



## **King County**

Department of Natural Resources and Parks  
Wastewater Treatment Division  
West Point Treatment Plant, WTP-NR-0100  
1400 Discovery Park Blvd  
Seattle, WA 98199-1044

November 7, 2017

TO: Robert Waddle, WTD Operations Manager

FROM: Process Control Staff

SUBJECT: West Point Treatment Plant Performance Report – October 2017

Seattle had a wetter-than-normal October. West Point recorded a total of 3.22 inches of precipitation for the month, with 2.68 inches falling over the period of October 17 through 22. SeaTac recorded 4.80 inches of precipitation, 1.32 inches above the normal October rainfall of 3.48 inches. Boeing Field recorded only 2.02 inches of precipitation, 0.98 inches below the normal 3.00 inches. The National Weather Service Office at Sand Point recorded 3.72 inches of precipitation, 0.31 inches above the normal 3.41 inches. Total Plant flow at West Point averaged 84.50 MGD, 7.06 MGD below the average October flow for the previous five years (91.56 MGD). North end flows were sent to South Plant and Brightwater via Woodinville and North Creek.

There was one NPDES Permit exception during the month. During the October 21-22 weather event, the outfall flap gate at Denny Local regulator failed, subsequently allowing seawater to enter the plant at tides greater than 102.84 ft (Metro Datum). The salt water intrusion impacted the plant's operation and performance, including damaging the biological treatment process which caused a violation of the weekly MAX TSS limit for the month. The plant emergency bypass gate remained closed throughout the month, but was available for use if needed.

On October 25, the Emergency Marine Outfall (EMO) gate accidentally opened after work was completed on the installation of new hydraulic lines. Staff immediately took control and closed the gate. At the time of the opening, the tide was still high, and after the gate opening, the influent pump wet well level had risen, indicating that flow had come into the plant and not out. In addition, steps were taken after the opening, to draw flow into the plant from the effluent bypass channel in case any sewage had migrated past the gate and into the bypass channel.

Samples were taken from three locations on the beach after the opening, and these samples were tested for both fecal coliforms and enterococci. There was one high fecal coliform (FC) result on October 25 of 280 CFU/100ml, so sampling was continued for three more days. After four days of sampling, it was the only high result among the 24 results obtained. The next

highest FC result was 65 CFU/100 ml on October 27, and the highest enterococcus result was 53 CFU/100 ml, also on October 27. A copy of all the results has been attached.

In addition, after receiving the sample results from October 25, staff was sent into the structure to verify the gate was not leaking. Staff found the gate closed and sealed, so it was clear the one high FC result was not from the EMO opening.

#### Key Measures

Volume Treated	2620 million gallons
Permit Compliance	1 exceptions
Biosolids	3456 wet tons hauled
	978 dry tons hauled
	28.30% cake total solids

#### Permit Compliance Summary – October 2017

Flow (mgd)	cBOD (mg/l)	TSS (mg/l)	cBOD (% Removal)	TSS (% Removal)	Fecal Coliforms (counts/100 ml)	Chlorine Residual (µg/l)
	Plant/Permit	Plant/Permit	Plant/Permit	Plant/Permit	Plant/Permit	Plant/Permit
84.50	19/25	27/30	91/85	90/85	25/200	78/139

West Point's NPDES Permit requires 85% removal of cBOD and TSS during the dry season months of May through October. The Permit also sets effluent concentration limits of 25 mg/l for cBOD and 30 mg/l for TSS, or 15% of influent values during the dry season months, whichever is more stringent. For October 2017, the effluent concentration limits were 25 mg/l for cBOD and 30 mg/l for TSS.

#### Process Control

Total plant flow for the month was 2619.54 million gallons. There were three days when flow was diverted around secondary treatment.

Date	Secondary Diversion Volume (MG)	Reason for Diversion
10/18/2017	9.91	Flows > 300 MGD
10/19/2017	2.66	Flows > 300 MGD
10/21/2017	2.55	Flows > 300 MGD

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For the month, influent and effluent cBOD concentrations averaged 225 mg/l and 19 mg/l, respectively (91% removal); influent and effluent TSS averaged 266 mg/l and 27 mg/l, respectively (90% removal).

