



King County

DENNY WAY

LAKE UNION



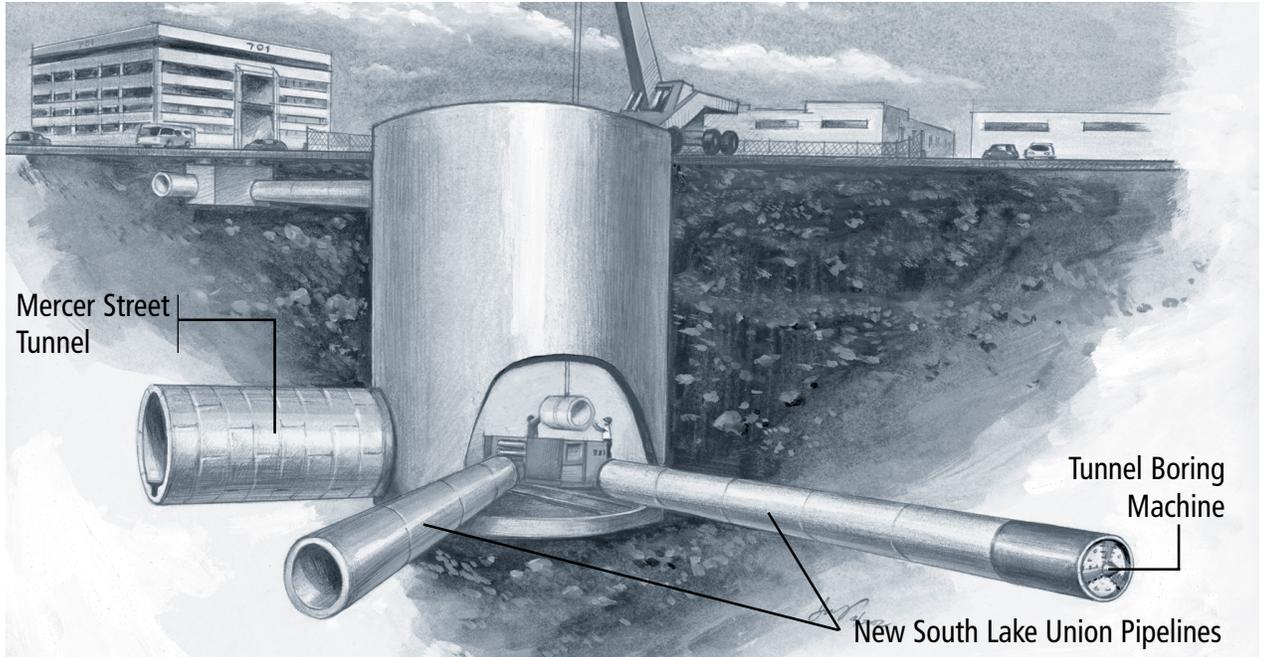
City of Seattle



U.S. Environmental Protection Agency

CSO Control Project

Issue No. 8
May 2002



Cutaway view of the East Portal, located at Eighth Ave. N. and Roy St., showing the Mercer Street tunnel and south Lake Union pipelines.

Construction of South Lake Union Pipelines to Begin Soon

**Join Us at a
Project Information
Open House!**

When?

June 13 from 5 p.m. to 7 p.m.

Where?

The Center for Wooden Boats,
1010 Valley St., Seattle.

See You There!

This facility is ADA accessible. If you need interpreters or special assistance, please call us at least three days ahead of time: 206-269-0229.

Construction of new wastewater conveyance pipelines in the south Lake Union area will start in the summer of 2002. The pipelines will transfer wastewater flows from the existing King County and City of Seattle conveyance systems to the new Mercer Street tunnel. Work on the pipelines and associated underground structures will be underway through Fall 2003. Detailed information about the South Lake Union construction is provided on page 3 of this newsletter.

The south Lake Union pipelines are part of the Denny Way/Lake Union CSO Control Project. This project is a joint effort between King County and the City of Seattle to control combined sewer overflows (CSOs) into Lake Union and Elliott Bay. CSOs are overflows of sanitary (residential and commercial) sewage and stormwater that are released into water bodies during storms. Construction activities will occur in three areas of the city: 545 Elliott Ave. W., Elliott Bay and Myrtle Edwards Parks, and south Lake Union. Construction has been under way since May 2000 and is expected to be complete in summer 2004.

Tunnel Boring Machine Sees Daylight Again!

On March 6, 2002, the tunnel-boring machine (TBM) “Cassandra” reached its destination at Eighth Avenue North and Roy Street. At 9:30 a.m., the machine’s cutter head slowly became visible at the east portal. King County Executive Ron Sims joined a number of project team members to cheer when seven tunnel crew workers jumped through the face of the TBM into daylight. The successful completion of the tunneling marked a major milestone in the Denny Way/Lake Union CSO Control Project.

Cassandra successfully tunneled 1.2 miles from 545 Elliott Avenue West, underneath Mercer Street, to the east portal. In a little over 10 months, Cassandra moved 60,000 cubic yards of material out of the tunnel, chewing through various types of soils, ranging from glacial till to clay and sand. The crew built 40 to 60 feet of tunnel each day, five days a week. Concrete segments were installed behind the TBM to form the permanent tunnel lining, and a laser guidance system was used to ensure proper alignment of the tunnel. The tunnel is 14 feet and 8 inches in diameter and will provide a storage capacity of 7.2 million gallons of sanitary sewage and stormwater flows. When put into operation, it will be the largest diameter pipe in King County’s wastewater collection system.

Why do we need the Tunnel?

The purpose of the Denny Way/Lake Union Project is to control combined sewer overflows to Elliott Bay and Lake Union. These overflows occur because the pre-1950 sewer system in Seattle was built to carry both stormwater and sanitary sewage. During storms, the old pipes are not large enough to bring all the wastewater to the treatment plant. To avoid flows backing up into basements, overflow points were built into the system.

The Mercer Street tunnel will store sanitary sewage and stormwater flows to control overflows into Lake Union and Elliott Bay. During dry weather, the tunnel will be empty and wastewater flows will be conveyed in the existing sewer system. As flows rise in the existing pipes during storms, excess flows will be diverted into the tunnel. In about half the storms, the tunnel will not fill completely. At the end of the



The CSO Project team poses with King County Executive Ron Sims after the successful TBM hole-through into the east portal.

storm, the stored flows will be pumped out of the tunnel to King County’s West Point Treatment Plant.

During larger storms, the tunnel will fill completely. When this happens, the new CSO facility on Elliott Avenue West will automatically begin operation. The flows will be treated there and discharged through a new outfall at Myrtle Edwards Park. After the storm ends, the remaining stored flows will be pumped from the tunnel to the West Point treatment plant.



Photo courtesy of the Museum of History

South Lake Union Pipelines Construction:

continued from page 1

Most of the south Lake Union pipelines construction will be done by tunneling. This method minimizes impacts to roadways and communities along the pipeline alignments. However, access portals at the beginning and endpoints of each tunnel will need to be built at key work areas. These access shafts will be built at the following intersections:

- Roy Street and Eighth Avenue North (existing)
- Republican Street and Eighth Avenue North
- Roy Street and Dexter Avenue North
- Valley Street and Westlake Avenue North
- Valley Street, east of Fairview Avenue North.

Closures at the above intersections will be temporary, with detours as necessary, to surrounding streets. Before detours are put in place, we will notify all surrounding businesses and residents so that you are aware of the work schedule and the detour traffic patterns.

One segment of pipeline will be installed along Roy Street, between Dexter Avenue North and Eighth Avenue North, using the “open trench” construction method. This one-block section of Roy Street has been closed since the spring of 2001, and will remain closed until construction in this area is com-

pleted and the street is restored. Additional construction will occur in Dexter Avenue North to make the connections to the existing sewer system. Again, we will notify surrounding businesses before putting detours into effect.

What Does This Mean for You?

The Denny Way project team knows that living near a construction zone is difficult. We intend to be a good neighbor and work closely with the south Lake Union community to ensure that construction impacts are minimized. Seattle Transportation will determine detours and signage requirements for all street or lane closures. The city may also require flaggers at some times depending on the nature of the impacts to traffic. Our project team also closely coordinates with teams of other projects that are currently under construction in the Lake Union neighborhoods, such as the City of Seattle’s West Lake Union Improvement Project. Timely neighborhood construction alerts will be distributed to inform you of any changes in traffic, parking, or access situations. **If you have any concerns or questions, now or at any time during the construction, please call Yvonne Kraus at 206-269-0229.**

Tunnels in Seattle

Tunnels have been part of the Seattle sewer system since the early days of the city.

- The Lake Union Tunnel, completed in 1893, conveys wastewater flows from the south Lake Union area to the Elliott Bay interceptor at the west end of Denny Way. The tunnel was dug by hand, supported by temporary timber lagging, and completed with a brick lining. The tunnel remains in service today.
- Newer tunnels in the system include the Second Avenue sewer tunnel under downtown Seattle. This tunnel was

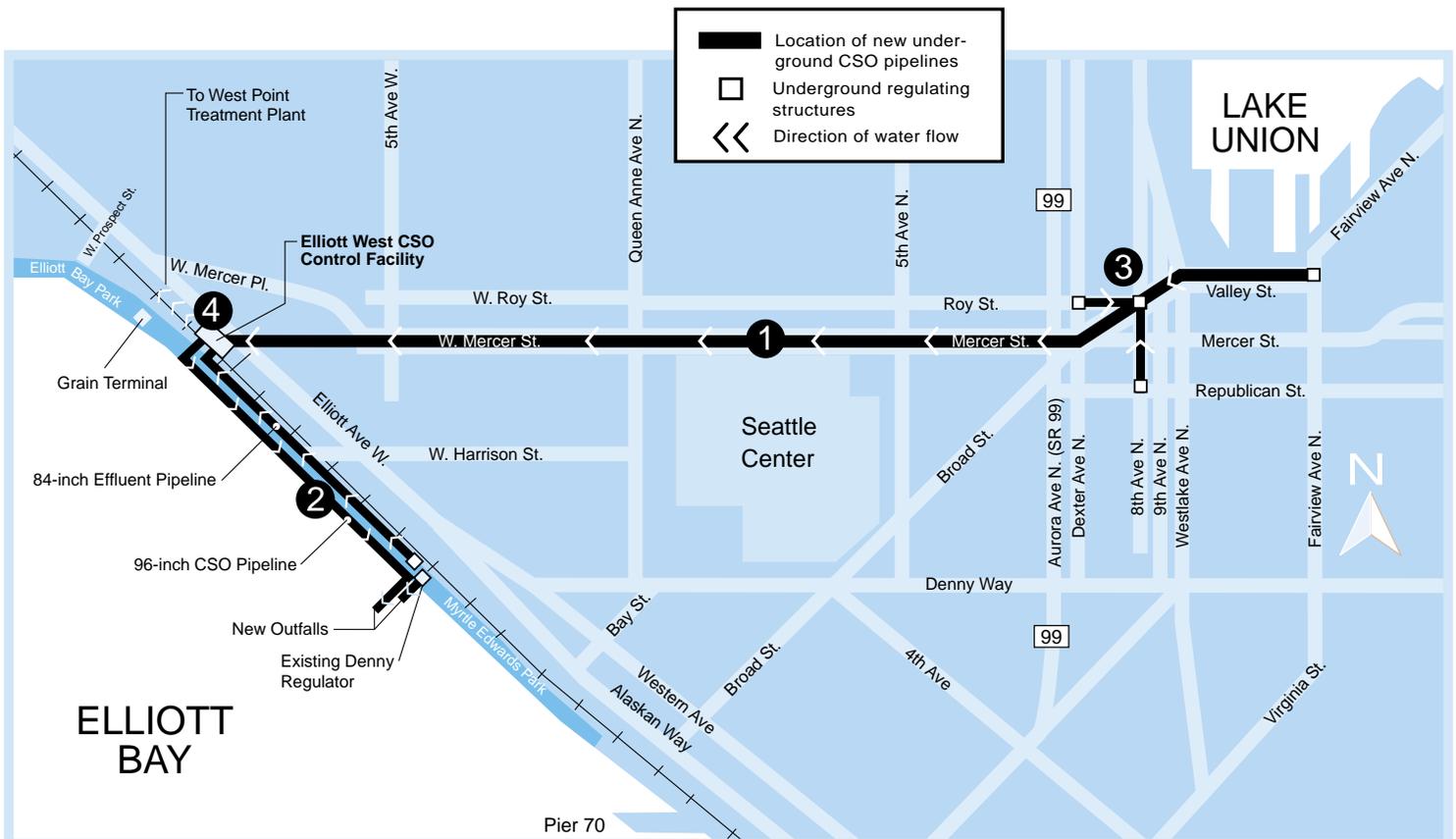
In the early 1900s, tunnels were dug by hand, and timber framing was used as protection from the surrounding soils. This tunnel was dug in 1922 and it is still in service today, conveying drinking water from the Volunteer Park reservoir to Seattle residents.

built in 1968 using a digger shield—a “can” that surrounded the digging apparatus to protect it from the surrounding soils—to enable construction through glacial sands, gravel, clay, and till.

- In 1997, King County completed the West Seattle tunnel to transfer flows from the Alki/West Seattle area to the West Point Treatment Plant. This tunnel is nearly two miles long with an inside diameter of 11 feet. At its deepest point, it is about 400 feet below the ground surface.
- Future tunnel projects include tunnels to be built as part of the Henderson/Martin Luther King Jr. Way CSO Control Project. This project, in the south Seattle area, will reduce combined sewer overflows into Lake Washington and the Duwamish River.

Six Month Look-Ahead

Contract	Affected Area	Six Month Look-Ahead	Construction Complete
1 Mercer Street Tunnel	<ul style="list-style-type: none"> • 545 Elliott Ave. W. • Elliott Bay Park • 8th Ave. N. and Roy St. 	<ul style="list-style-type: none"> • Finish inside of tunnel 	Summer 2002
2 Elliott West Pipelines	<ul style="list-style-type: none"> • Myrtle Edwards Park • Elliott Bay Park 	<ul style="list-style-type: none"> • Continue laying pipes • Install de-chlorination structure 	Summer 2004
3 South Lake Union Pipelines	<ul style="list-style-type: none"> • Roy St. and 8th Ave. N. • Republican St. and 8th Ave. N. • Roy St. and Dexter Ave. N. • Valley St. and Westlake Ave. N. • Valley St., east of Fairview Ave. N. 	<ul style="list-style-type: none"> • Community Open House • Construction begins in summer 2002 	Summer 2003
4 CSO Control Facility	<ul style="list-style-type: none"> • 545 Elliott Ave. W. 	<ul style="list-style-type: none"> • Begin construction 	Summer 2004



Here's what's Happening in the Waterfront Parks.

Construction Continues in Myrtle Edwards and Elliott Bay Parks.

Work on installing two large-diameter pipelines in Elliott Bay and Myrtle Edwards Park has been underway since the Fall of 2001. One pipeline will connect the new CSO control facility to the marine outfall; the other will transfer combined flows from the existing sewer system to the Mercer Street tunnel. Fencing has been in place along the length of the park, and pedestrians and bicyclists have been sharing the near-shore path. The current user configuration is expected to last until fall 2003. Construction in the parks is scheduled for completion by mid-2004.

Installation of the pipes will be nearing completion in July; however, fencing will remain in place to allow for follow-up construction activities that will occur in the remainder of 2002 and into 2003. The area available for special events in 2002 will be reduced from previous years. King County and the City of Seattle are coordinating with all special event producers to minimize impacts to the events. In particular, there is a focus on facilitating access to the park areas for the events and ensuring adequate access for emergency vehicles during the events. We ask for your understanding and thank you for your patience while we build our way to a cleaner Puget Sound.

In-Water Construction Completed in Myrtle Edwards Park!

Crews recently completed the in-water construction of two new marine outfalls in Myrtle Edwards Park. Now, construction crews will turn their attention to on-shore work in Myrtle Edwards Park to complete the outfalls and connect them to new pipelines.

Wondering about access to special events in Myrtle Edwards Park this summer?

Here's What You Can Expect:

- Both the north and south entrances will be open.
- Pedestrians and bicyclists will be sharing the near-shore park path.
- Signage will be in place to guide all park visitors.
- Access for motorized public service/emergency vehicles will be provided along the construction haul road, to ensure quicker response times during special events.
- King County and the City of Seattle are working hard with the special event staff to facilitate access to the park and minimize impacts to the event.

CSO Control Facility Construction to Begin in Fall 2002

King County recently advertised for bids for construction of the new CSO Control Facility at 545 Elliott Avenue West. This facility will provide treatment of stored flows before they are released at the new outfall in Elliott Bay. The facility will incorporate the latest technologies in odor control to ensure its compatibility with the surrounding area.

During the design phase, the exterior surfaces

and building shape were discussed in community meetings to hear public comment on alternatives being considered. You can see an artist's rendering of the building at: http://dnr.metrokc.gov/wtd/dennyway/site_photo/img/facility5.jpg A contract will be awarded in the Summer of 2002, and construction of the facility is expected to start in the Fall of 2002.

King County's Wastewater Treatment Division has a number of projects and programs underway that may be of interest to you—from habitat conservation and restoration to site selection for a third wastewater treatment facility. If you are curious about these projects and would like more information, please contact Denise Chanez at (206) 296-8286, or check out the King County DNR website at: <http://dnr.metrokc.gov/wtd/>.

**Who can I contact with...
Questions? Comments?
A problem with construction?**

Community Liaison

Yvonne Kraus
Norton-Arnold & Company
206/269-0229 ext: 12

Internet Address:

<http://dnr.metrokc.gov/wtd/dennyway/>

E-mail: yvonne@na-company.com

Hotline number: 206/205-1460.

Use this number 24 hours a day to report complaints related to construction activity.

**Join us at the
South Lake Union
Community Open House!**

Come learn more about this project, and tell us how we may help you during the construction activities.

When? June 13
5 p.m. to 7 p.m.

Where? The Center for Wooden Boats,
1010 Valley Street, Seattle

See You There!

This facility is ADA accessible. If you need interpreters or special assistance, please call us at least three days ahead of time: 206-269-0229.

This information is available in alternative formats for individuals with disabilities upon request, by calling 206-269-0229. TTY 711.

King County
Department of Natural Resources and Parks
Wastewater Treatment Division
King Street Center
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