

MWPAAC Engineering and Planning Subcommittee

February 6, 2025

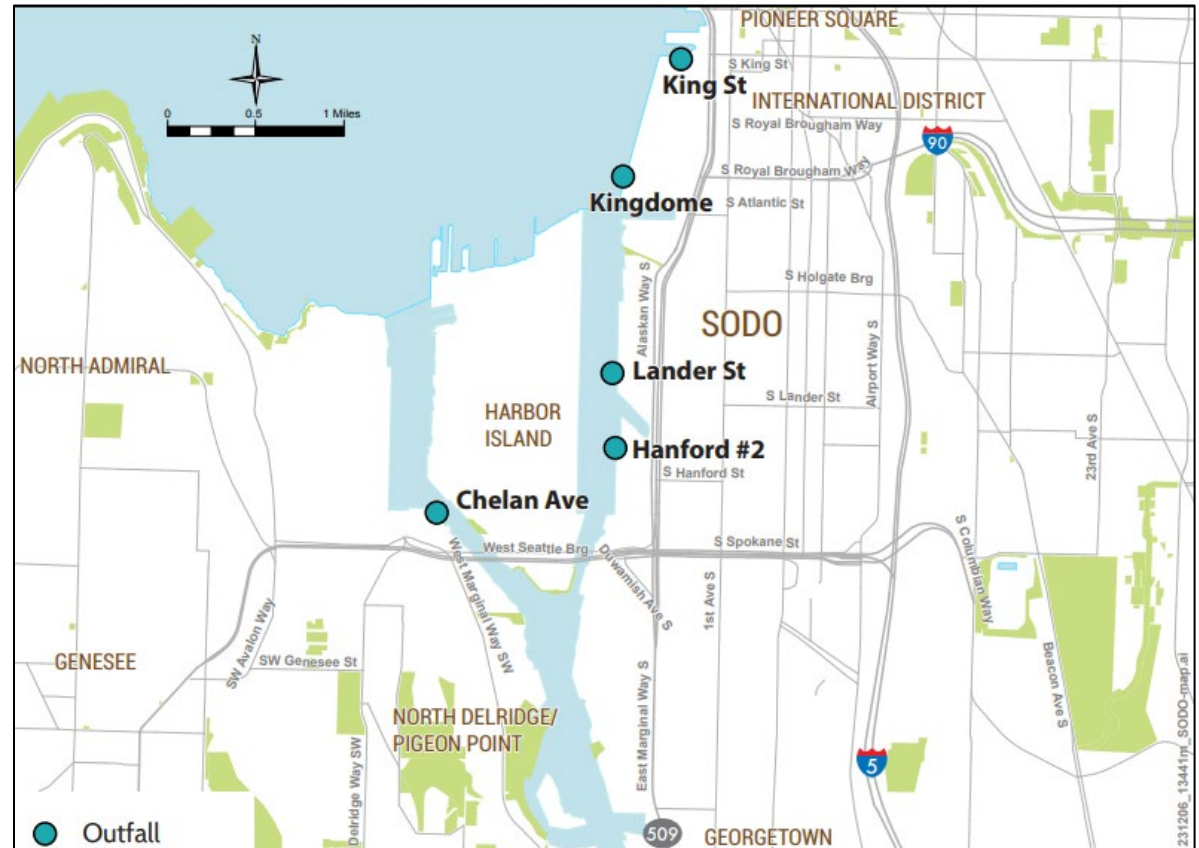


Agenda

- Mouth of Duwamish Wet Weather Facilities Overview
- Identifying the Best Solution
- Facilities Delivery Approach and Timeline

Mouth of Duwamish CSO Outfalls

- Seattle's wastewater pipes were originally built as combined sewer pipes, where stormwater and wastewater flow through the same pipes
- Mouth of Duwamish Wet Weather Facilities will address pollution from five King County outfalls at the mouth of the Duwamish River
- Coordinating with Seattle Public Utilities

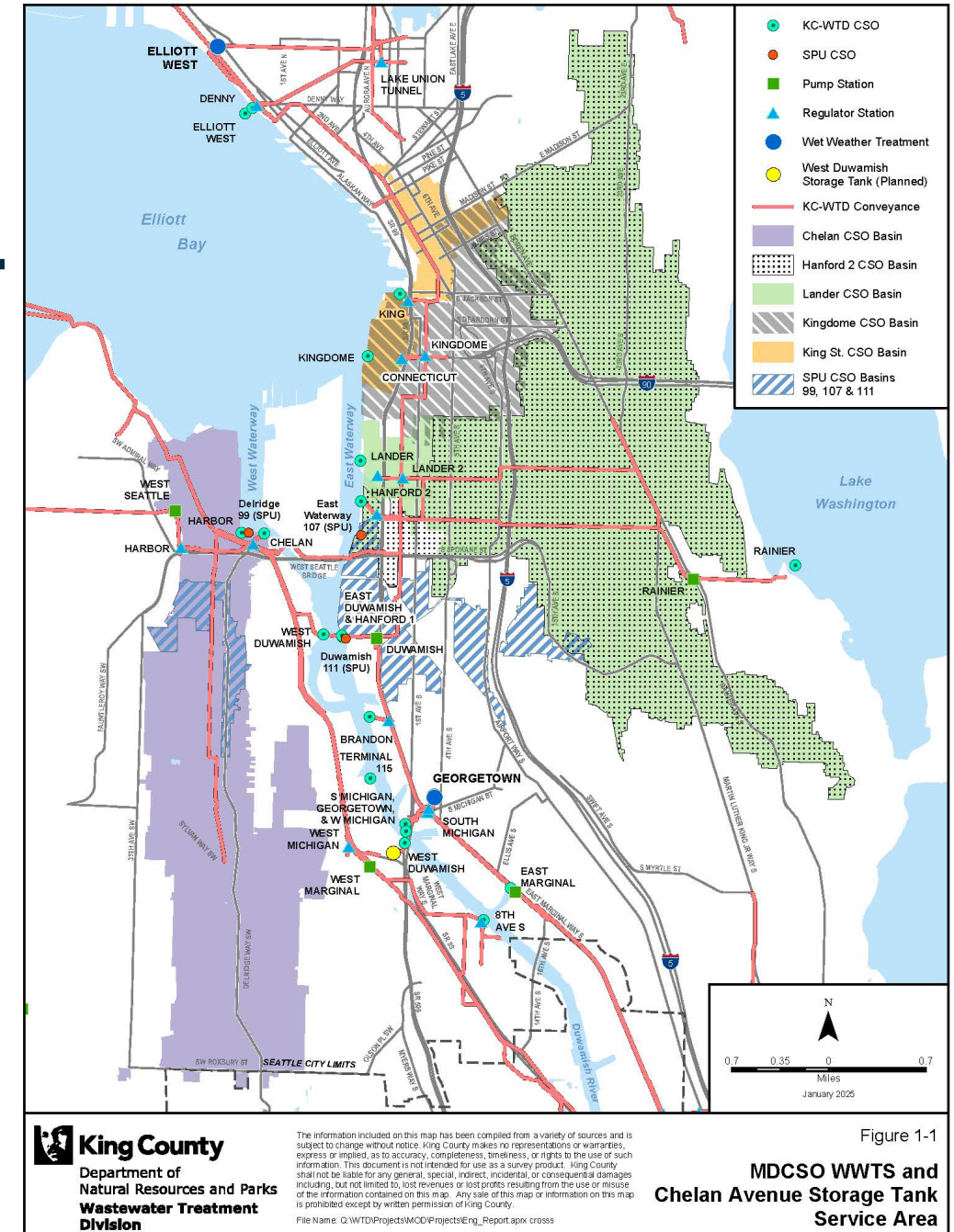


Map of Mouth of the Duwamish Wet Weather Facilities CSO Outfalls



Service Area

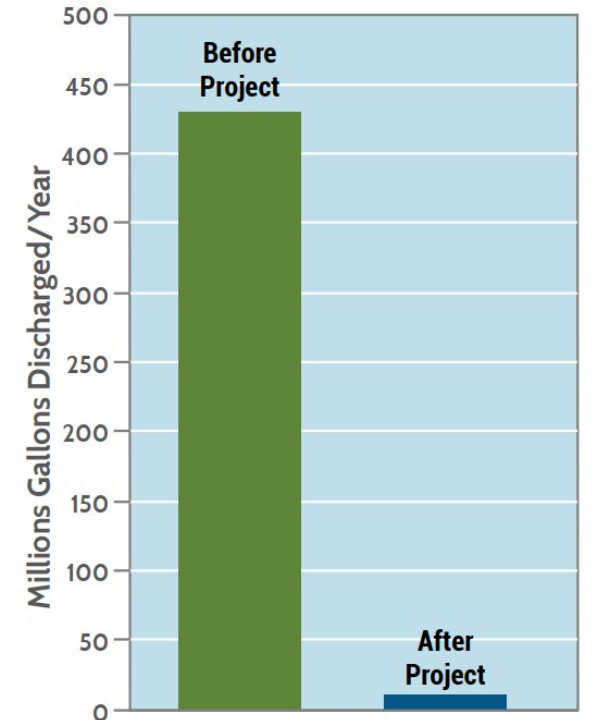
- Program to deliver wet weather facilities to meet regulations through addressing combined sewer overflows from areas in West Seattle, SODO, and Beacon Hill
- Capacity needs are similar to secondary treatment capacity at South Plant during wet weather conditions



Mouth of Duwamish Wet Weather Facilities Goals

King County established this program to:

- Improve water quality in the Duwamish River and Elliott Bay
- Build new infrastructure and invest in wet weather facilities to minimize pollution in Elliott Bay, the Duwamish River, and Puget Sound
- Meet legal requirement to control CSO overflows at each outfall to no more than one untreated release per year over a 20-year average

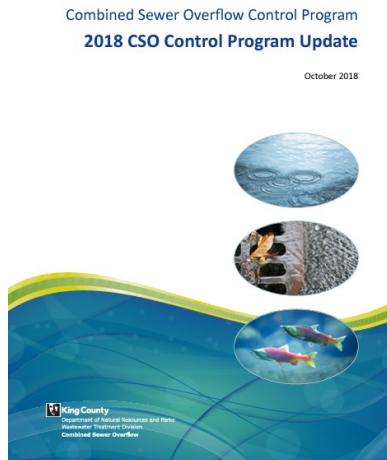


Mouth of Duwamish Outfalls

This effort will control about 430 million gallons per year of combined wastewater and stormwater

Current phase

- Mouth of Duwamish Wet Weather Facilities is in the facility planning phase
- We are developing and evaluating alternative system configurations
- This will help King County select a system that considers factors like cost, schedule, and meeting regulatory requirements



We are here

**Facility
Planning**

Design

Construction

Operations

Output: Department of Ecology Approved Engineering Report

Potential Pollution Control Methods for the Program



Store it: Build underground tanks, tunnels, or pipes to store flows during heavy storms.



Treat it: Build treatment solutions to treat flows that are too large to store.



Move it: Build new pipelines or increase the size of existing pipelines.



GEORGETOWN WET WEATHER TREATMENT STATION

Georgetown Wet Weather Treatment Station, an award-winning facility, protects the Duwamish River by treating up to 70 million gallons of combined stormwater and wastewater on rainy days.

Program Area

- Developing alternative system configurations to control CSOs
- Configurations may include a combination of the following:
 - Storage
 - Example: Rainier Valley Wet Weather Storage
 - Wet weather treatment station
 - Example: Georgetown Wet Weather Treatment Station
 - Conveyance Pipelines/Tunnels
 - Example: Henderson/M.L. King CSO control
 - Outfall



Identifying the Best Solution

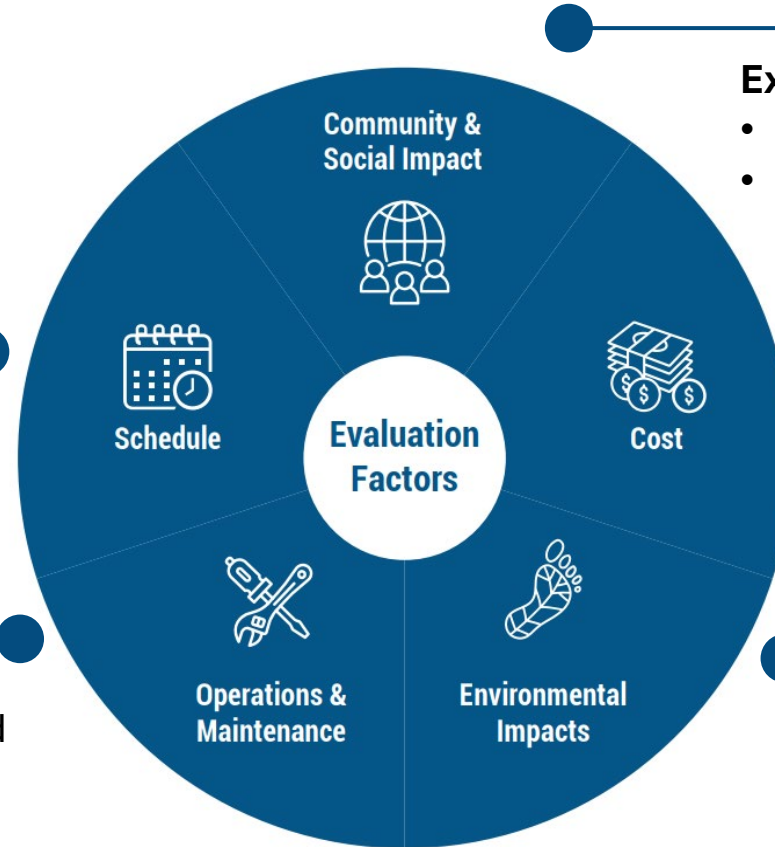
Our goal is to identify a solution that addresses pollution from the five outfalls and supports a healthy and thriving Puget Sound region.

Example Schedule Considerations

- Permitting complexity
- Construction methods

Example O&M Considerations

- Size and complexity of treatment and conveyance system
- Safety for King County workers



Example Community Considerations

- Short-term and long-term impacts
- Disruptions to traffic, bus routes, and pedestrian mobility

Example Cost Considerations

- Construction methods
- Facility sizes

Example Environmental Considerations

- Impacts to air or water quality, shoreline habitat, wetlands, and endangered species

Centering Community in our Infrastructure



Listening First in an Overburdened Community

- Researched SODO community conditions and existing plans and visions
- Launched community values survey and interviews to deepen understanding
- Communicating and listening through community briefings, online open house, virtual public meetings, fairs and festivals, job fair



Understanding Likely Impacts

- Seeking to minimize potential business relocations
- Assessing short and long-term construction impacts, disruptions to traffic, bus routes, and pedestrian mobility
- Striving to preserve public river access points
- Identifying overlaps with other projects in the SODO neighborhood



Centering Community Needs

- Providing equity-centered communication and outreach
- Fostering relationships with CBOs and other orgs
- Exploring strategies to mitigate construction impacts
- Advancing ESJ strategic initiatives (e.g., community greening, workforce development, pro-equity contracting)

Upcoming Considerations



Property Acquisition

- Any option will require the purchase of an estimated 4 to 8 acres in SODO
- Permanent and temporary easements may also be required for pipelines, outfall and other system needs



Preparing for Construction

- Construction will impact community members who live, work, and travel through the SODO neighborhood
- Impacts may include traffic congestion, lane or full road closures, temporary construction impacts, noise disruptions, and parking impacts



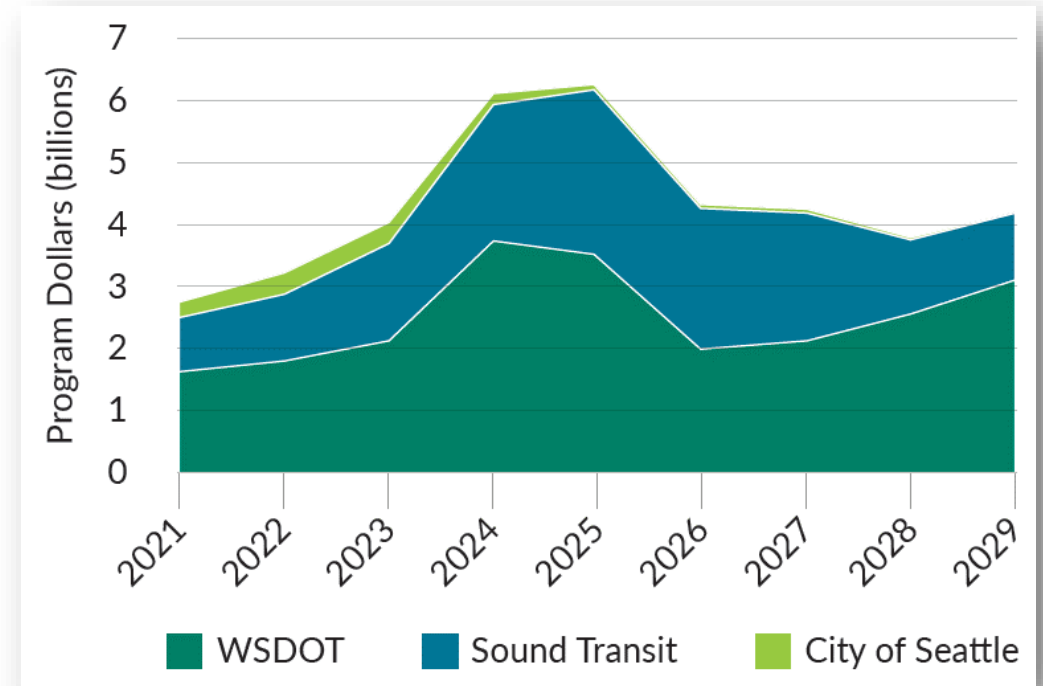
Cost Trends and Drivers

- Incorporation of climate change considerations increasing size of facilities.
- Outfall and conveyance pipe needs and construction techniques further defined
- Geotechnical and environmental factors further defined



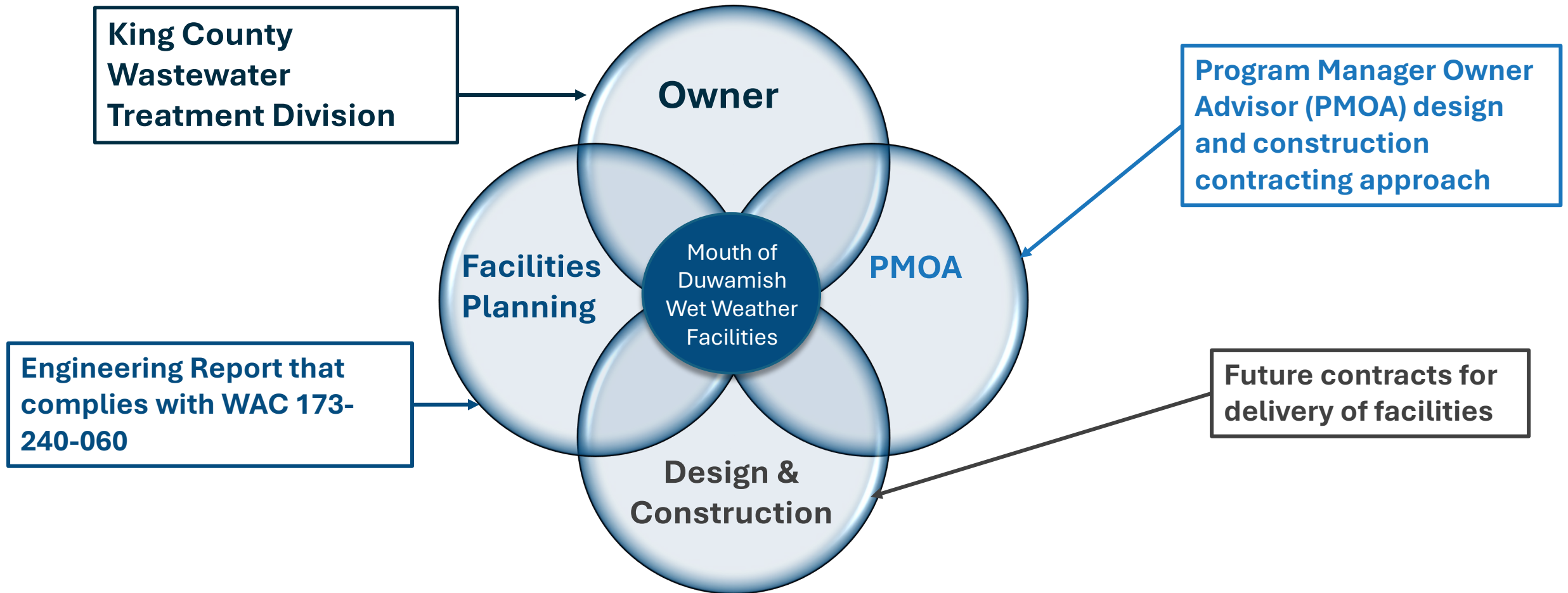
Cost Trends and Drivers – Contracting Market

- Material Escalation – Construction materials increased up to 20-30% in last 3 years
- Labor Escalation – Wages increased on average 11% from 2022 to 2024
- Concurrent Projects and Market Capacity
- Labor Shortages for construction workers and engineering

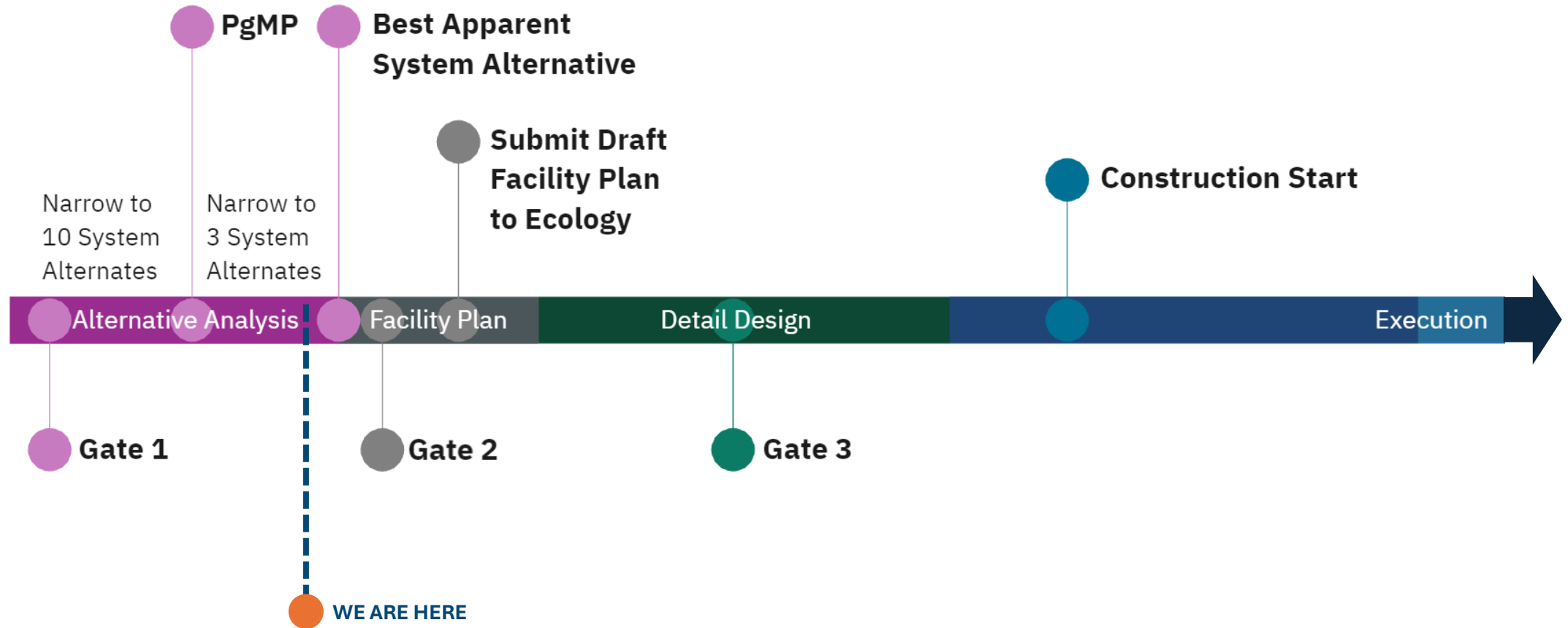


Sources: US Bureau of Labor Statistics – Producer Price Indices, Consumer Price Indices; Engineering News Record – Construction Cost Index; Mortensen Construction Labor Price Index; Puget Sound Regional Capital Improvement Plans – WSDOT, Sound Transit, City of Seattle

Facilities Delivery Approach



MDCSO Roadmap



Thank you

Stan Hummel, CSO Delivery Unit Manager



King County

Wastewater Treatment | Mouth of Duwamish Wet Weather Facilities

Q & A



King County

Wastewater Treatment | Mouth of Duwamish Wet Weather Facilities



King County
Wastewater
Treatment

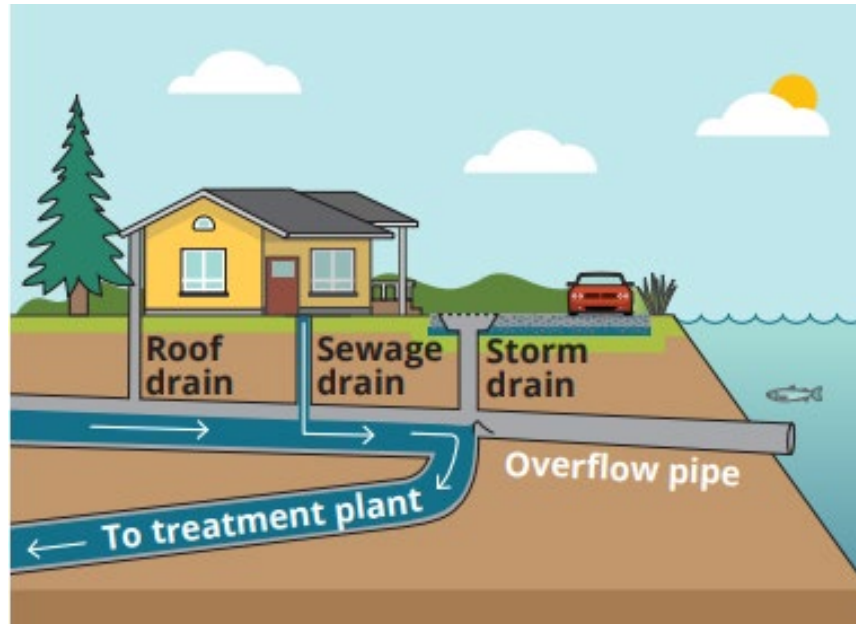
Mouth of
Duwamish
Wet Weather
Facilities

Appendix

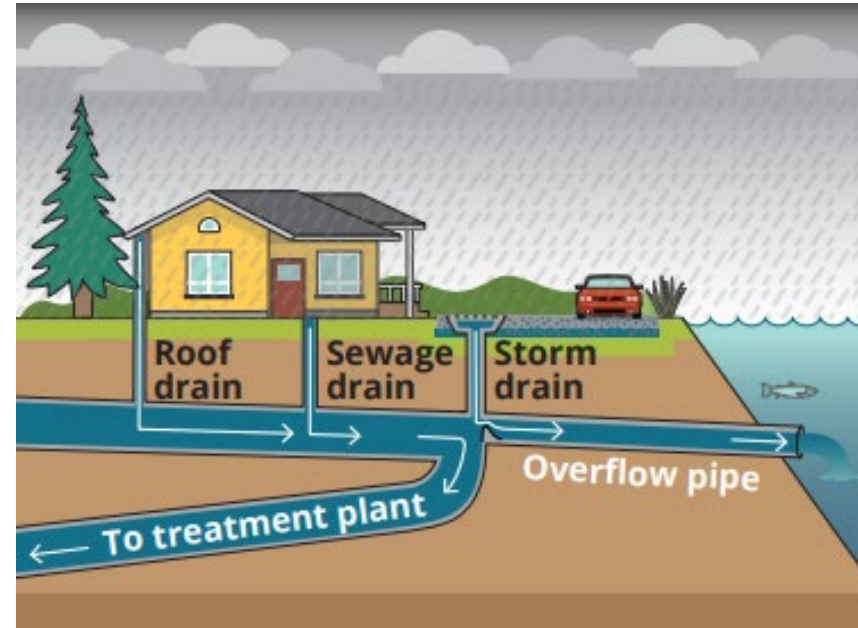


Combined Sewer Overflows (CSO)

Seattle's wastewater pipes were originally built as combined sewer pipes, where stormwater and wastewater flow through the same pipes.



On dry days, wastewater goes directly to a treatment plant to be cleaned.



When heavy rainstorms overload pipes with stormwater, the flow is temporarily diverted through a CSO outfall into a local water body.