

Ship Canal Water Quality Project

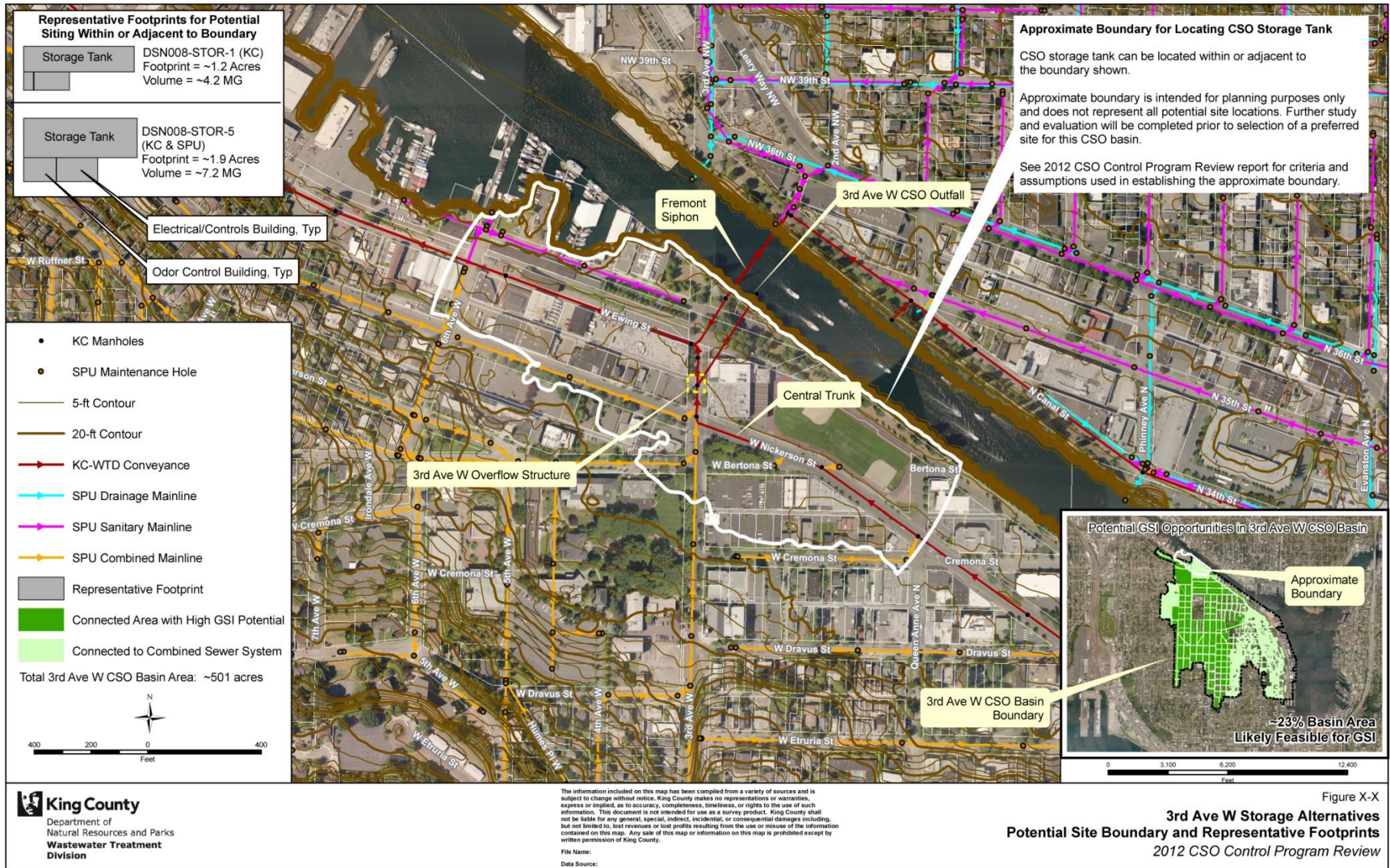
Presented to the Engineering & Planning Subcommittee

January 7, 2016

King County's Approved CSO Control Plan

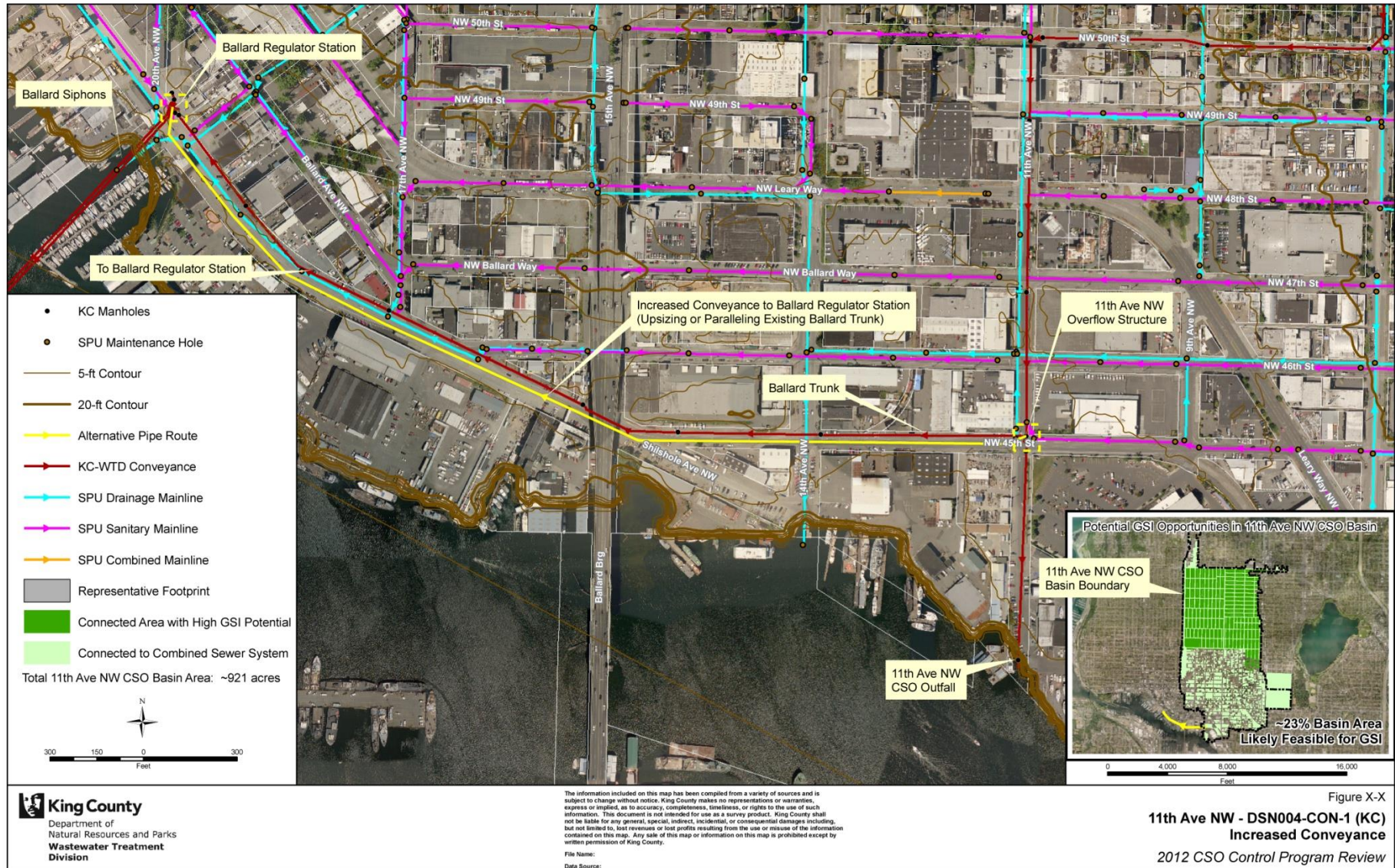


3rd Ave W – Storage



Ship Canal

11th Ave NW – Conveyance



Ship Canal

CSOs to be Controlled by the Tunnel



PUMP STATION AND BALLARD DROP STRUCTURE

152 150 & 151 BALLARD OUTFALLS

11TH AVE NW KC OUTFALL DROP STRUCTURE

TUNNEL DISCHARGES TO BALLARD SIPHON

CONCEPTUAL SCWQP CSO TUNNEL ALIGNMENT

11TH AVE NW KC OUTFALL (004)

KC FLOW TRANSFER MICRO-TUNNEL

3RD AVE W KC OUTFALL (008)

FREMONT OUTFALL (174)

FREMONT/3RD AVE W DROP STRUCTURE

PHINNEY AV N

WALLINGFORD DROP STRUCTURE

ASHWORTH AV N

WALLINGFORD OUTFALL (147)

VICINITY MAP

LEGEND

- CONVEYANCE
- OUTFALLS
- PUMP STATION
- FORCE MAIN
- SIPHON
- SCWQP TUNNEL
- COMBINED SEWER FLOWS
- DROP STRUCTURE

PROJECT BENEFITS

- Construction of a single storage tunnel replaces the need to construct multiple independent storage facilities in the Wallingford/Ballard area
- Storage Tunnel construction will cause fewer construction disruptions across the project area
- Once completed, the Storage Tunnel has less of an impact on neighborhoods
- Storage Tunnel allows WTD and SPU to operate more as a single system



Ship Canal Water Quality Project

Cost Estimate

- ***Total*** Project Cost - \$423 million
- ***Shared*** Project Cost - \$382 million
- King County ***Share*** - \$134-million (35%)
- Class 4 estimate with a range of -20% to +30 %



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Ship Canal Water Quality Project Details

- A minimum 15.24-MG offline storage tunnel with a nominal 14-foot inside diameter and approximately 14,000 feet long (~2.7 miles)
- Seven diversion structures to divert influent CSO flow away from existing CSO outfalls to the tunnel.
- Four drop structures to convey influent CSO flow into the storage tunnel
- A 32 mgd pump station to empty the storage tunnel in approximately 12 hours
- GSI work in three basins to reduce peak flow to the Tunnel
- Prevents 130 sewer overflows each year (about 50 million gallons) from Seattle and County CSOs



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Control Volumes

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



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Ship Canal Water Quality Project Governance

- Storage Tunnel will be owned and operated by SPU
- WTD will be an active partner during design, construction, and operation of the Storage Tunnel
- Joint Project Agreement (JPA) is the structure for how SPU and DNRP will work together



Key Elements of the JPA

Recitals (Article II):

- Defines the scope of the Tunnel Project

Project Design & Construction (Article IV):

- SPU shall be the lead agency and will be responsible for the planning, design, construction, delivery, operation, maintenance
- SPU will notify DNRP in advance of project milestones
- DNRP and SPU will communicate collaboratively with the Department of Ecology and EPA

Roles & Responsibilities (Article V):

- SPU will lead Project design, construction, commissioning, and operations;
- DNRP has a defined participation, review and inspection role at each stage of the Project
- Any changes that affect the Project Description (project scope, schedule or budget) will be resolved via the Change Management process



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Key Elements (continued)

Ownership & Use (Article VII):

- The specific CSOs to be controlled by the Project, and the allocated storage volumes for SPU and DNRP are contained in this Article

Operations & Maintenance (Article VIII):

- SPU will develop an O&M Plan in consultation with DNRP
- Content requirements for the O&M Plan are defined in this Article
- The O&M Plan is to be finalized at the end of construction

Cost Sharing (Article IX):

- The Article contains the 65%/35% cost share split for non-excluded costs; SPU has a right to 60% of the volume, DNRP has a right to 40% of the volume
- Provisions for managing higher costs, allocating excess volumes, and addressing regular and continuous excess use capacity are contained in this Article



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Project Milestones

Milestones	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Environmental Review/Begin Project Design												
Complete Design												
Construction, Startup & Commissioning												
Achieve Controlled Status												



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Questions?



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