



Exhibit A

SPU/DNRP Ship Canal Water Quality Project

Project Description

October 28, 2015

Project Purpose

The purpose of The Ship Canal Water Quality (WQ) Project is to provide offline storage of combined sewer overflows (CSOs) for five Seattle Public Utilities (SPU) and two King County Department of Natural Resources and Parks (DNRP) CSO basins to meet regulatory control standards which limits CSOs to an average of no more than one untreated discharge per year per outfall on a twenty year moving average. The specific basins, and CSO to be controlled by the project, include the SPU Ballard CSO basins (Outfalls 150, 151, and 152), Fremont CSO basin (Outfall 174) and Wallingford CSO basins (Outfall 147), DNRP 3rd Avenue West Regulator (DSN008), and DNRP 11th Avenue NW Regulator (DSN004). The total minimum control volume to be achieved for these SPU and DNRP CSO basins combined is 15.24 million gallons (MG). The facility must also meet water quality standards and protection of designated uses, and must be verified by post construction monitoring (frequency of overflow and sediment sampling).

Project Scope

The Ship Canal WQ Project will provide offline storage of combined wastewater in a deep storage tunnel constructed between the Ballard and Wallingford CSO areas, on the north side of the Ship Canal. The Project will control the Ballard CSO basins (Outfalls 150,151 and 152), Fremont (Outfall 174) and Wallingford CSO basins (Outfall 147), DNRP 3rd Avenue West Regulator (DSN008), and 11th Avenue NW Regulator (DSN004). Figure 1 provides a plan view of the Ship Canal WQ Project location and components.

The main components of The Ship Canal WQ Project include the storage tunnel and appurtenances, conveyance facilities to convey SPU and DNRP CSO flows into the tunnel, and a pump station and force main to drain flows from the tunnel.

The storage tunnel and appurtenances will include:

- A minimum 15.24-MG offline storage tunnel with a nominal 14-foot inside diameter and approximately 14,000 feet long or as defined during the design phase of the project.
 - The stored combined sewage in the storage tunnel will flow from the Wallingford CSO Outfalls westward to an effluent pump station located near the Ballard CSO Outfalls 150 and 151.
 - The tunnel route is planned to be generally in street right-of-way along the north side of the Ship Canal.
- Seven diversion structures for diverting influent CSO flow away from existing CSO outfalls to the tunnel.

- Four drop structures to convey influent CSO flow into the storage tunnel.
- All four drop structures will have odor control.
- A pump station will be located at the West tunnel Portal as defined during the design phase of the project, with a minimum peak capacity of 32 MGD to empty the storage tunnel in approximately 12 hours.

Conveyance facilities will include:

- Gravity sewer line to convey flows from SPUs diversion structure at Fremont Outfall 174 to the tunnel drop shaft (approximately 100 lineal feet (lf) of 36-inch diameter pipe);
- Gravity sewer line to convey flows from DNRPs diversion structure at 3rd Ave. W (under the Ship Canal) to the tunnel drop shaft (approximately 800 lf of 60 and 48-inch diameter pipe);
- Gravity sewer line to convey flows from DNRPs diversion structure at 11th Ave. NW to the tunnel drop shaft (approximately 100 lf of 72 and 60-inch diameter pipe);
- Force main to convey flows from the tunnel pump station to DNRPs existing Ballard Siphon wet-weather barrel forebay (approximately 1900 lf of 24-inch diameter pipe).

All conveyance sizing and quantities are estimates based on conceptual planning to date. Actual diameters and lengths of conveyance facilities will be determined during the design phase of the project.

Gravity sewer lines to convey flows from SPUs diversion structures at Ballard outfalls 150, 151 and 152, and Wallingford outfall 147 to the tunnel drop shafts have been excluded from The Ship Canal WQ Project in accordance with the Joint King County/Seattle CSO Initiative Work Plan Item 4: Cost-Sharing Method for Joint Capital Projects.

The control strategy will limit the inflow to the tunnel from each outfall to each outfall's control volume per event. The minimum control volume for each outfall is:

SPU Outfalls

- Fremont (Outfall 174): 1.06 MG
- Wallingford (Outfall 147): 2.15 MG
- Ballard (Outfall 152): 5.38 MG
- Ballard (Outfall 150/151): 0.62 MG

DNRP Outfalls

- 3rd Avenue West (DSN008): 4.18 MG
- 11th Avenue Northwest (DSN004): 1.85 MG

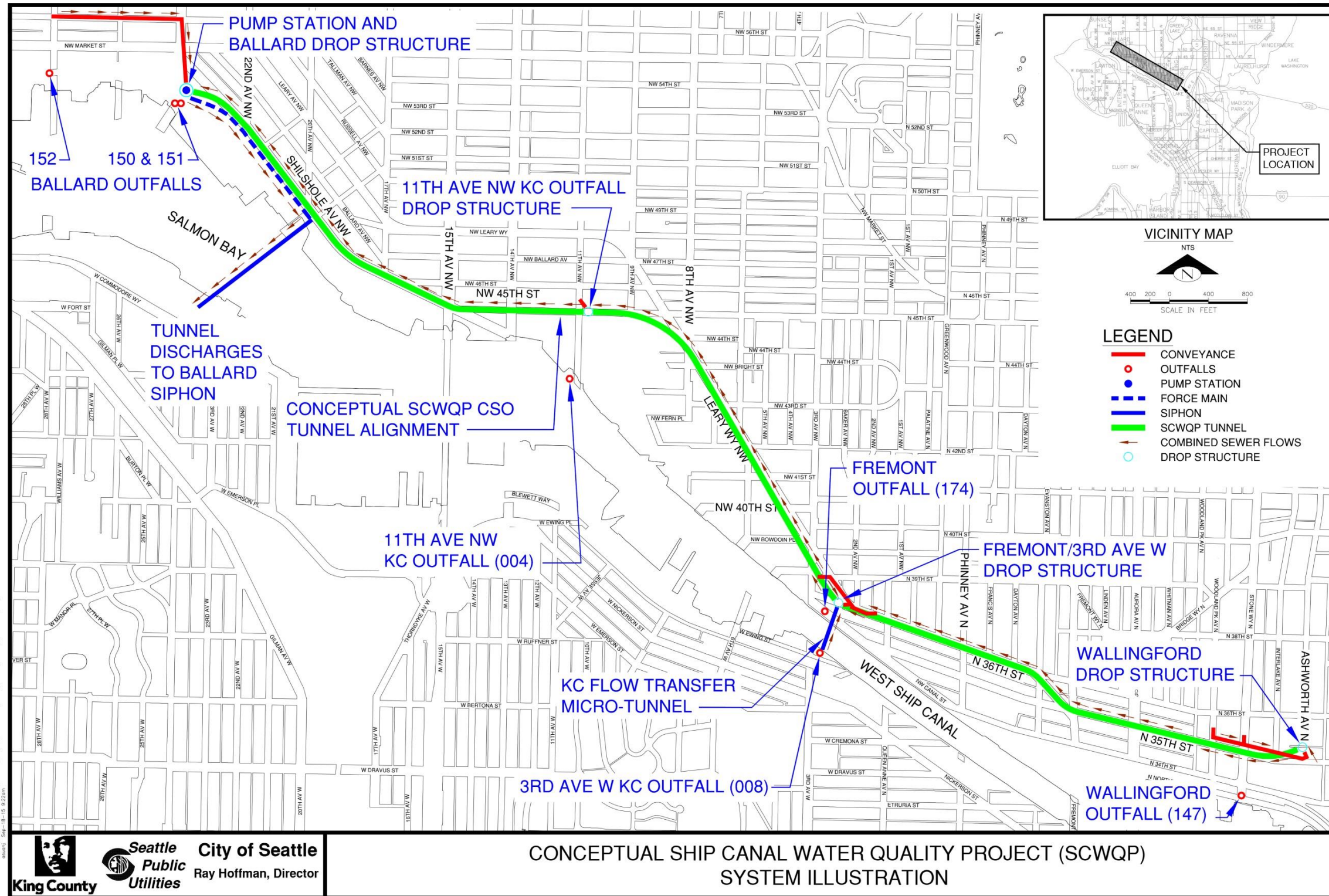
Each agency has calculated the control volumes required to meet their independent needs. Although calculation methods vary between the agencies, SPU and DNRP agree that these are the minimum volumes to be controlled to and provided for by The Ship Canal WQ Project.

SPU will own and operate the tunnel components listed below, and all new structures and pipes appended to each existing DNRP outfall pipe. Ownership of outfall pipes will remain unchanged. The Ship Canal WQ Project tunnel components include:

- The tunnel in its entirety, including the East and West Portals;
- The pump station and force main;
- All diversion structures, including DNRP’s 3rd Avenue West and 11th Ave NW structures, SPU diversion structures for Ballard outfalls 150,151 and 152, Fremont outfall 174 and Wallingford outfall 147;
- All of the conveyance system associated with SPU’s outfalls and downstream of the 3rd Avenue West and 11th Ave NW diversion structures;
- All control gates and associated structures and control systems;
- All odor control systems;
- All appurtenances associated with the above; and
- All real property associated with the Project

Any changes to this project scope need to be negotiated and agreed to by both SPU and DNRP through the Change Management process, attached to the Joint Project Agreement as Exhibit B.

Figure 1: Ship Canal WQ Project Plan





King County

Project Capital Cost Estimate

Total project capital costs for the Ship Canal Water Quality (WQ) Project are estimated at \$423.4 million. This estimate is from SPU’s Final Project Definition Report Volume 1, December 2014, with sales tax and escalation adjustments. The estimate includes exclusions from cost sharing described above and is escalated to the mid-point of construction assuming 2% escalation. The estimate is AACE Class 4, which has level of accuracy of minus 20%, plus 30% (\$338.7 to \$550.4 million cost range).

Project Schedule Summary

The compliance schedule for the Ship Canal WQ Project (per the City’s approved Plan to Protect Seattle’s Waterways) is summarized below. A detailed project schedule shall be included in the Project Management Plan.

Task	Compliance Date
Submit Draft Engineering Report (Facility Plan) for review and comment	3/31/2017
Submit Final Engineering Report (Facility Plan) for approval	12/31/2017
Submit Draft Plans and Specifications for review	3/31/2020
Submit Final Plans and Specifications for approval	12/31/2020
Construction Start (notice to proceed)	7/1/2021
Construction Completion	12/31/2025
Achieve Controlled Status	12/31/2026

Signatures

<i>Madeline Goddard, P.E.</i>	<i>Deputy Director, Drainage and Wastewater Line of Business, Seattle Public Utilities</i>
	Date:

<i>Henry Chen, P.E.</i>	<i>Deputy Director, Project Delivery and Engineering Branch, Seattle Public Utilities</i>
	Date:

<i>Pam Elardo, P.E.</i>	<i>Director, King County Wastewater Treatment Division</i>
	Date: