# MEMORANDUM

To: Liz Fancher, Hearings Officer – T3-2022-16220 - Remand

Email To: LUP-Hearings@multco.us

**Date:** *5/1/2025*

**From:** Adam Brooks, Olsen Well Drilling & Pump

Address: PO Box 505 Gresham, OR 97030

**RE:** Land Use Portland Water Bureau Water Treatment Plant - Case # T3-2022-16220

Impacts to Domestic Wells from Bull Run Filtration Facility Groundwater Activities

## INTRODUCTION

This memorandum evaluates the likely adverse effects on domestic well water resulting from the Portland Water Bureau's (PWB) ongoing and proposed groundwater activities at the Bull Run Filtration Facility. Specific concerns arise from (1) high-volume groundwater pumping and discharge into Johnson Creek, (2) shallow perched water tables and regional aquifer conditions, and (3) absence of hydrogeologic safeguards for neighboring wells.

## 1. GROUNDWATER PUMPING AND DISCHARGE INTO JOHNSON CREEK

According to field observations and PWB's own construction foreman (Mr. Goldschmidt), over 1 million gallons of groundwater per day are being pumped from the filtration facility site and discharged into Johnson Creek (Remand Report, p. 21). This groundwater is being removed primarily to dewater deep excavation pits—some exceeding 20 feet in depth—for construction of facility infrastructure.

This dewatering activity is not temporary. It is expected to continue throughout construction and possibly into operations. Johnson Creek, a small, seasonal watercourse in its headwaters, is being used as a channel to carry this artificially elevated flow volume.

Key risks to domestic wells include:
- Draw - down of water table due to interception and redirection of shallow perched groundwater layers.
- Decline in well yield or complete drying of wells reliant on perched or upper aquifer zones.

- Long-term hydrologic imbalance, particularly during summer months, as aquifer recharge cannot match discharge rates.

**2. Depth to Groundwater and Hydrogeologic Sensitivity**

Boring logs from the filtration site reveal complex groundwater conditions:
- Perched groundwater is present at shallow depths—just 3 to 4 feet below ground surface (bgs)—in fine-grained clay and silt layers (Remand Report, p. 23).
- Regional groundwater was encountered at 24 to 31 feet bgs in coarser, deeper sand and gravel layers.

The perched water zones are especially vulnerable because:
- They rely on rainfall infiltration and lateral movement along impermeable clay interfaces.
- They do not receive consistent recharge from deep aquifer systems.
- They are easily disrupted by dewatering or compaction.

Once perched zones are disturbed or drained, they can take decades to reestablish. Neighboring wells that tap into these zones are likely to experience:
- Sediment intrusion due to destabilization of fine layers.
- Increased turbidity or discoloration.
- Declining well yield or complete well failure.

**3. Groundwater Impacts to Nearby Wells**

At least thirteen domestic wells exist within 1,000 feet of PWB's pipeline corridors and excavation zones, including the Walter Well and Courter Well, located just 500 feet from the tunnel portal (Remand Report, p. 27).

A notable case has already occurred:
- The Walter Well experienced pressure loss, sedimentation, and failure following nearby geotechnical drilling.
- PWB eventually replaced the well, but only after prolonged disruption to the homeowner.

This example demonstrates that:
- Hydrologic connectivity between the project site and domestic wells is real and already documented.
- PWB's response has been reactive and slow, not proactive.

Moreover, the absence of:

- A comprehensive hydrogeologic impact study,
- Baseline water level data, or the Oregon Water Resources Department active involvement
- An independent monitoring program

... means that many nearby residents may experience similar or worse impacts without recourse.

Construction activities such as deep shaft drilling, excavation, and blasting may cause:
- Fracturing or compaction of aquifer-bearing units.
- Contamination of well water through mobilization of surface pollutants.
- Permanent lowering of groundwater elevation, reducing long-term well productivity.

**CONCLUSION**

The Bull Run Filtration Project poses a clear and present risk to domestic wells in the area. The combination of:
- High-volume groundwater pumping,
- Sensitive perched aquifers,
- Close proximity of residential wells,
- Absence of a groundwater protection plan,

... renders the potential for adverse impacts not just likely, but in some cases already occurring. The well failures and disruptions experienced by residents like those on the Walter property are not isolated—they are indicative of a pattern of neglect.

Multnomah County should require:
1. Immediate independent hydrogeologic monitoring;
2. A full Environmental Impact Statement (EIS);
3. Legally enforceable well protection guarantees for residents;
4. Full compliance with Conditional Use Criteria MCC 39.7515(B) before any further construction.

Respectively Submitted for your consideration and action,

Adam Brooks

Multnomah County

**LUP Hearings <lup-hearings@multco.us>**

# Remand Case File: T3-2022-16220

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