



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

South Treatment Plant
1200 Monster Road SW
Renton, WA 98057

December 30, 2022

Sean Wilson
Washington Department of Ecology
Northwest Regional Office
PO Box 330316
Shoreline, WA 98133-9716

Jun Naotsuka
Public Health – Seattle and King County
401 5th Avenue
Seattle, WA 98104

Re: Sanitary Sewer Overflow, Bunker Trail Pump Station #1, December 27, 2022

Dear Mr. Wilson and Mr. Naotsuka:

On December 27, 2022, an estimated 2,500 gallons of seawater and sewage mix overflowed the Bunker Trail Pump Station #1 (BT-1) and entered a stormwater catch basin that discharges to Puget Sound. BT-1 is located near the Vashon ferry terminal at the intersection of 103rd Avenue SW and Vashon Island Highway. The overflow was reported to the Department of Ecology and assigned ERTS #719780.

Vashon Sewer District owns and operates a vacuum collection system that conveys wastewater from 57 waterfront homes to BT-1 via 21 vacuum chambers and one buffer tank. BT-1 provides the vacuum pumps for the collection system and the four Bunker Trail stations pump the wastewater to the Vashon Wastewater Treatment Plant.

King County (County) dispatched an operator to BT-1 at approximately 8:20 a.m. to investigate a high wet well level alarm. The operator arrived at approximately 9:10 a.m. and observed the system operating normally. At approximately 9:15 a.m. the operator observed the first of five intermittent overflows from the hatch above BT-1. Each overflow lasted between two and five minutes with the final observed overflow occurring at approximately 10:30 a.m.

It is believed that the primary cause of the intermittent overflows was saltwater intrusion along the Bunker Trail collection system. Vashon Sewer District is investigating their system and has, thus far, visited 16 of the 21 vacuum chambers. Most of the two-level chambers have been found with standing water in the upper chamber, indicating that seawater entered the upper chamber where it was contained. Vashon Sewer District currently believes that the most likely intrusion point was one of many make-up air vents.

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The predicted tide at Point Vashon for December 27, 2022 was 13 feet 1 inch. Preliminary data from the National Oceanic and Atmospheric Administration's observed water level for Seattle show that the tidal height exceeded the station maximum of 14.5 feet and was likely above 15 feet. Local news reports showed significant flooding across many communities. Photos from the Bunker Trail community show seawater over the bulkhead.

County staff reviewed trends on all four pump stations supporting Bunker Trail. The County systems appear to have functioned as designed over the course of this event. Five peaks in the BT-1 wet well match the timing of the flood and the operator-observed overflow events. Vashon Sewer District will continue to investigate if the extraordinary seawater level was the root cause of the water intrusion and identify if any corrective actions to prevent reoccurrence are feasible.

County staff posted beach closure signs and collected samples along the public shore near the storm sewer outfall on December 28, 2022 (Figure 1). Adjacent property owners were notified of the overflow. Sample results are shown in Table 1. Additional samples were collected on December 29, 2022, with results pending.

If you have any questions about this overflow event, please feel free to contact me at 206-263-9481.

Sincerely,

DocuSigned by:

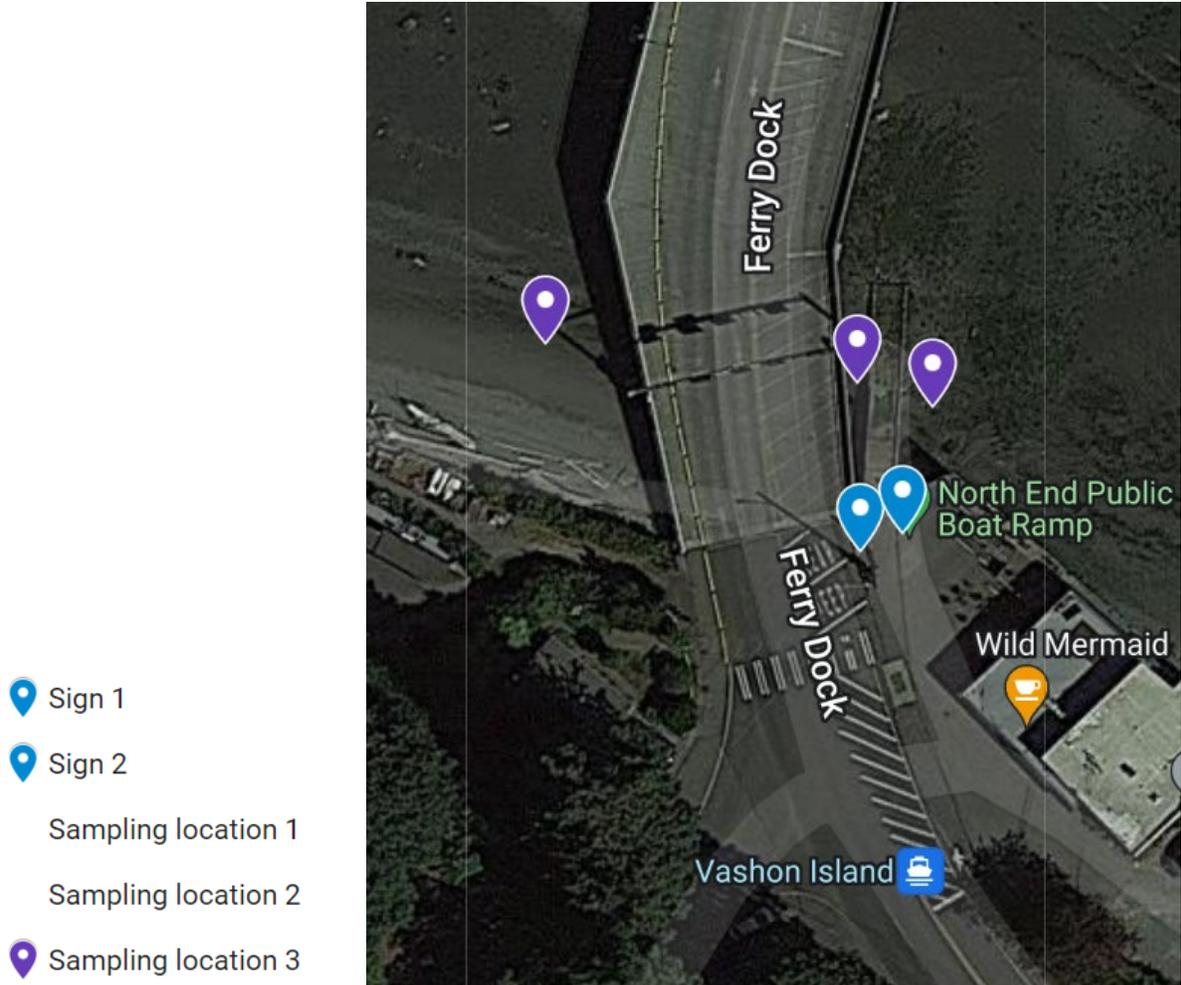
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Robert Waddle
Operations Manager

cc: Greg Lipnickey, Compliance Specialist, Washington State Department of Ecology
Kameron Gurol, Director, Wastewater Treatment Division (WTD), Department of Natural Resources and Parks (DNRP)
Bruce Kessler, Deputy Division Director, WTD, DNRP
Jeff Lafer, Project/Program Manager IV, WTD, DNRP
Norm Cook, East Section Manager, WTD, DNRP
Mike Wohlfert, East Section Manager, WTD, DNRP
Chapin Brackett, Process and Environmental Compliance Manager, WTD, DNRP

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Figure 1. Health Warning Posting and Sampling Locations for Bunker Trail Pump Station #1 Overflow



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Table 1. Puget Sound Sampling Results

Vashon Bunker Trail 22.12.27				Fecal Coliform MDL=1	Enterolert/ Enterococcus MDL=10
Map #	Locator Description	Sample #	Collect Date	Fecal Coliform [CFU/100ml]	Ent IDEXX [MPN/100ml]
1	South side of small boat ramp	L80847-1	12/28/22	3	10
2	North side of small boat ramp	L80847-2	12/28/22	7	20
3	Beach on north side of ferry terminal	L80847-3	12/28/22	13	135