

Willamette River Combined Sewer Overflow (CSO) Program

City Council Update
October 20, 2010



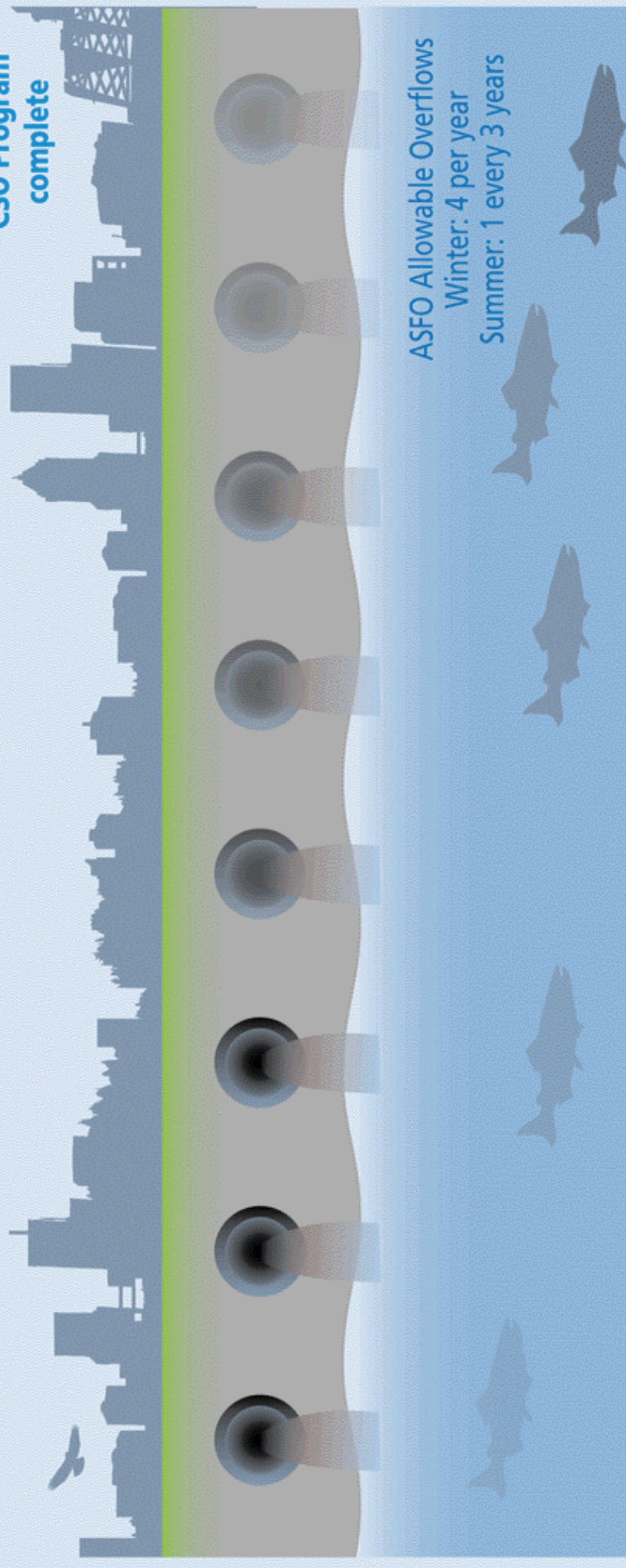
ENVIRONMENTAL SERVICES
CITY OF PORTLAND

working for clean rivers

Combined Sewer Overflow (CSO) Program Milestones

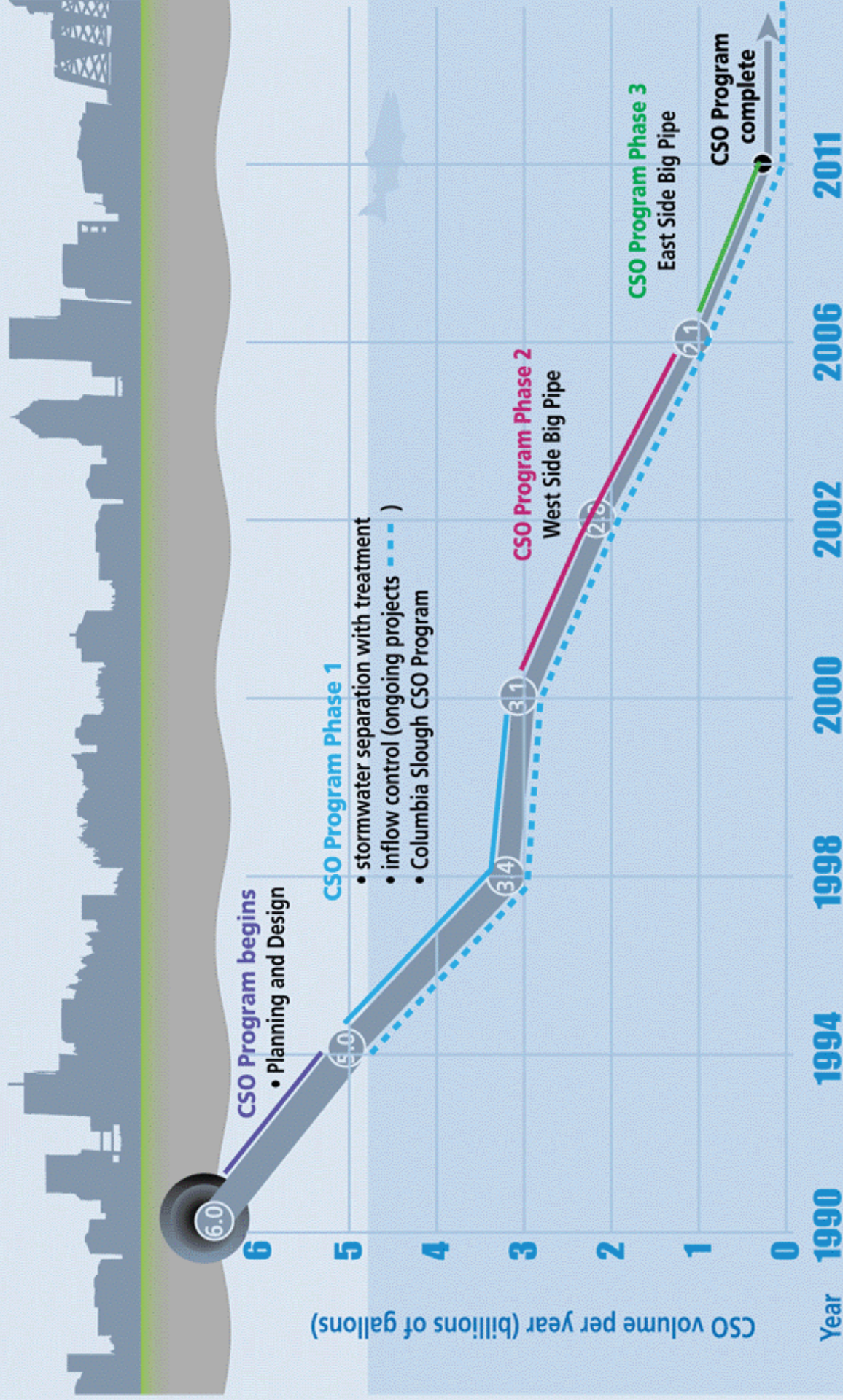
1991	1994	1996	2000	2006	2011
DEQ issues SFO	CSO Facilities Plan	focused Willamette River	Columbia Slough	Willamette River	Willamette River
CSO Program starts	completed	planning begins	outfalls controlled	west side outfalls controlled (16)	east side outfalls controlled
	DEQ issues ASFO				

CSO Program complete



ASFO Allowable Overflows
Winter: 4 per year
Summer: 1 every 3 years

Portland's Combined Sewer Overflow Reductions



Countdown to Control CSO Outfalls

- All 13 Columbia Slough Outfalls controlled by
✓ December 2000 - Completed
- 7 Willamette River Outfalls controlled by
✓ December 2001 - Completed
- Next 16 Willamette River Outfalls controlled by
✓ December 2006 - Completed
- Final 19 Willamette River Outfalls controlled by
December 2011 - Underway

Downspout Disconnection Program

- Began in 1996 - one of the CSO Cornerstone Programs
- Nearly 26,000 property owners have disconnected more than 52,000 downspouts
- Disconnections keep 1.5-billion gallons of stormwater out of sewers annually



Green Infrastructure

Ecorooofs



Swales

Planters

Green Streets

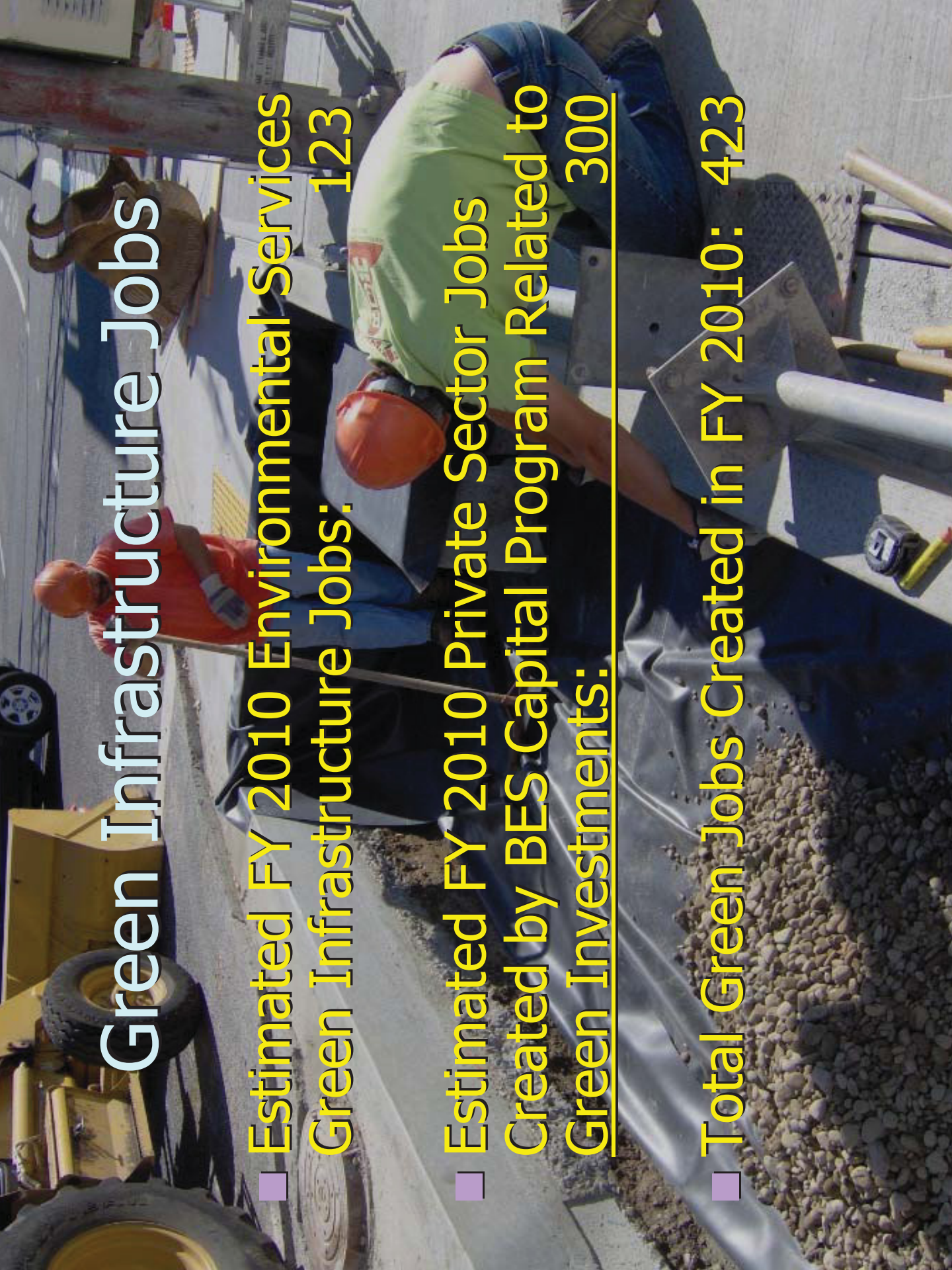


Ecoroofs



Green Streets



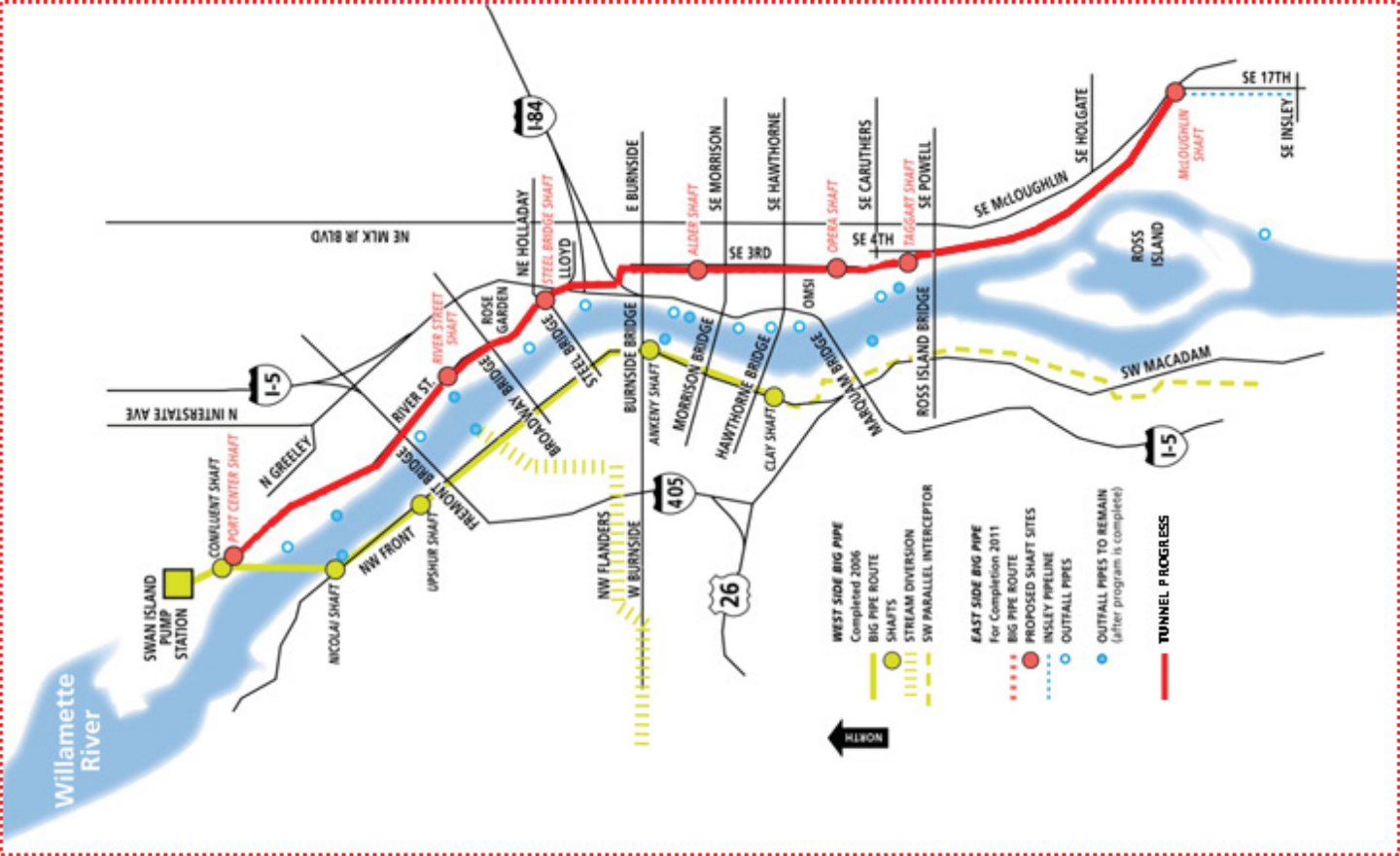
A background photograph showing a construction site. In the foreground, a worker in a red shirt and orange hard hat is visible. In the middle ground, another worker in a green shirt and orange hard hat is working. The scene includes a yellow construction vehicle, a pile of gravel, and various construction materials and tools.

Green Infrastructure Jobs

- Estimated FY 2010 Environmental Services
Green Infrastructure Jobs: 123
- Estimated FY 2010 Private Sector Jobs
Created by BES Capital Program Related to
Green Investments: 300
- Total Green Jobs Created in FY 2010: 423

East Side CSO Tunnel Project

- 6 mile long tunnel
- 22 foot diameter
- 85 to 165 feet deep
- Seven large shafts – approximately 50 feet in diameter
- Overall project is 90% complete
- Expected Completion - late Summer 2011



ESCSO Construction Contract

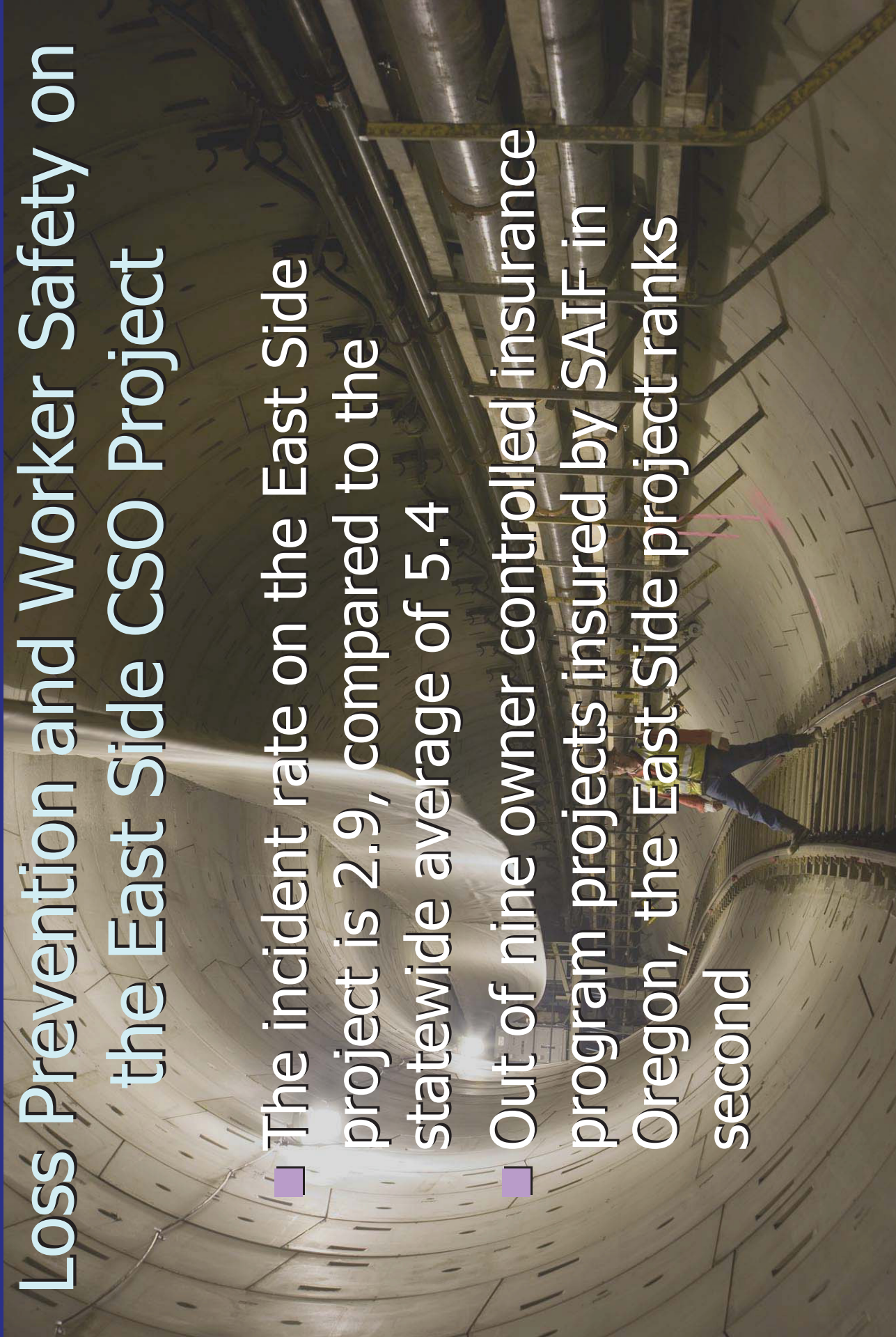
- Contractor: Kiewit/Bilfinger Berger JV
- Base Contract Amount (2011 \$): \$426,291,149
- Mining has been completed four months ahead of schedule
- Most of project risk has been mitigated at this point

ESCSO Employment

- 195 first-tier subcontracts so far, mostly local (over 400 total subcontracts)
- \$30,070,000 M/W/ESB subcontracting to date exceeds goal by over \$4,000,000
- 190 craft workers currently employed on the tunnel project

Loss Prevention and Worker Safety on the East Side CSO Project

- The incident rate on the East Side project is 2.9, compared to the statewide average of 5.4
- Out of nine owner controlled insurance program projects insured by SAIF in Oregon, the East Side project ranks second

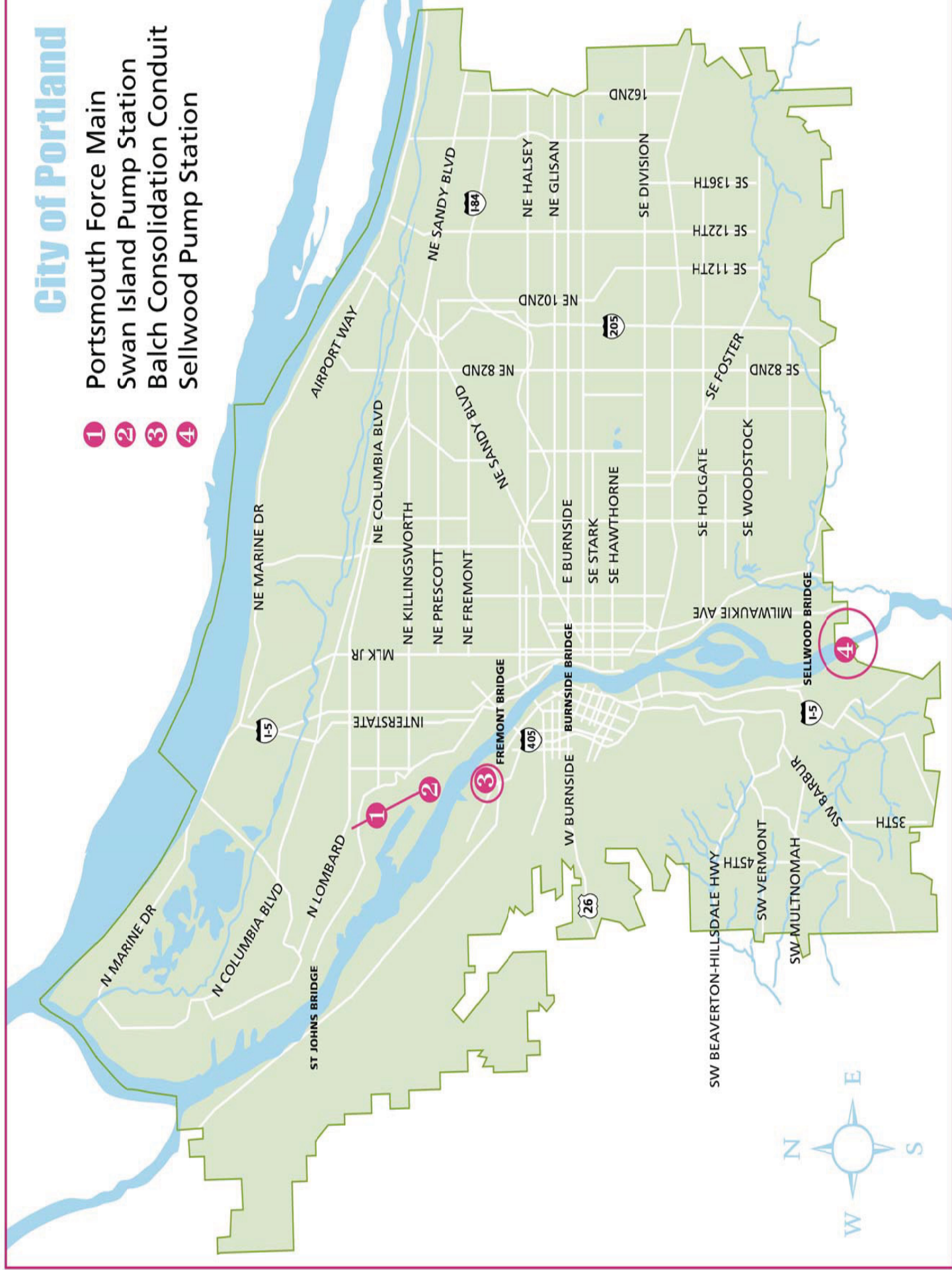


Remaining Challenges to Meet the 2011 CSO Deadline

- Sellwood CSO Pump Station - construction underway
- Balch Consolidation Conduit - construction underway
- Portsmouth Force Main Segments 1 and 2 - construction underway. (Segment 2 requires construction acceleration)
- Swan Island CSO Pump Station Phase 2 - construction underway
- Portland Streetcar and Tri-Met Light Rail also working in ESCSO staging area in 2010 and 2011

City of Portland

- 1 Portsmouth Force Main
- 2 Swan Island Pump Station
- 3 Balch Consolidation Conduit
- 4 Sellwood Pump Station



Segment 1 – Swan Island Alignment



- Install and test a 3-mile, 66-inch diameter pressurized pipeline
- Will carry flow from east and west side tunnels to the Portsmouth Tunnel and on to the treatment plant

Segment 2 – Bluff Alignment

- Difficult construction under base of Waud Bluff
- Differing site conditions encountered
- Will require alternate TBM and construction acceleration

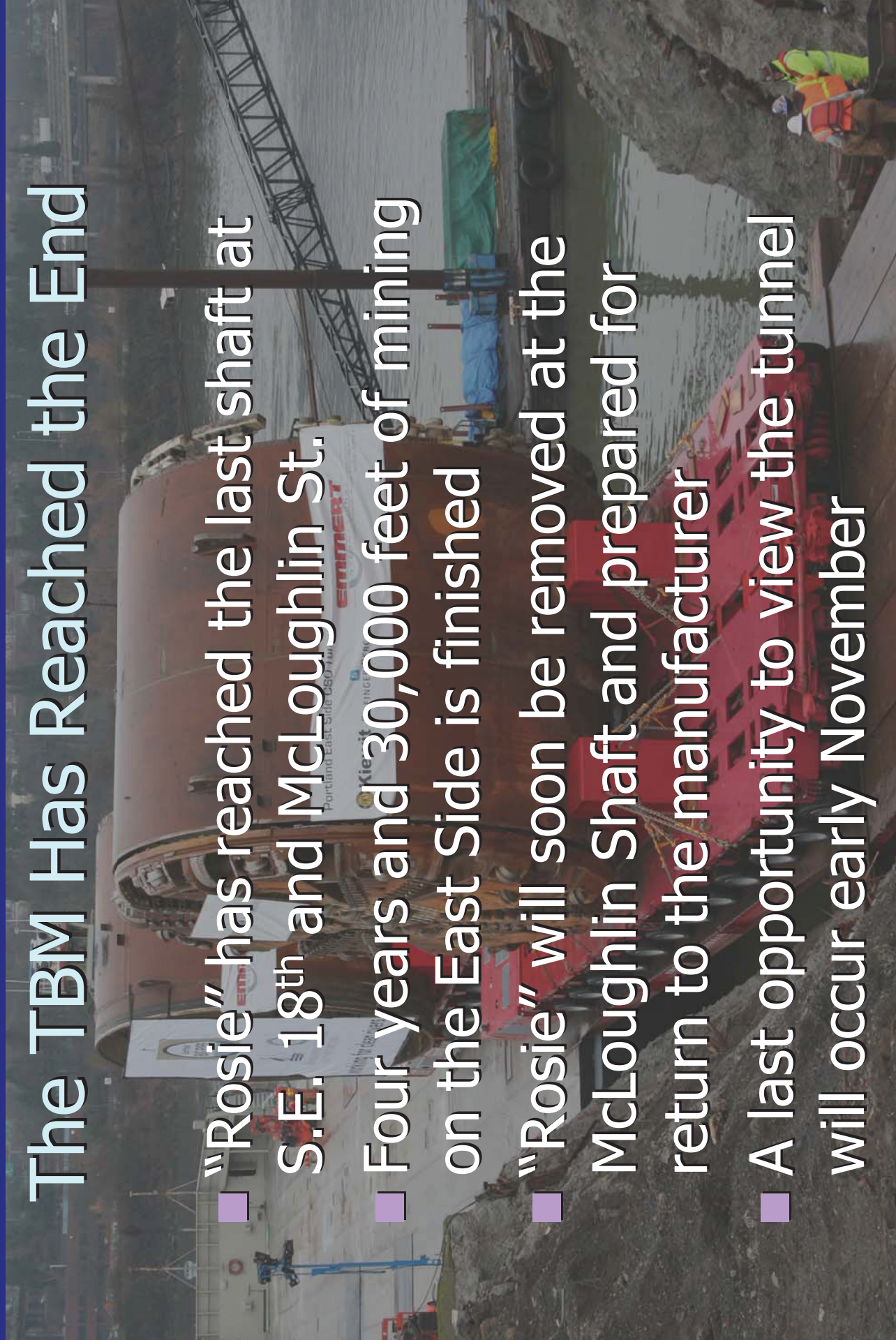


Portsmouth Force Main Segment 2

- Engineers Estimate: \$30,007,000
- Low bid: \$19,353,144
- Unexpected ground conditions during mining have resulted in extra work and eight-month delay to date
- Alternate tunnel boring machine and construction acceleration required to meet 2011 dry weather window for completion
- Council Item No. 1375:
 - Requested contract amount plus 5% contingency: ~~20,209,135~~ 13,511,350
 - \$32,000,000

The TBM Has Reached the End

- “Rosie” has reached the last shaft at S.E. 18th and McLoughlin St.
- Four years and 30,000 feet of mining on the East Side is finished
- “Rosie” will soon be removed at the McLoughlin Shaft and prepared for return to the manufacturer
- A last opportunity to view the tunnel will occur early November





East Side CSO Review Committee

City Council Report

October 20, 2010

Bill Martinak, Chair