noise level during construction meets the County's noise ordinance nighttime standard (notwithstanding any exemption for construction). Noise control will be periodically verified with a sound level meter to confirm nighttime noise ordinance standards are met."

BRCP has also developed the below submittal in accordance with its contract with the Portland Water Bureau, including Construction Specification 01 35 43 (Environmental Protection) and Construction Specification 01 50 00 (Temporary Facilities and Controls). Specification 01 50 00 3.03 B calls for acoustic barriers and for a Noise Control plan as the basis for noise control.

The purpose of this Noise Control Plan (NCP) is to identify private properties that may be affected by prolonged periods of excessive construction noise and identify the methods and equipment to be used to mitigate construction noise for those properties. BRCP will use noise mitigation strategies to ensure nighttime noise levels during construction abide by County's noise ordinance nighttime standards (notwithstanding the ordinance's exemption for construction). Noise control will be periodically verified with a sound level meter, in particular to confirm nighttime noise ordinance standards are met.

Project Overview

The Filtration Pipelines Project is part of PWB's Filtration Program. This Filtration Program includes construction of a new filtration treatment plant (by others under a separate contract) and construction of the Filtration Pipelines Project ("the Project") by Bull Run Conveyance Partners ("BRCP").

The Project consists of new pipeline installation to and from the new PWB Bull Run Filtration Facility. Work includes supply and connection of three existing conduits (C2, C3 and C4) via approximately ½ mile of two 72" Raw Water Pipelines to the new Filtration Facility including open cut trenching and tunnel and shaft installation. Connection from the Filtration Facility with two 66" Finish Water Pipelines, AWFP and LWFP, with a crossover connection shortly after the

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Clearwell, reducing to one 66" AFWP line which conveys filtered water to a new Finished Water Intertie (FWI) facility. The FWI facility includes valving and flow controls where the AFWP piping, and eventual LFWP piping, branch off into three separate 42" (C2), 66" (C3), and 60" (C4) finished water pipelines making their eventual connections to three existing raw water pipelines (Conduits C2, C3, C4) to supply filtered water to the City of Portland.

Also included in the project is Pleasant Home Water District (PHWD) small diameter pipeline relocation, and construction of a new Cottrell Road Transmission Main connecting to the existing Lusted Hill Corrosion Control Facility. It also includes connections for existing services, fiber optic conduits and vaults, cathodic protection systems testing and commissioning, stormwater and existing utility re-routes, temporary roadways and detours, traffic control, site preparation and restoration, roadway reconstruction, and final landscaping and hydroseeding for the new pipeline alignments.

Project Contacts

- Damian Skerbeck, Construction Manager, damians@jwfowler.com
- Jim Jackson, Grading/Traffic/Erosion Control Construction Manager, jimj@jwfowler.com
- Jim Brunkhorst, Tunneling Manager, diggndeep@gmail.com
- Jeff Ripper, Assistant Project Manager, jeff.ripper@mwhconstructors.com
- Jeremy Lorence, Construction Manager, jeremyl@mwhconstructors.com

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Temporary Acoustic Barrier

The largest and most visible aspect of the noise control plan is the temporary acoustic barrier at the Raw Water Tunnel Portal. Work in this location will take place over several months and is one of only two pieces of the construction that is entirely static. Due to these factors, the design team designed and specified a temporary acoustic barrier (sound wall) to be built between the tunnel portal site and the closest neighbors.

The sound wall is constructed by driving steel beams into the ground at regular spacing, followed by installing a sound dampening fabric between the beams to create a solid barrier around the jobsite. Driving the steel beams will require the use of a construction pile driver. The pile driver will only work during the hours of 7 am to 6 pm, taking guidance from Multnomah County Code. BRCP and subcontractors will notify neighbors within 500 feet of the work 24 hours in advance. Appendix B, attached, is the detailed noise plan developed by McDonald Excavating and Pacific Foundations addressing noise issues to be addressed during installation of the Acoustic Noise Barrier.

Measures to predict, monitor, and mitigate construction noise:

Work hours will be typically between 7 am to 6 pm Monday-Friday for construction activity on site. Deliveries and work to prepare or secure the site for the day may occur outside of these hours but will remain consistent with land use conditions and Multnomah County Code.

A comprehensive list of expected equipment and machines with their corresponding average noise level (dBA) at 50 feet is provided in Appendix A. This will allow information to predict noise level at specific phases of construction.

To minimize excess noise caused by construction operations, BRCP will implement the following measures to reduce disturbance as much as feasible.

- Use equipment with sound control devices no less effective than those provided on the original equipment. Equipment with un-muffled exhaust is prohibited.
- Use equipment that complies with pertinent standards of the U.S. Environmental Protection Agency (EPA).
- Locate stationary equipment as far from private properties as feasible.
- Shut off idling equipment when not in use.
- Limit avoidable practices when using dump trucks that generate excess noise, such as compression breaks or pumping brakes to intentionally slam tailgate attempting to loosen stuck materials.
- Notify PWB when extremely noisy work is occurring.

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- Notify nearby residents of noisy work 24 hours prior to the work occurring in coordination with PWB outreach personnel. Notifications may either be delivered in writing or in person.
- Ensure tools and equipment utilized are proportionate to the activity being conducted to limit excessive noise resulting from construction.
- Use generators, light plants, and compressors that meet or exceed the goals of local noise ordinances (regardless of the construction exemption) and place generators to minimize residential disturbance.
- Generators may be placed within temporary enclosures to reduce noise emission.
- No equipment will be operated outside of the hours 7 am to 6 pm Monday through Friday without using mitigation strategies to ensure that the nighttime noise level during construction meets the County's noise ordinance nighttime standard referenced in the Condition of Approval (regardless of the construction exemption).
- To monitor noise level (dBA) during the construction phases of the project, BRCP will use handheld decibel meters. The periodic noise level (dBA) readings will be recorded at the property lines by BRCP to track levels of noise. BRCP will document noise monitoring locations and results and provide results in the form of a report to the owner. If nighttime noise standards are not met, or as otherwise requested by the owner, noise mitigation strategies will be used.

In addition to following good management practices like those described in this document, Pipeline construction moves as work progresses. As a result, any noise generated is more temporary than that of the Filtration Facility, which is confined to one stationary location.

Noise Complaints

If a noise complaint is received, BRCP will work with PWB to communicate and mitigate concerns. Complaints about noise will be divided into two categories: (1) complaints about daytime noise or noise that does not exceed the nighttime noise standard in the Condition of Approval; and (2) complaints about noise that exceeds the nighttime noise standard in the Condition of Approval. BRCP will make an effort to address all complaints when feasible.

Complaints about daytime noise or noise that does not exceed the nighttime noise standard in the Condition of Approval (category 1) will be addressed by reducing excess and non-essential noise. This may include placing additional noise reduction barriers made of plywood or soil, relocating portable noise creating equipment, or reducing the amount of idle equipment and non-pertinent simultaneous activities.

Complaints about noise that exceeds the nighttime noise standard in the Condition of Approval

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will require immediate action by BRCP and subcontractors, potentially including halting the work to assess the root cause of the complaint and determining how to resolve the issue. Possible solutions for noise outside the Condition of Approval standard include replacing or modifying equipment to be quieter, installation of additional noise barriers or berms made of plywood or soil, and rescheduling or resequencing the work.

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Appendix A: Table of Equipment Noise Levels

Equipment Description	Measured Noise @ 50 feet (dBA)
Auger-Bore Drill Rig	84
Backhoe	78
Boring Jack Power Unit	83
Compressor (air)	78
Concrete Mixer Truck	79
Concrete Pump Truck	81
Concrete Saw	90
Crane	81
Bulldozer	82
Drill Rig Truck	79
Drum Mixer	80
Dump Truck	76
Excavator	81
Flat Bed Truck	74
Front End Loader	79
Generator	81
Telehandler Forklift	83
Horizontal Boring Hydraulic Jack	82
Pile Driver	80
Paving Machine	77
Pickup Truck	75
Pneumatic Tools	84
Pumps	81
Rock Drill	81
Slurry Plant	78

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Slurry Trenching Machine	80
Vacuum Excavator (Vac-Truck)	85
Vacuum Street Sweeper	82
Vibrating Hopper	87
Warning Horn	83
Welder/Torch	74

Table 1: Equipment Noise Levels. Equipment highlighted in yellow is exempt from City of Portland 85dba requirement.

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