

Technical Memorandum

Author: Aaron Eder, PE (Stantec)
Reviewed by: Dick Talley, PE, PMP (Stantec)
Prepared for: AJ Thorne, PE (City of Sandy)
Subject: Impacts Analysis
Stantec Project No.: 2002006371



1.0 Introduction

The City of Sandy (City) is executing a large Program to upgrade its water supply, transmission, distribution and treatment facilities. The Sandy Drinking Water Reinvestment Program (SDWRP) will stabilize the City's drinking water supply through a new connection to the Portland Water Bureau (PWB) Bull Run Supply at the proposed Bull Run Filtration Facility (BRFF), construct a new Bull Run Supply Pump Station (BRSPS) and transmission pipeline to convey filtered water from the BRFF to the Hudson Transmission Main. Drinking water from the BRFF will be conveyed to the City's Revenue Avenue Reservoir by the new BRSPS through new and existing segments of transmission pipeline.

Currently the City's drinking water is supplemented by an intertie with the PWB Bull Run supply transmission mains. Water is pumped from the PWB Bull Run transmission mains to the City via the City owned Hudson Road Pump Station located on SE Hudson Rd through a transmission main, primarily aligned on SE Hudson Road and Bluff Road, which discharges into the Revenue Avenue Reservoir. Once completed, the new BRSPS and its associated transmission main will replace the Hudson Road Pump Station as the delivery method for PWB drinking water to the City, allowing the City to use PWB's new filtered Bull Run Supply. The City will own, operate, and be responsible for designing and constructing the new BRSPS which will be located in an easement at the BRFF site.

2.0 Facilities and Operations

The BRSPS will include the following facilities:

- Single Story Building
- Enclosed pumping plant to include pumps, motors, control valves and piping
- Enclosed electrical power supply and control components
- Enclosed standby emergency generator
- Enclosed surge protection equipment
- External but buried flow meter vault and backflow prevention vault
- External but buried supply piping and isolation valves
- Access vehicular entry

- Perimeter security fencing
- Landscaping and Planting Areas

Operation of the Filtration Facility will include the following major activities:

- Intermittent vehicle parking
- Intermittent equipment maintenance and repair

See Figure 1 for map of approximate location of BRSPS facility within the BRFF facility.

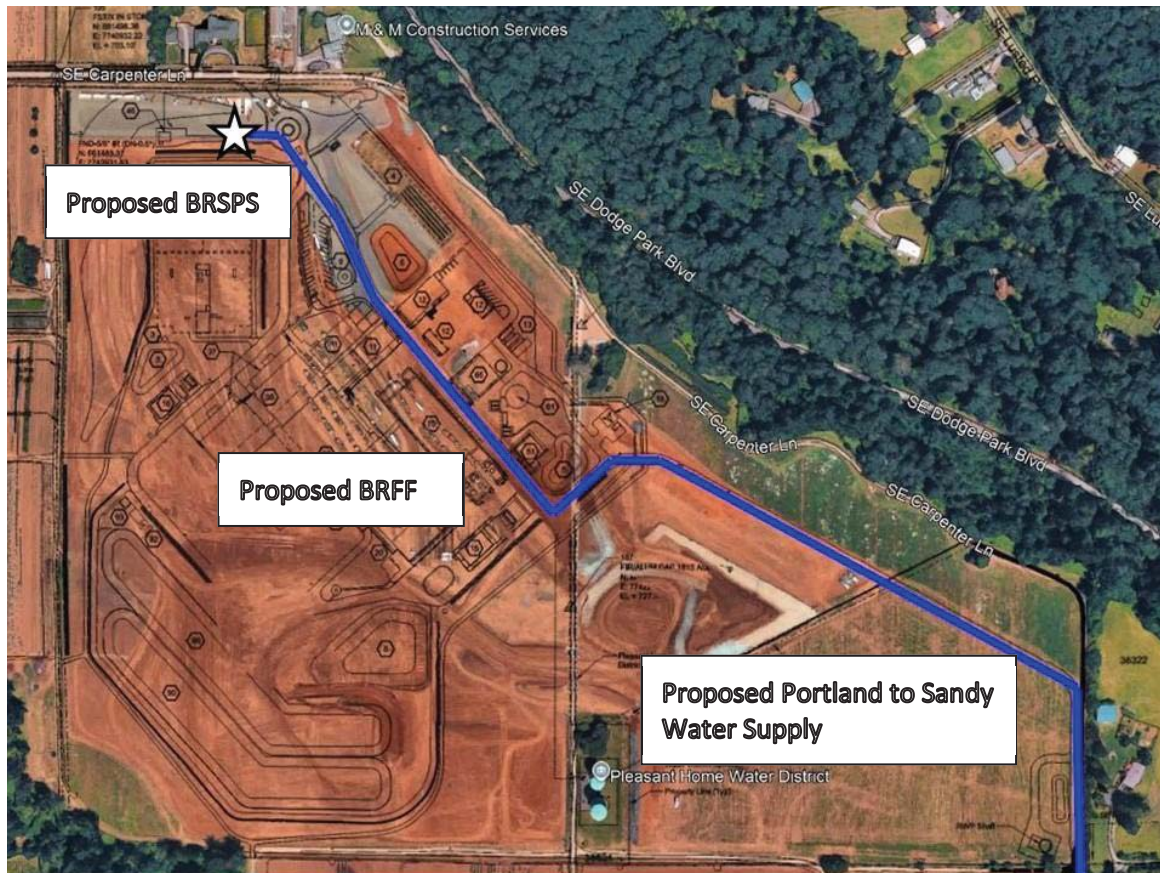


Figure 1: Approximate Location of Proposed BRSPS within the Footprint of the BRFF and Water Supply to City

3.0 Potential Dust Impacts

During operation of the BRSPS, there will not be any activities that will generate significant amounts of dust. All travelled roadways to and from the site and parking lot for BRSPS will be paved, so vehicle traffic is not anticipated to generate dust. Trips to the BRSPS will be singular weekly vehicle trips to the facility to provide routine operation and maintenance activities.

Areas not actively used for BRSPS operations will be landscaped and maintained to minimize dust generation.

4.0 Potential Air Quality Impacts

Activities at BRSPS that have potential to impact air quality include vehicle operation and operation of the standby diesel generator.

- The BRSPS is not a regularly inhabited structure, and there are no chemical deliveries, trash pick-up, mail delivery, etc. As such, operation of internal combustion engine vehicles for infrequent visits to the BRSPS by City staff and visitors will have negligible air quality impacts.
- The diesel engines will be used to power the standby generator will meet current air quality regulations and will be operated primarily for periodic, short-term test cycles.

5.0 Potential Noise and Vibration Impacts

Equipment used for operation and maintenance of the BRSPS that will generate noise and vibration include:

- Pumps
- Diesel engines
- HVAC Systems

To prolong service life and reduce maintenance, equipment will be mounted with appropriate mass and base isolation to limit vibration. These efforts will also limit the areas where equipment vibration can be perceived to those areas immediately adjacent (within the same room or closer than 10 feet away outdoors) to the equipment within the property boundary.

Noise levels inside and outside structures will be limited to those allowable by health and safety rules and by code. As described in the Bull Run Filtration Facility Exterior Noise Analysis Technical Memorandum dated August 6, 2025, noise levels at the property line will not exceed the code-allowable levels of 60 dBA during the daytime and 50 dBA at night.

6.0 Potential Odor Impacts

There will be no chemical or solids storage, nor will any of the equipment used for operation and maintenance of the BRSPS generate any odors. The BRSPS will be pumping clean drinking water only.

7.0 Potential Stormwater Discharge Impacts

Stormwater management for the proposed BRSPS has been integrated into the design for the BRFF with the requirement to maintain the “zero liquid discharge” (ZLD) – the only discharge to Johnson Creek will be stormwater from the site, which will not exceed pre-development flows of stormwater from the site.

The overall stormwater management plan consists of facilities designed to collect, detain, and treat stormwater at the proposed project site, in accordance with applicable codes and regulations. A Pump Station Revisions – Stormwater Analysis Technical Memorandum has been prepared documenting details of the design storm and the proposed stormwater collection, conveyance and storage facilities. This update accounts for the removal of both the proposed Pleasant Home Pump Station and the Fire Pump Station and associated hardscape and roof lines and their corresponding contribution of stormwater accumulation. The revised analysis then included the hardscape and roof lines of the proposed BRSPS and its corresponding contribution of stormwater accumulation. The end result of the analysis is that the addition of the BRSPS will have no negative effects on the onsite stormwater management system and will require no revisions to the relevant treatment, flow control, or conveyance facilities.

8.0 Potential Hazardous Materials Impacts

As noted previously, there will be no chemical or solids storage, nor will any of the equipment used for operation and maintenance of the BRSPS require the storage inventory of potentially hazardous materials. The BRSPS is simply a transfer of drinking water from the clearwell storage for the BRFF into a drinking water conveyance pipeline and pump or lift the water to a higher elevation for gravity distribution to the households and businesses within the City service area.

Floor drains within the BRSPS will capture any fluid release from pump bearings and seals, all motors are electrically powered and there are no other provisions for liquid or dry materials storage, handling or inventory. Any clean water wash and rinse of the building interior to clean soils from foot traffic will be collected in the floor drains will be routed to an underground soak trench and absorption into the subgrade material. Any oils or grease lubricant drips or spills will be captured through an oil/water separator prior to entry into the soak trench.

9.0 Conclusions

After reviewing the proposed facilities and operations anticipated at the BRSPS, and considering the design measures proposed to be implemented, pump station operations at the BRSPS will not cause any significant change to off-site dust, air quality, noise, vibration, odor, storm water discharge or hazardous materials storage or release.