Annual Sanitary Sewer Monitoring Report

Seattle-Tacoma International Airport

For the Period July 1, 2024 through June 30, 2025

September 30, 2025

Prepared by

Geosyntec Consultants

Port of Seattle

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Section 1: Introduction

The Port of Seattle's (Port) NPDES Permit No. WA-0024651, Part 1 Special Condition S2.F requires the Port to submit an annual Sanitary Sewer Report. This report summarizes the discharges of the boiler blowdown, cooling tower blowdown, equipment wash rack, and bus maintenance facility/chassis blowdown to the Midway Sewer District.

Part 1, Special Conditions S1.C and S2.A.2 specifies the monitoring requirements and effluent limitations. The sections below describe the facilities and provide a summary of data collected.

Section 2: Waste Stream Descriptions

2.1 Boiler Blowdown

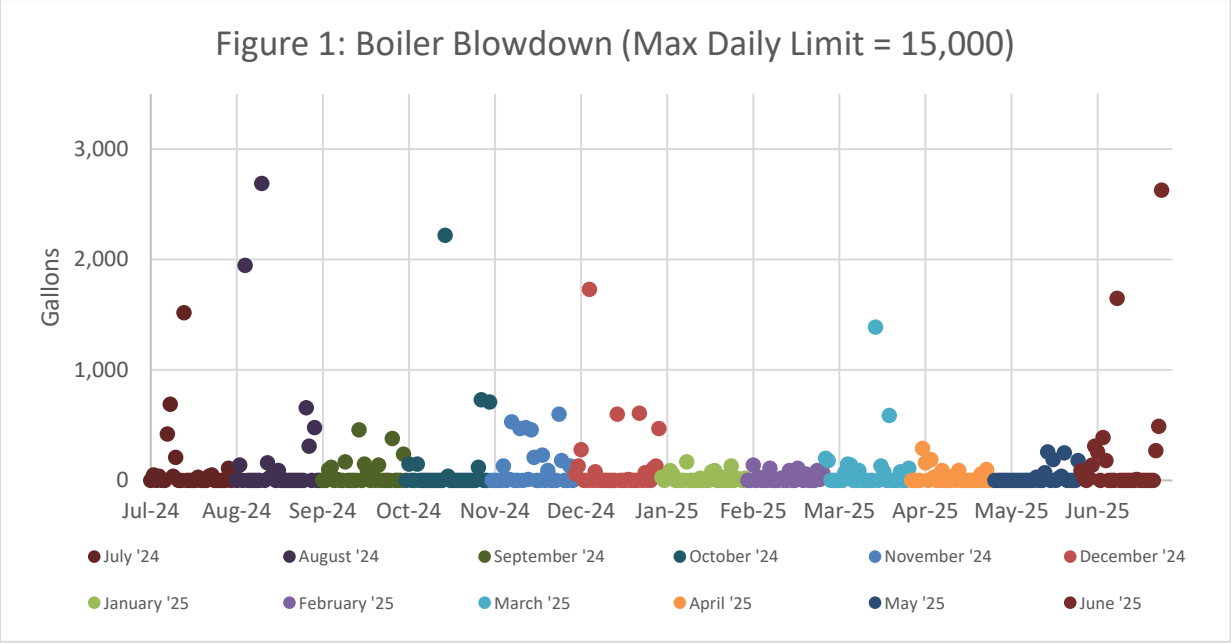
The Seattle-Tacoma International Airport (STIA) boiler room is located on the bottom level of the Main Terminal. Four boilers, each with a water capacity of approximately 1,570 gallons, are used to heat the Main Terminal. Makeup water to the boilers is drawn from the City of Seattle water supply to the airport.

The boilers are typically operated at a gauge pressure of 85 pounds per square inch (psi). Each boiler is equipped with a 1.5-inch blowdown line with two manually operated valves. When a valve for any boiler is open, the discharge (boiler blowdown) from the boiler flows through a common header into a 1,000-gallon quench tank. From the quench tank, boiler blowdown passes through a flow meter and into the sanitary sewer.

Current preventive maintenance procedures call for recalibrating the meter annually. The boiler flow meter was calibrated in August 2024. Output from the flow meter is logged in an Apogee digital data controller (DDC) and held in an internal database.

Additional boiler blowdown occurs during maintenance as needed based upon operating judgement. Boiler blowdown maintenance procedures include opening the block valve for approximately 15-20 seconds. The boilers are drained annually for maintenance and/or to remove condensation from inactive boilers.

Table 1 below provides a monthly average and peak flow summary for all boiler blowdown discharges based on flow meter data. **Figure 1** depicts the daily boiler blowdown discharge for the reporting period. The daily maximum discharge limit for boiler blowdown is 15,000 gallons. During the reporting period, the daily maximum boiler blowdown discharge was 2,690 gallons and occurred on August 10, 2024.



2.2 Cooling Tower Blowdown

The STIA cooling towers are located immediately south of the main parking garage. Two cooling towers were constructed in September 1999, and three additional cooling towers of similar design were constructed in 2002. At least one of the cooling towers is operating year-round, with few shutdowns.

Cooling tower blowdown is currently activated by filter backwashes. Conductivity is monitored to make sure that backwashing is adequate to prevent corrosion or scaling.

The flow meter that measures the volume of cooling tower wastewater discharged to the sanitary sewer was calibrated in August 2024. Flow meter readings are electronically recorded and stored by the same DDC used for the boiler blowdown flow data.

Table 1 below provides a monthly average and peak flow summary for cooling tower wastewater discharges. **Figure 2** depicts the daily cooling tower lift station discharge for the reporting period. The daily maximum discharge limit for cooling tower blowdown is 250,000 gallons. During the reporting period, the daily maximum cooling tower blowdown discharge was 16,018 gallons and occurred on October 15, 2024.

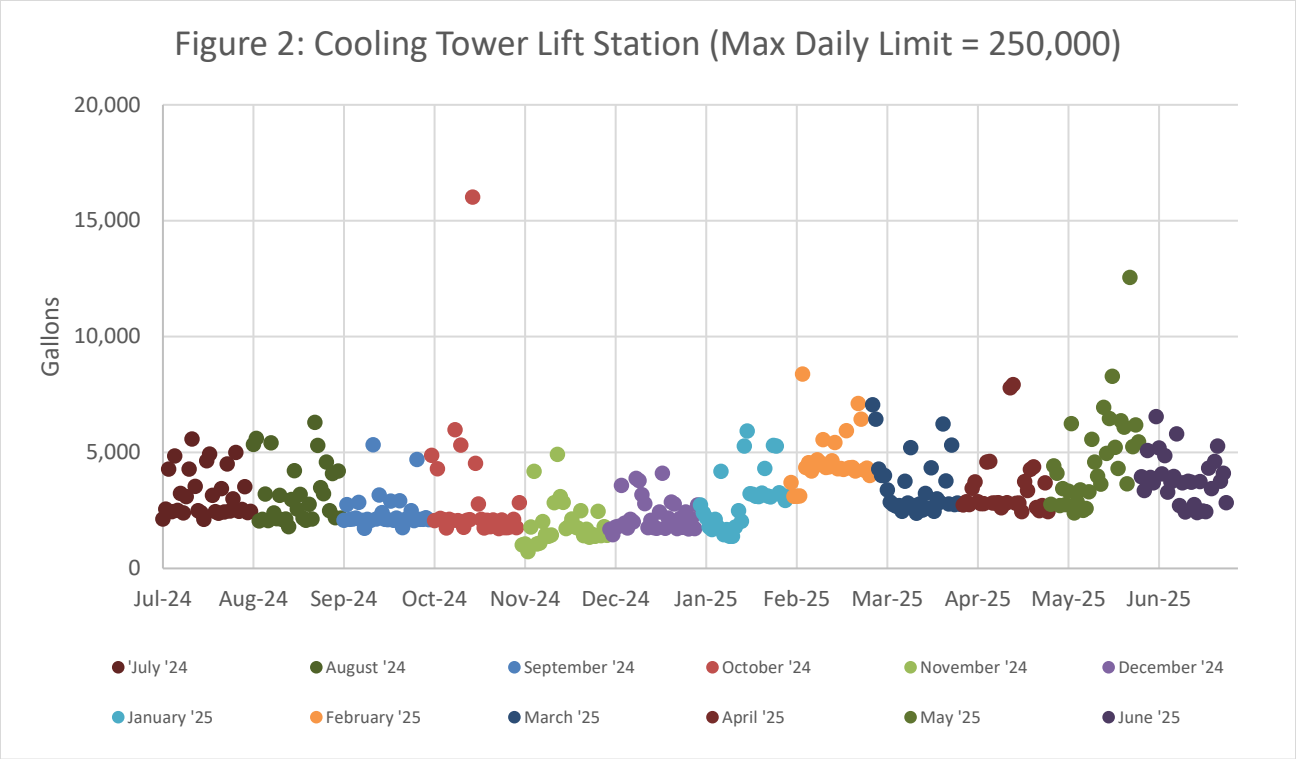


Table 1: STIA Boilers & Cooling Towers Effluent Limitations & Discharge Volumes

	Boilers		Cooling Towers	
Month	**Maximum Daily Flow** [a][b] (gallons/day)	**Average Daily Flow** [b][c] (gallons/day)	**Maximum Daily Flow** [a] (gallons/day)	**Average Daily Flow** [c] (gallons/day)
NPDES Effluent Limitations	**15,000**	**1,000**	**250,000**	**18,000**
July 2024	1,520	105	5,584	3,221
August	2,690	211	6,304	3,218
September	460	64	5,336	2,443
October	2,220	133	16,018	2,957
November	600	118	4,927	1,903
December	1,730	138	4,104	2,312
January	170	25	5,937	2,962
February	140	27	8,394	4,660
March	1,390	104	7,069	3,543
April	290	35	7,935	3,452 [d]
May	260	34	12,551	4,724
June 2025	2,630	216	6,554	3,870

Notes:

(a) Maximum Discharge Flow is the highest daily measured flow for any 24-hour period during a calendar month.

(b) Boiler maintenance drainage volumes are included in quantities for daily average and daily maximum flows.

(c) Average Daily Flow is calculated as the total discharge during a calendar month divided by the number of calendar days in that month. The actual number of discharges is not recorded.

(d) Datalogger failed to record cooling tower lift station flow data on April 12, 2025. Flow was estimated by averaging flows before and after data loss.

2.3 Equipment Wash Rack

The Equipment Wash Rack was installed in 2003 for ground service equipment cleaning and pressure washing. It was previously located west of the Delta Air Lines' ground service maintenance facility but is no longer in service. The permitted location for the Equipment Wash Rack was modified in the current version of the Port's NPDES permit.

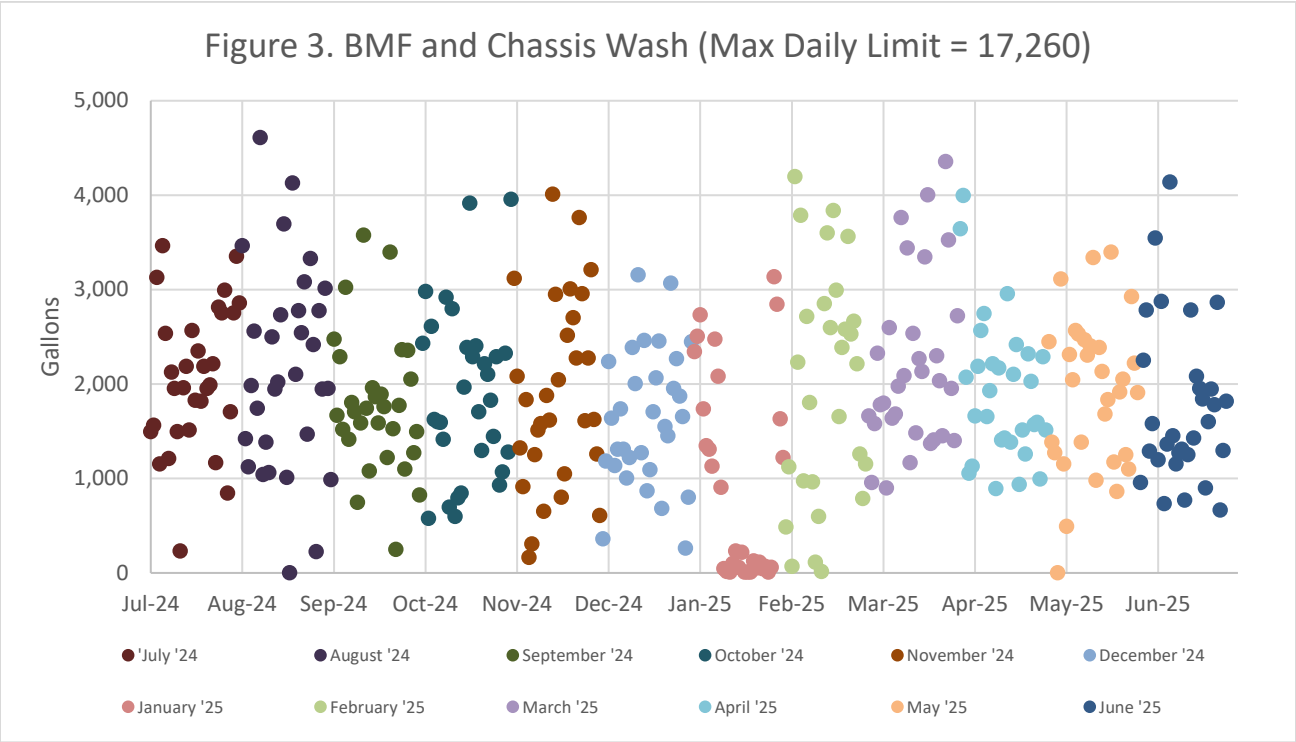
The Port plans to construct a new equipment wash facility at a location yet to be determined. The maximum daily discharge flow is expected to be 5,000 gallons per day (gpd). The Port will notify the Washington State Department of Ecology and Midway Sewer District prior to operations.

2.4 Bus Maintenance Facility Bus Wash and Chassis Wash Bay

The wastewater in the bus wash and chassis wash bays at the Bus Maintenance Facility consist of discharge from a drive-through automated bus washing system and chassis wash bay. The Bus Maintenance Facility bus wash and chassis wash bays were activated on May 17, 2012, in support of the new comprehensive Rental Car Facility. The Bus Maintenance Facility services the shuttle buses, which transport passengers to and from the airport terminal to the consolidated

Rental Car Facility. Other than vehicle washing, no other maintenance activities are performed at the bus wash facility.

Wastewater from the Bus Maintenance Facility bus wash and chassis wash bays merge prior to treatment via an oil/water separator. Following treatment, the wastewater discharges to the main sanitary sewer line and into the Midway Sewer District. The oil and grease, pH, total suspended solids (TSS), and biological oxygen demand (BOD) parameters are sampled downstream of the oil/water separator prior to connecting to the main sewer line. Refer to **Table 2** for monthly results. **Figure 3** depicts the Bus Maintenance Facility daily discharge for the reporting period. The daily maximum discharge limit for the Bus Maintenance Facility is 17,260 gallons. During the reporting period, the daily Bus Maintenance Facility discharge was 4,608 gallons and occurred on August 7, 2024.



Discharge flow is calculated at the Bus Maintenance Facility by summing two flow meters, one located at the chassis wash facility and a second meter is located at the bus wash facility (see **Figure 4)**.

Figure 4: Bus Maintenance Facility Flow Diagram

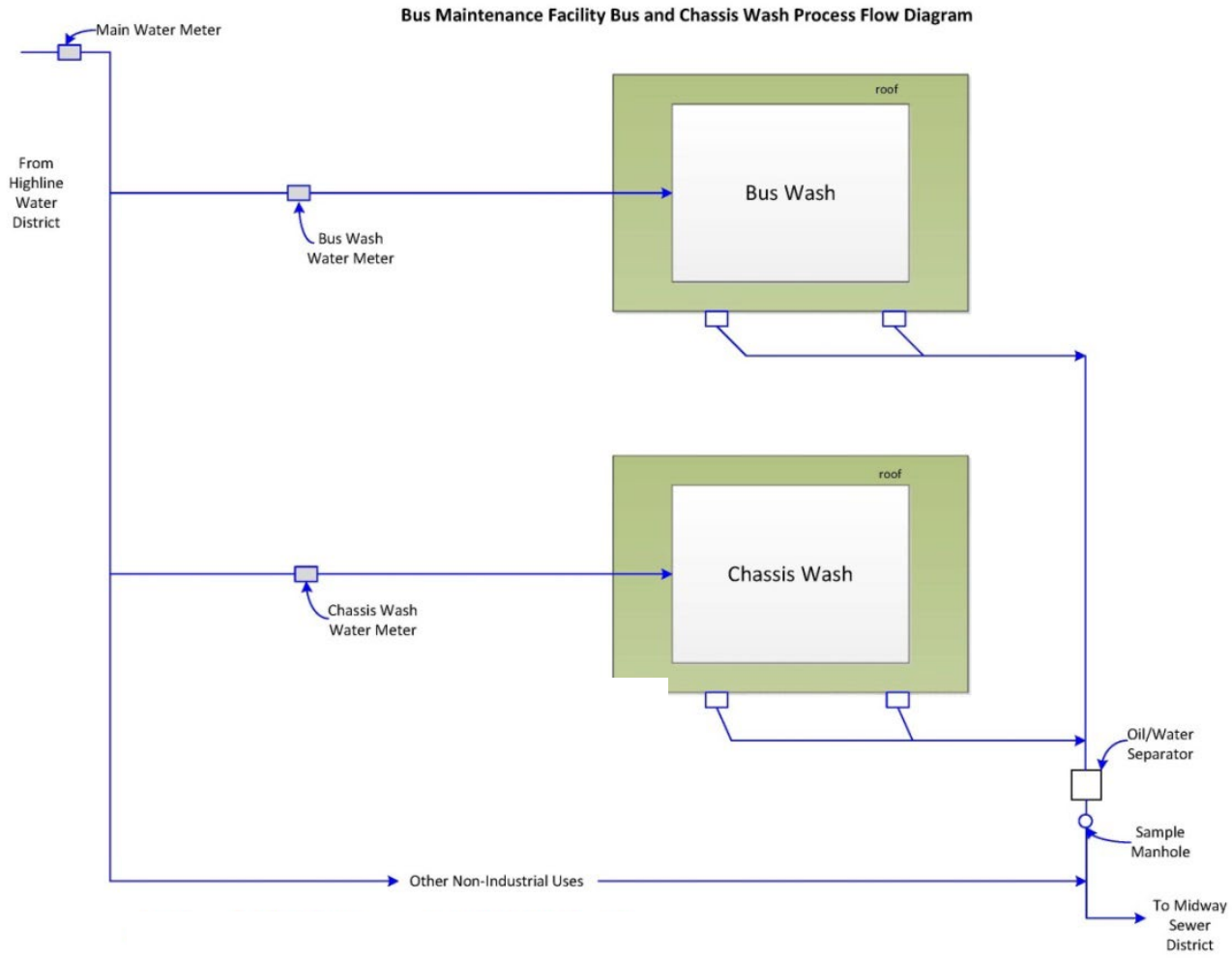


Table 2: Bus and Chassis Wash Discharge Summary and Analytical Results

Month	Max Daily Flow [(a)] (gal/day)	Avg Daily Flow [(b)] (gal/day)	Oil & Grease (mg/L)	BOD (mg/L)	TSS (mg/L)	pH (mg/L)
Frequency	**Daily**	**Daily**	**Monthly**	**Monthly**	**Monthly**	**Monthly**
Effluent Limit	**17,260**	**4,380**	**100**	**Report**	**Report**	**>=6 & <=9**
July 2024	3,464	2,070	1.12	21	10	6.9
August	4,608	2,162	0.47	6.5	3.0	6.4
September	3,576	1,777	0.48	3.5	5.0	6.8
October	3,957	1,899	0.85	5.9	10	8.3
November	4,010	1,896	1.67	45	9.0	7.5
December	3,157	1,632	1.12	71	6.0	6.9
January	3,135	921	3.87	37	28	7.0
February	4,197	1,990	0.82	19	6.0	6.7
March	4,354	2,182	2.23	5.0	46	6.5
April	3,995	1,921	1.04	6.1	9.0	7.3
May	3,396	1,904	9.41	80	10	6.9
June 2025	4,137	1,762	5.57	29	22	6.8

Notes:

gal/day = gallons per day; mg/L = milligrams per liter

(a) Maximum Discharge Flow is the highest daily measured flow for any 24-hour period during a calendar month.

(b) Average Daily Flow is calculated as the total discharge during a calendar month divided by the number of calendar days in that month. The actual number of discharges is not recorded.