King County

South Magnolia CSO Control Project



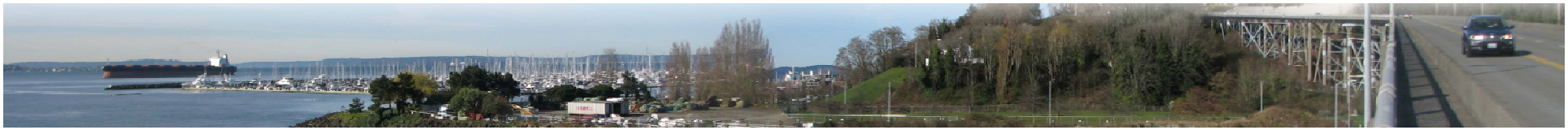

Community Meeting

October 20th, 2011

TETRA TECH
and Team

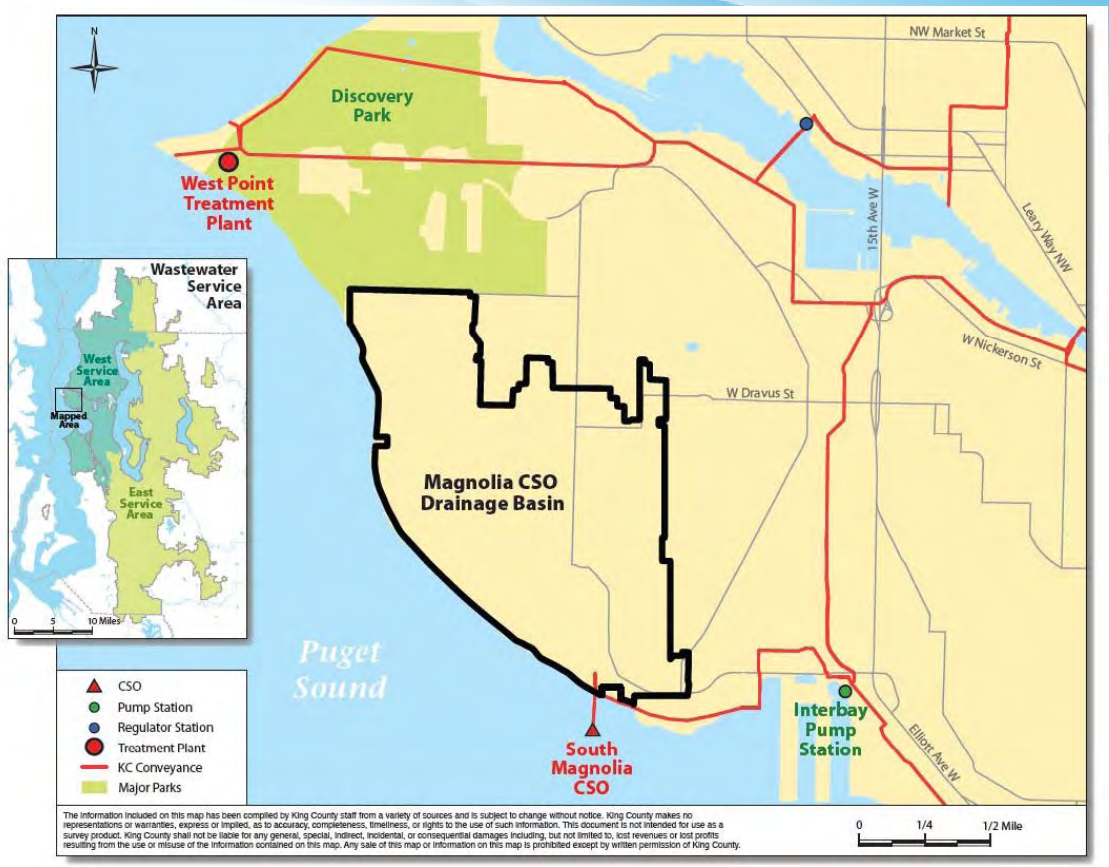
Tonight's Meeting

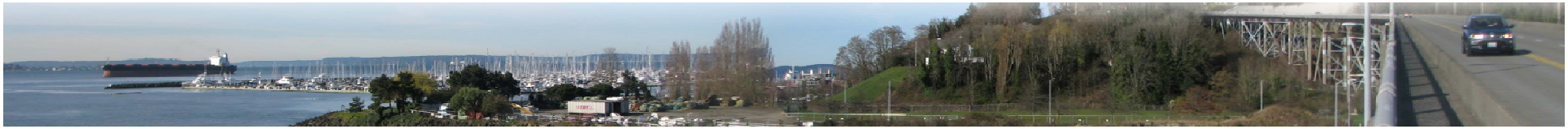
- Project Update
- Design/Construction of Project Elements
  - Underground Storage Tank
  - Gravity Sewer Pipeline
  - Diversion Structure, 32nd Ave W
- Next Steps
- Q&A



Why are CSOs a problem in Magnolia?

- **Department of Ecology requirements**: no more than one untreated overflow per year on a long term average
- During most conditions, flows from the South Magnolia basin are conveyed to West Point Treatment Plant.
- Flows exceeding system capacity are discharged untreated to Puget Sound on average **19 times per year**

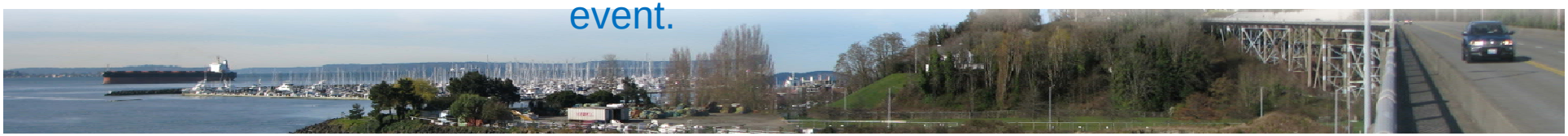




Controlling South Magnolia CSOs

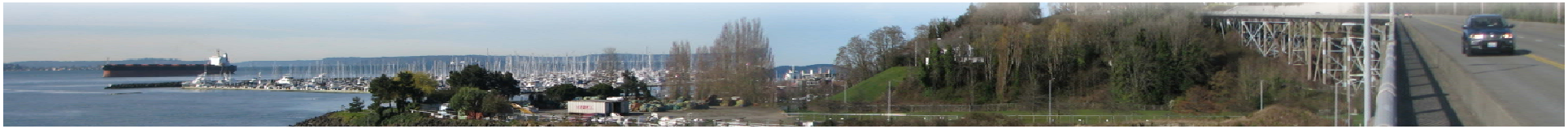
- Flows beyond capacity or the South Magnolia Interceptor are conveyed to underground storage
- Once storm events have passed, stored flows are returned to the conveyance system

The South Magnolia Interceptor continues to convey wastewater to Interbay Pump Station throughout a storm event.



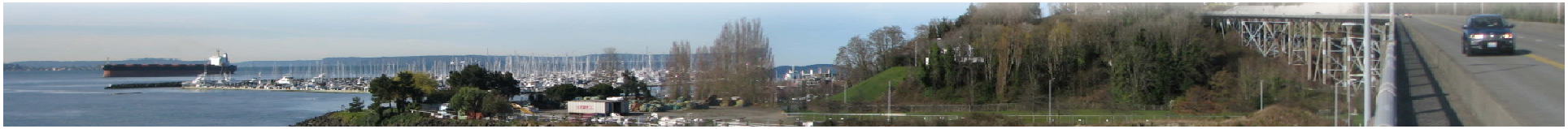
Project Update

- December 2010
  - Draft Facility Plan Submitted
- Spring 2011
  - Environmental Review Under SEPA Completed
- Summer 2011
  - Final Facility Plan Submitted
  - Design Phase Begins
- Summer / Fall 2011
  - Announce Preferred Tank Location
  - Geotechnical Field Investigations
- Early 2012- Predesign complete



Public Outreach Activities

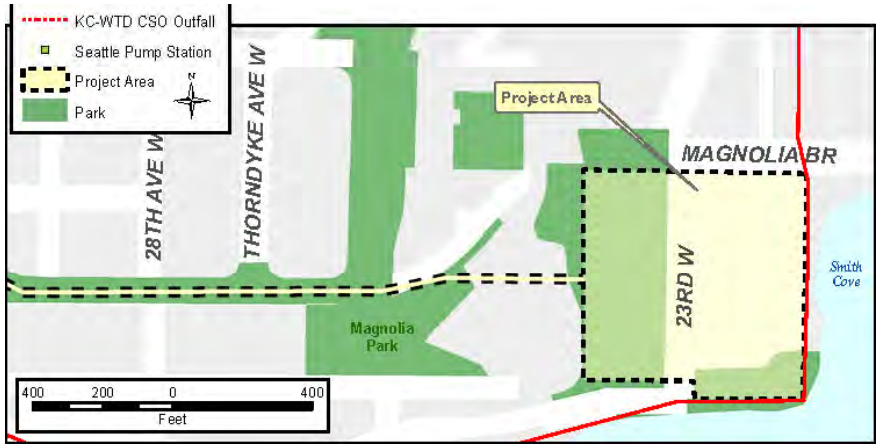
- Meetings
  - MCC- March 2011
  - Community meeting co-hosted by County, Port and Parks- March 2011
  - Neighborhood Meetings- August 2011
  - MCC Board meeting 10/18/11
  - Port of Seattle's Neighborhood Advisory Committee- 10/19/11

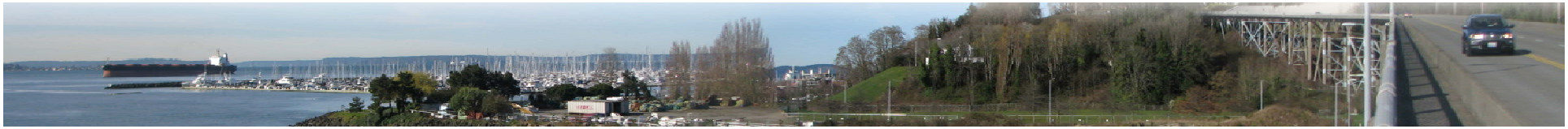


Tank location- evaluation and input

- Community input during March 2010, March 2011 public meetings
- Meetings beginning July 2010 with Port of Seattle, and Seattle Parks Department
- Technical evaluation workshops in 2011

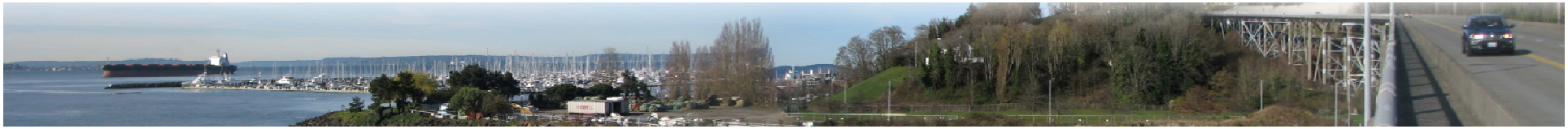
Area identified in 2010 for the underground storage tank





Locations Considered

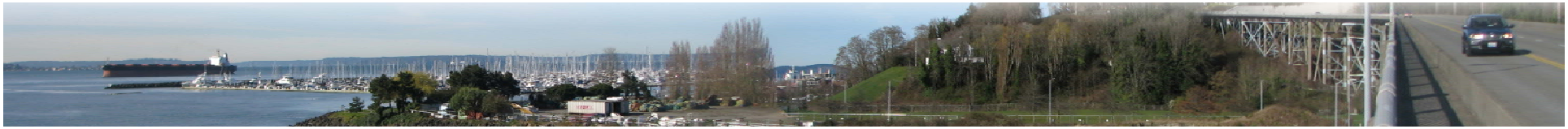
- Seattle Park's Smith Cove property under future Magnolia Bridge
  - Consolidates tank and bridge in one location
  - Most challenging due to coordination of two projects involving multiple agencies, scheduled years apart
- In ROW on 23rd Avenue West
  - Footprint would impact both Port and Parks properties
  - Major access impacts to Elliot Bay Marina during construction and operations
  - Relocation of all utilities required
- Terminal 91 West Yard



King County's preferred tank location: Terminal 91 West Yard

- Consolidates facility to north end of site adjacent to future Magnolia Bridge
- Access for O/M crews near ROW
- Potential parking and/or ancillary facilities on tank site

Project Elements- Design and Construction

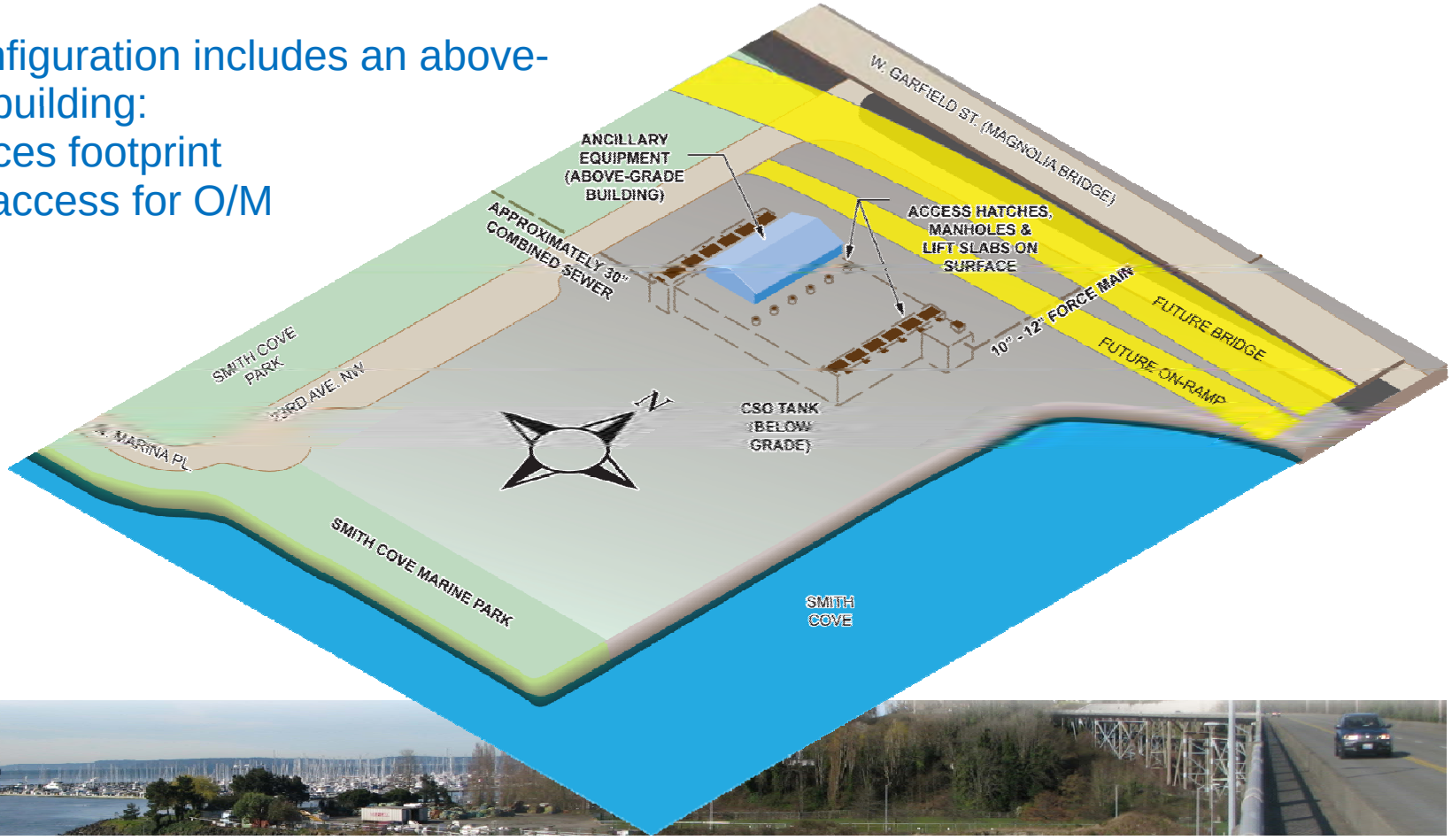


Facility Configuration at the West Yard Site

- CSO Tank with Above-Ground Equipment Building

This configuration includes an above-ground building:

- Reduces footprint
- Safe access for O/M

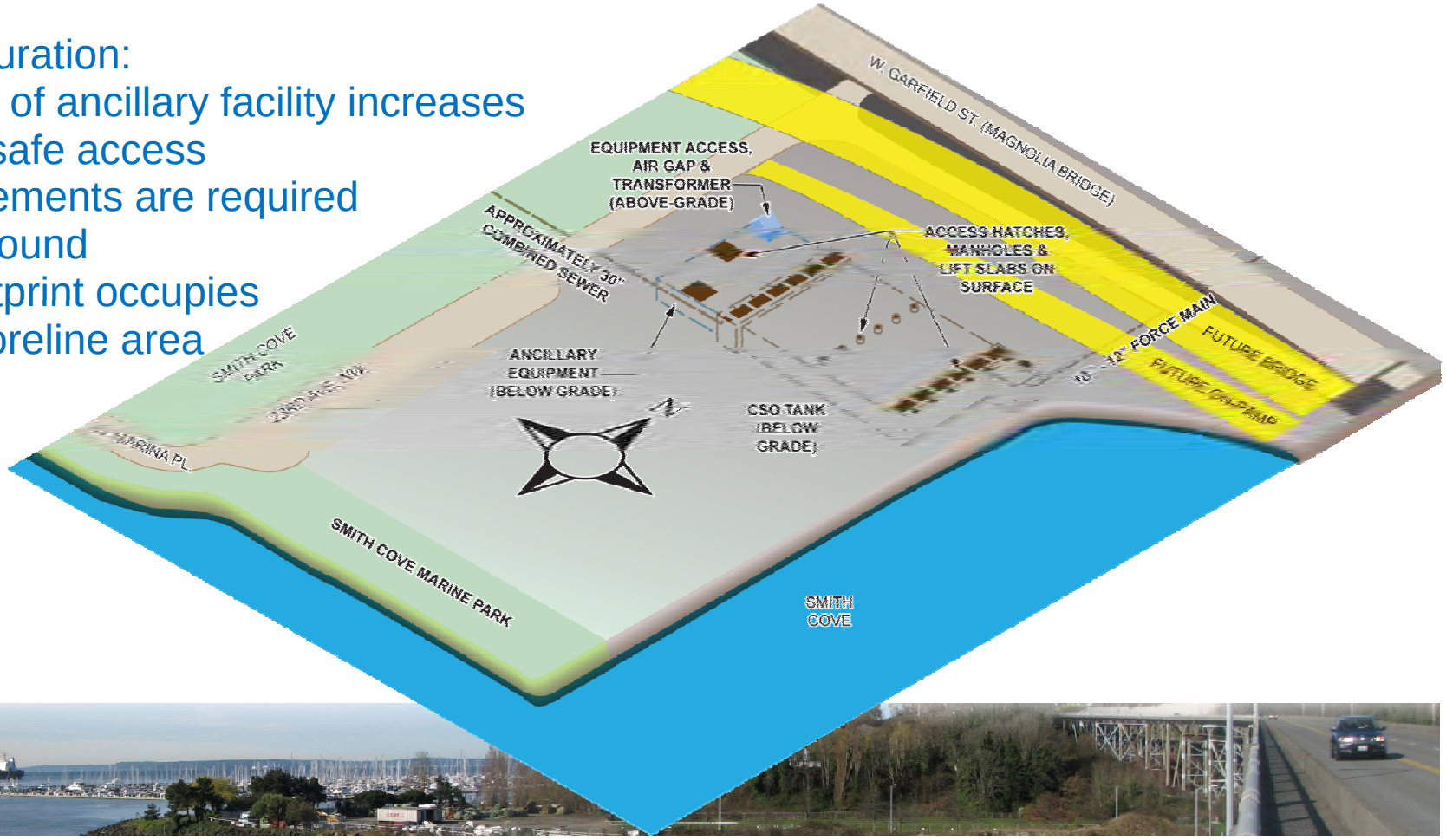


Facility Configuration at the West Yard Site

- CSO Tank with Below-Ground Equipment Building

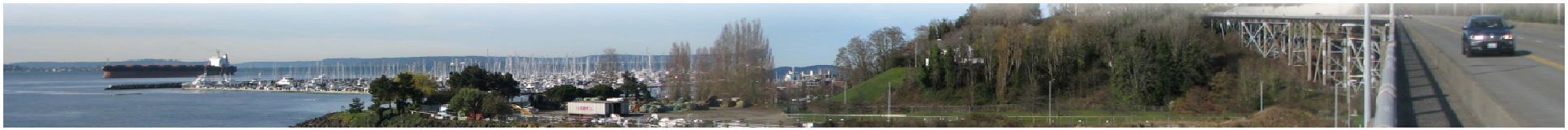
This configuration:

- Footprint of ancillary facility increases to allow safe access
- Some elements are required above ground
- Tank footprint occupies more shoreline area



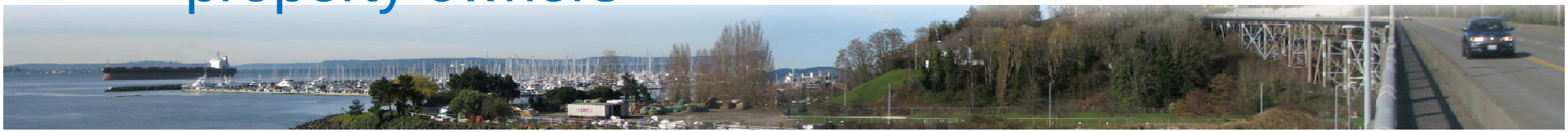
Ancillary equipment facility factors to consider

- Environmental
- Engineering
- Operations and Maintenance
- Community
- Land use and permitting
- Project costs



King County will determine optimal gravity sewer pipeline alignment

- Geotechnical field investigations underway to inform evaluation
- Public outreach in August focused on providing information, answering questions, addressing concerns about geotechnical work and pipeline alignment alignment
- If alignment involves subterranean easements, King County will work with property owners

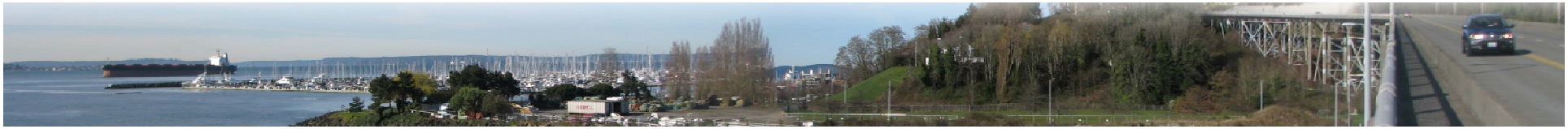


Storage tank construction

Typical construction involving

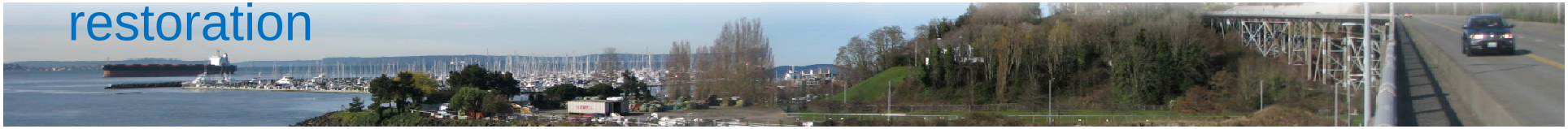
- Ground support
- Excavation
- Concrete work
- Equipment installation
- Surface restoration

King County built a 6-million gallon underground storage tank in Bothell



Project elements in Smith Cove Park athletic fields

- The gravity sewer pipeline will cross under the fields
- King County will compensate Seattle Parks for pipeline easements
- King County will work with Seattle Parks staff during design to address park use and restoration

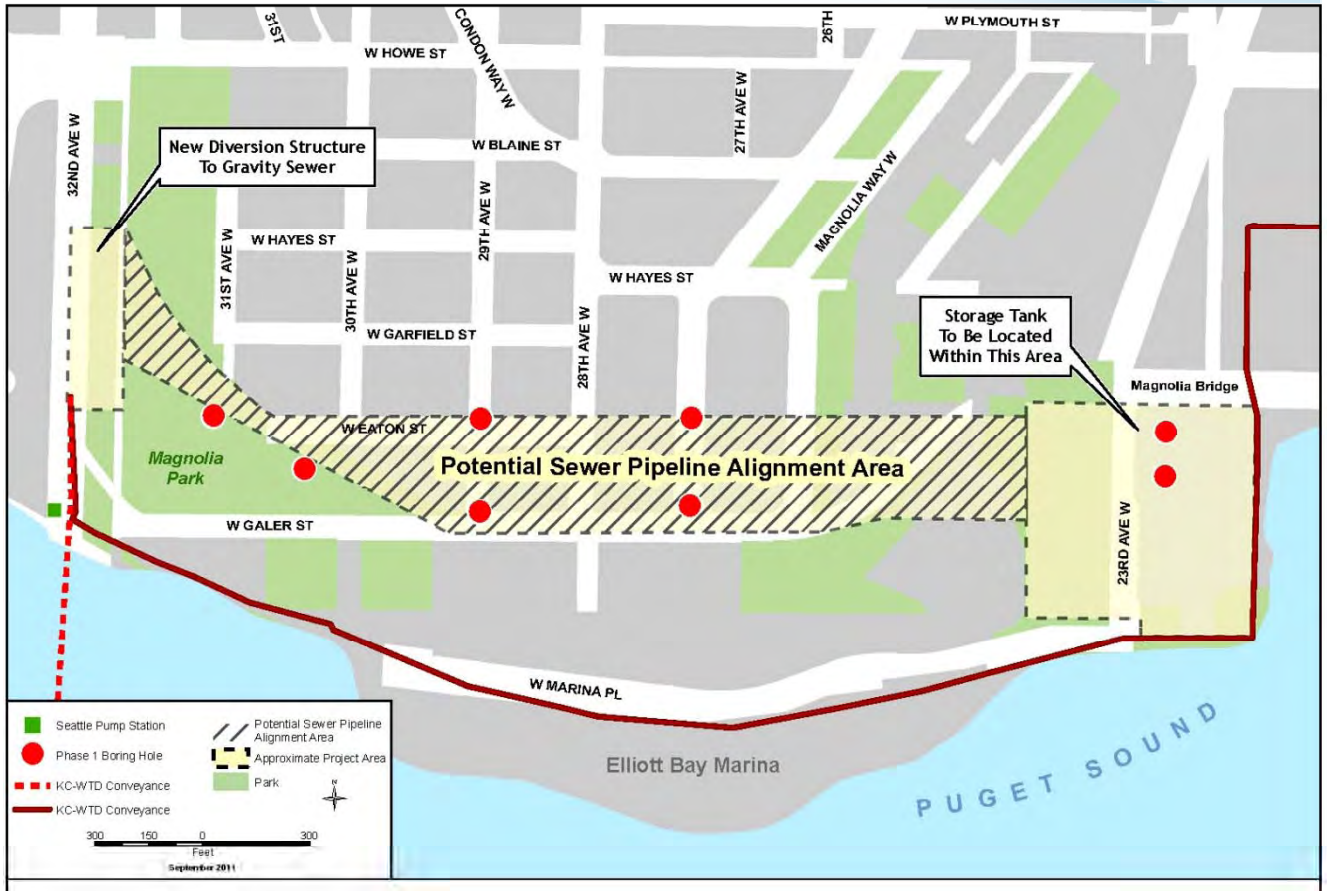


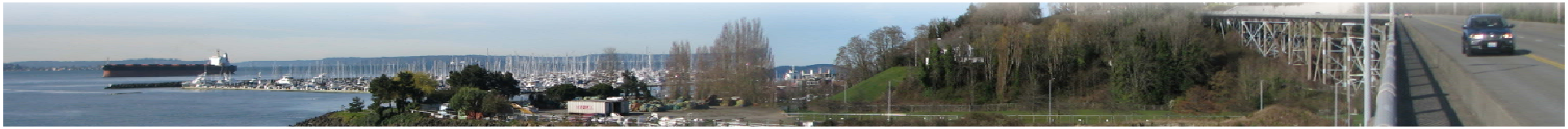
Gravity sewer pipeline

Approximately 2,700 lineal feet of gravity sewer pipeline will be installed deep underground to connect the storage tank with a diversion structure on 32nd Avenue West

Geotechnical investigations help identify optimal alignment

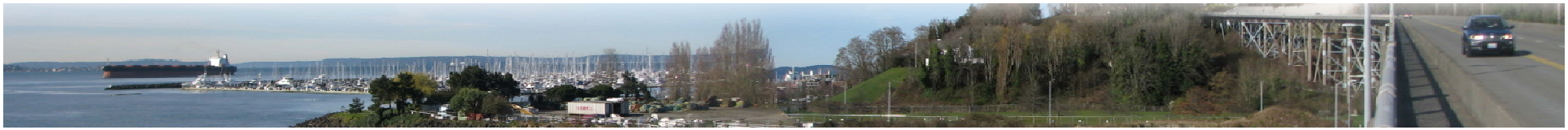
- Phase 1 borings underway
- Borings and monitoring will define soil and groundwater conditions



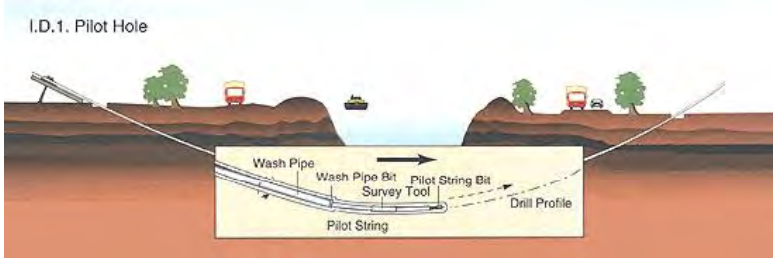


Trenchless technology for pipeline installation

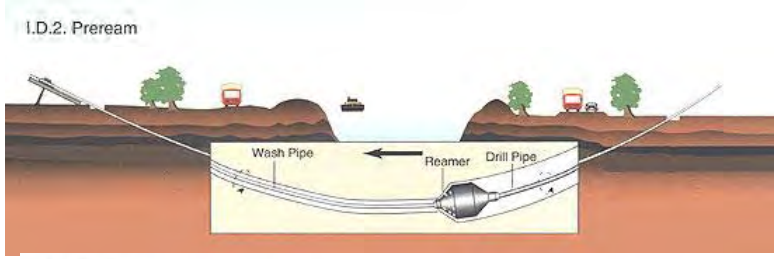
- **Trenchless technologies** are used for deep underground pipeline installations to avoid open trench excavation at the surface.
- Benefits include:
  - Avoiding sensitive environmental areas
  - Limited surface impacts- No surface impacts along West Galer and West Eaton streets



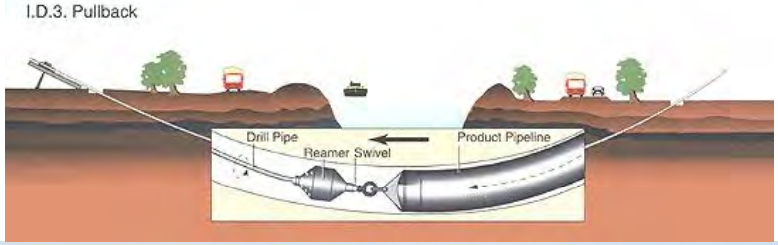
Trenchless Technology
Horizontal Directional Drilling (HDD)



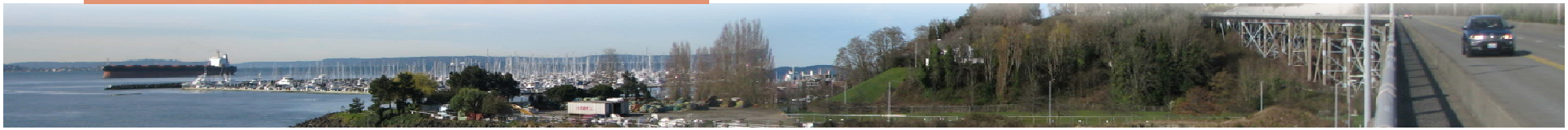
Drilling rig on surface installs drill pipe along underground path called a pilot hole



Pilot hole is enlarged using a reamer

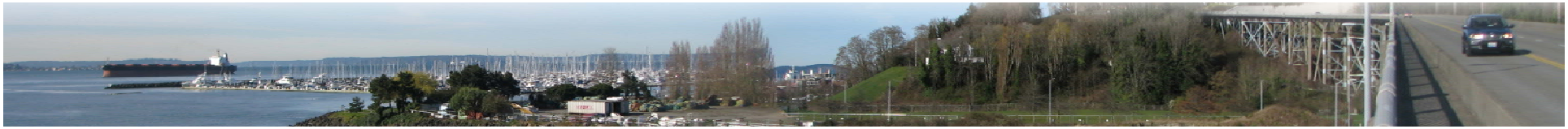


The final pipeline is then pulled back through the enlarged hole.



Diversion Structure on 32nd Avenue West

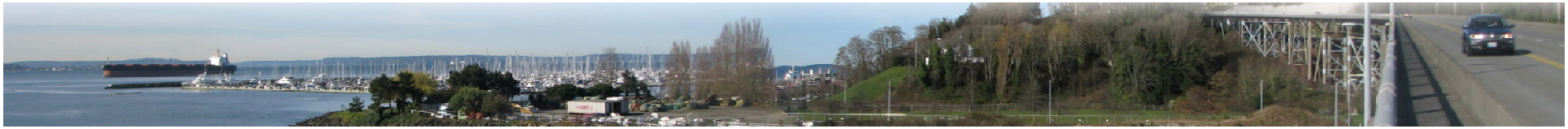
- An underground diversion structure on 32nd Ave West will transfer excess flows from the Magnolia system to the storage tank
- Construction of the gravity sewer pipeline will occur at the Port of Seattle site and on 32nd Avenue West near the diversion structure
- King County will continue working with residents on 32nd Avenue West throughout design and construction



Next Steps- Project activities

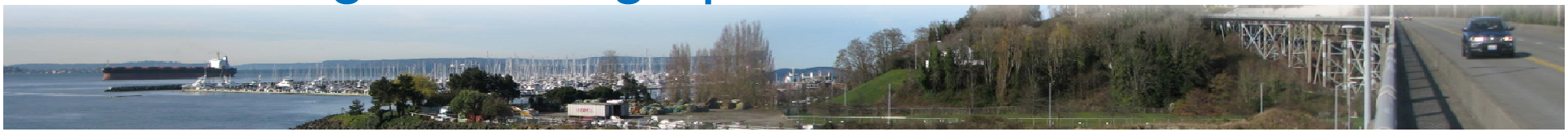
- Work with Port of Seattle on property acquisition - current
- Confirm pipeline alignment and tank location and configuration – early 2012
- Pre-design complete – March 2012
- Final design complete – December 2012*
- Begin construction 2013*

** Department of Ecology Requirements*

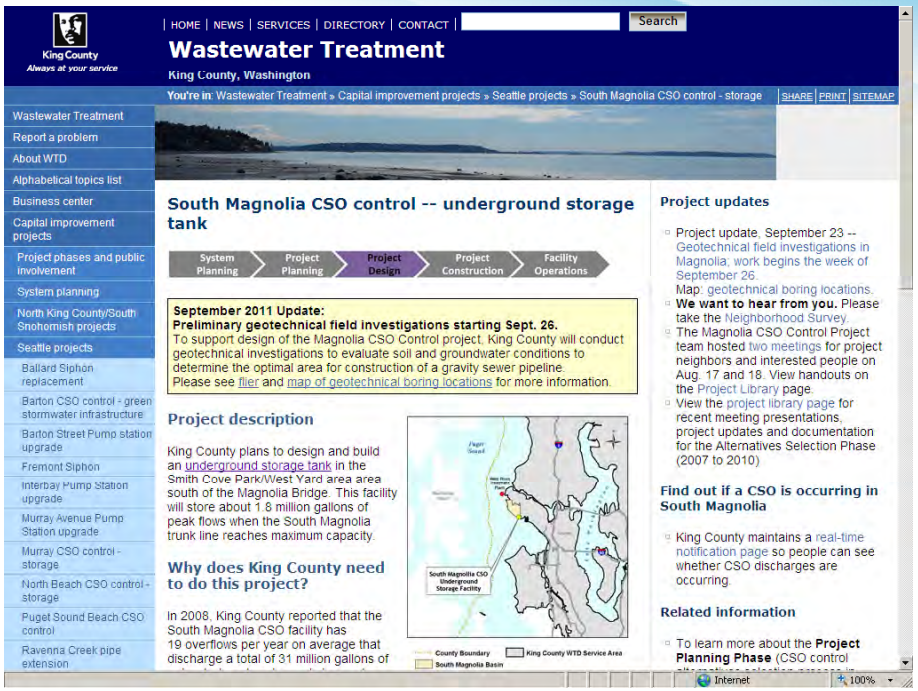


Next Steps- Public Participation

- Community meeting October 20, 2011
- Ongoing communications with interested community members; meetings and briefings for community groups and organizations
- Community meeting in January 2012 to learn about facility configuration
- Public outreach activities tailored to needs during the design phase



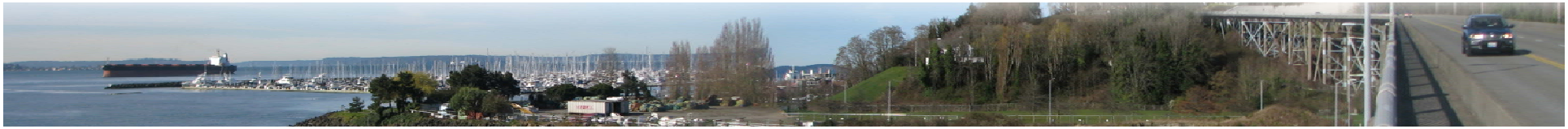
How King County works with communities during project design



Tools

- Community and neighborhood meetings
- Presentations to community groups
- One on one information exchange
- Web and newsletter updates

Public outreach is tailored to project milestones and the project community's needs.



Contact Us

- Monica Van der Vieren at (206) 263-7301 or Monica.vandervieren@kingcounty.gov
- More information on the web

www.kingcounty.gov/environment/wtd/Construction/Seattle/SMagnoliaCSOStorage