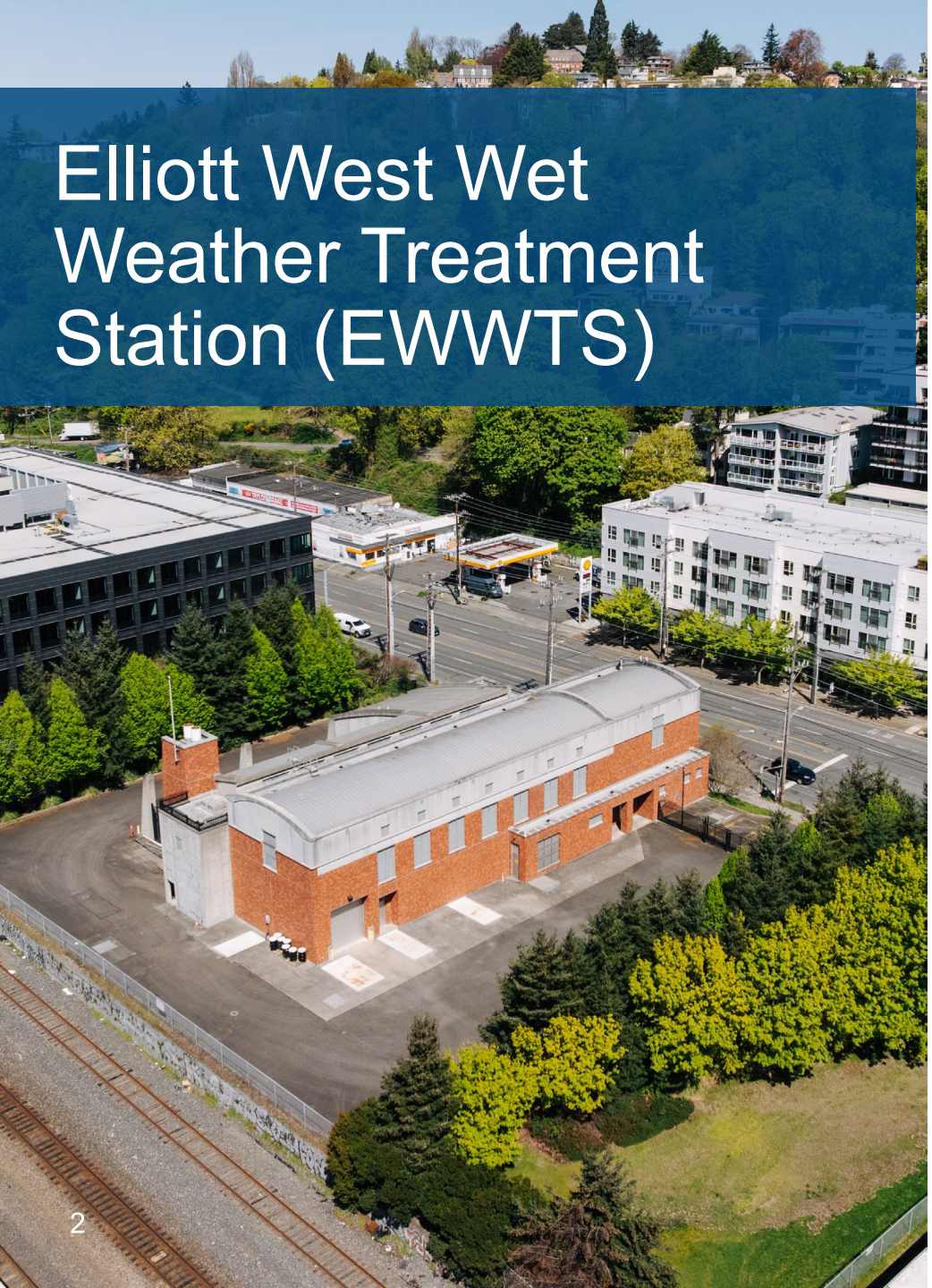
Elliott West Wet Weather Treatment Station

MWPAAC Planning and Engineering Subcommittee

November 6, 2025

King County | Wastewater Treatment

Elliott West Wet Weather Treatment Station (EWWTS)



Overview

- **Objective:** Bring EWWTS into full compliance with discharge permit and water quality standards
- Effluent quality not always compliant with discharge permit since facility completed in 2005
- **Project Scope:** Upgrade treatment at EWWTS to meet permit standards
- 2024 discharge permit from Ecology includes compliance schedule with interim milestones, targeting full completion by December 2031
- **Benefits:**
  - Ability to meet stricter environmental standards and adapt to changing climate
  - Compliance with discharge permit

Existing Facility

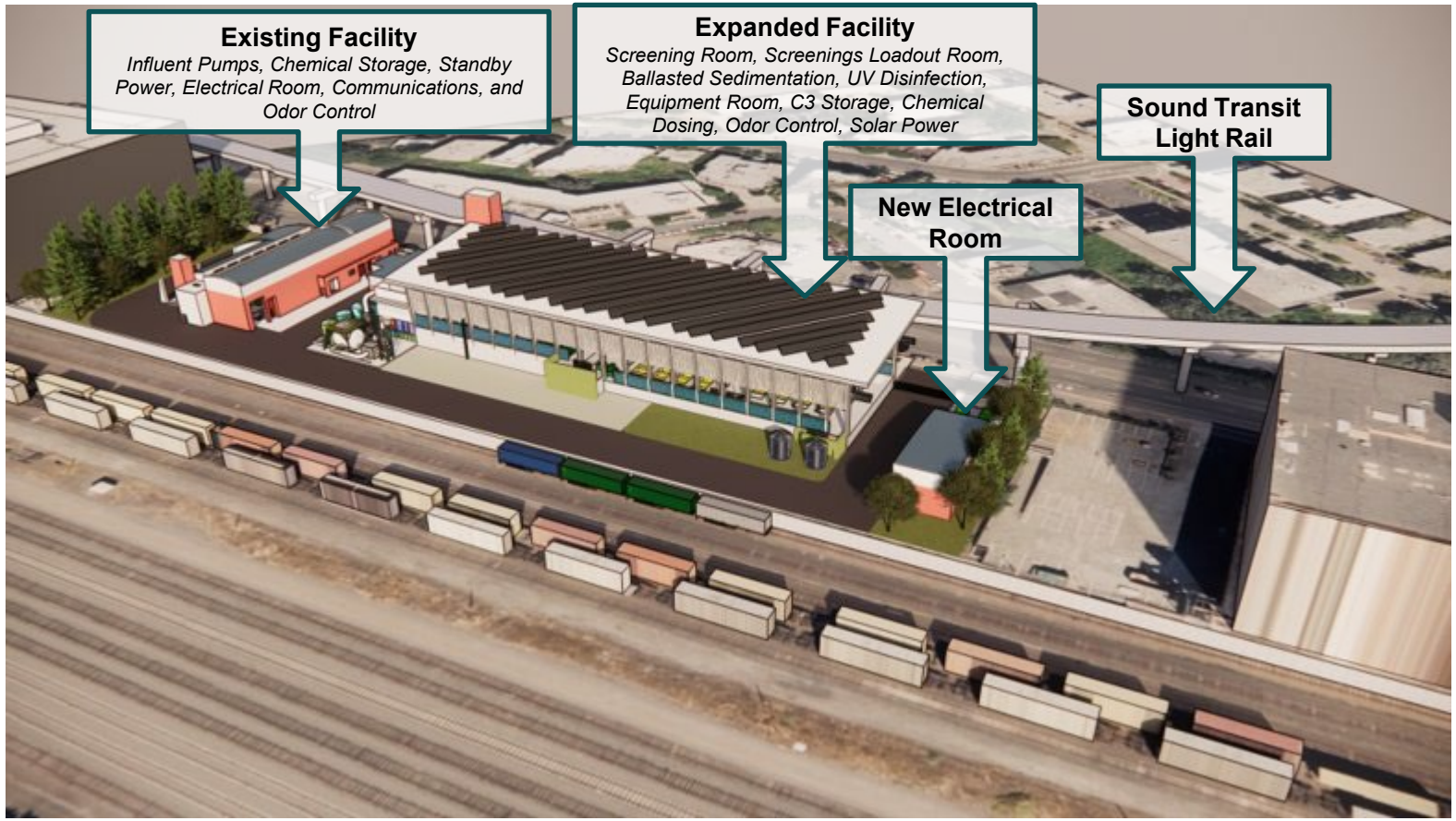
A 6,200-foot long 14-foot diameter tunnel from South Lake Union to Elliott West stores combined sewage during rain events. Once the tunnel is filled, flow is screened and disinfected prior to discharge through an off-shore marine outfall.

- Stored flow receives treatment at West Point
- 240 MGD design (pump) capacity
- Began operations in 2005
- Treatment includes screening, solids
- Hypochlorite disinfection and dechlorination
- Provides substantial pollutant reduction but has not reliably achieved full regulatory compliance (pH, TSS, chlorine residual, fecal coliform, settleability)
- WTD has spent >$10M on improving permit compliance since facility came online in 2005

ELLIOTT WEST
Wet Weather Treatment Station

EWWTS Project Overview

- Project objective: Compliance with NPDES permit, including completion by December 2031



Project Scope

At Elliott West Wet Weather Treatment Station:

- Flow conditions
  - Treatment Flow Rate – 180mgd
  - Peak Flow Rate – 210mgd
- Optimize operation of the Mercer Tunnel for flow equalization.
- Upgrades to the existing influent pump station, including replacement of 6 influent pumps
- New screens and screenings handling facilities
- New ballasted sedimentation facilities (Actiflo) for solids removal (similar to Georgetown Wet Weather Treatment facility)
- New Ultraviolet (UV) disinfection facilities
- Ancillary facilities including new odor control units, equipment storage room, electrical and power supply upgrades, onsite stormwater treatment

ELLIOTT WEST
Wet Weather Treatment Station

General Contractor Construction Management (GC/CM) Delivery and 30% Estimate

- Kiewit selected as GC/CM in 2024
  - Primary role during design is to provide constructability input, develop sequencing for construction, and prepare cost estimates
  - Developed construction schedule
  - Developed 30% design cost estimate
- Engineer's 30% estimate developed by Engineering (Jacobs) / PMOA (Parametrix)
- Engineer's 30% estimate reconciled with GCCM estimate to understand cost variance and update budget estimate
- Construction contract to be based on 90% design estimate and schedule

Schedule

- 60% Design Review – March-April 2026
- 90% Design Review – April 2027
- Construction Notice to Proceed (NTP) – January 2028
- Substantial Completion – 2032

Schedule Challenges:

- GC/CM Contractor (Kiewit) developed construction schedule indicating construction likely to require 4+ years
- Ecology mandated completion date of December 2031 is aggressive. Most likely completion date is 2032-2033
- Seeking to advance schedule to minimize cost impacts due to escalation

Cost Variance between Gate 2 and Gate 3

- Cost increased from Gate 2 (January 2024) to Gate 3 (May 2025)
- Variance due to:
  - Scope updates
    - Engineering refinement (e.g., replacement of influent pumps, coordination with Seattle City Light on power requirements)
    - O&M input & operability (e.g., replacement of additional aging equipment)
    - Alignment of means and methods (e.g., duration-based equipment, excavation support)
  - Market Conditions
    - Updated equipment, labor, materials
    - Market-aligned pricing (e.g., concrete, assumptions on contractor and subcontractor mark-ups)

Value Analysis

- Value analysis conducted leading up to 30% design
- Additional value analysis is being conducted with the goal of reducing project costs. Topics explored:
  - Alternative construction means and methods
  - Foundation – shoring methods, reduced piles
  - Architectural modifications – reduced roof slope, optimized siding

EWWTS Project Team is:

- Communicating concern with meeting completion requirement of December 2031 to Washington state Department of Ecology.
- Developing documentation to support request to Ecology for extending project schedule.
- Anticipating presentation to Ecology in November 2025 and resubmittal of Engineering Report to Ecology in November/December 2025

Budget

- Estimate at completion included in the 2026/27 proposed budget increased by $75M to $567M to account for increases in project cost in collaboration with the Executive's Budget Office
- Updated gate 3 estimate needs to be fully vetted internally and through the Executive
- Next opportunity to engage on the updated Estimate at Completion is through the 2027 sewer rate process

ELLIOTT WEST
Wet Weather Treatment Station

Summary

- Design development is continuing to progress to 60% submittal in March 2026
- Current schedule - negotiate main construction contract package in 2027 to support construction mobilization
- Moderate schedule relief from Ecology (1-2 years), if granted, helps meet permit requirements but does not provide rate relief

ELLIOTT WEST
Wet Weather Treatment Station

Thank you

Stan Hummel, CSO Delivery Unit Manager

stan.hummel@kingcounty.gov

King County | Wastewater Treatment

Elliott West Wet Weather Treatment Station

Q & A

King County | Wastewater Treatment

Elliott West Wet Weather Treatment Station