

Puget Sound Beach Combined Sewer Overflow (CSO) Control Projects

South Magnolia Basin

Public Meeting Summary

March 18, 2010, 6:00-8:30 pm

Southwest Community Center, 2801 SW Thistle St, Seattle, WA 98126

Overview

On March 23, 2010, the King County Wastewater Treatment Division (WTD) hosted a public meeting for the Puget Sound Beach Combined Sewer Overflow (CSO) Control Projects in the South Magnolia basin. Approximately 23 members of the public attended the meeting.

Meeting Purpose

The meeting was intended to –

- Present three alternative means for CSO control in the South Magnolia basin
- Present how these alternatives were developed
- Explain why the three alternatives are being considered for further evaluation
- Hear from the community about the alternatives

Public Meeting Approach

Shahrzad Namini, King County project manager, started the meeting and introduced the team. John Phillips, King County CSO Program; Allen de Steiguer the lead engineer for the South Magnolia basin; and Bob Wheeler, the meeting facilitator, gave a PowerPoint presentation that included the following topics:

- CSO Control Program Overview
- CSO Beaches Projects Objectives
- CSO Control Approaches
- South Magnolia Basin Requirements
- South Magnolia Basin Alternatives
- Next Steps

Following the presentation, there was a period for meeting attendees to ask questions of the project team and to provide input on the alternative means of CSO control.

Afterwards, meeting attendees were encouraged to view informational posters that were set up around the meeting room and talk with members of the project team. Flip charts were available to record questions and input.

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Meeting attendees were informed of and encouraged to use a variety of methods for submitting questions and input, which include the following:

- Web: www.kingcounty.gov/csobeachprojects
- E-mail: CSOBeachProjects@kingcounty.gov
- Phone: 206-263-7301
- Feedback forms (available at the public meeting)

Because of the project schedule, meeting attendees were encouraged to provide input by mid-April, 2010. Input received by then will provide the best opportunity to inform the evaluation of the three alternatives. Input is always welcome and will be used throughout the facility planning process.

List of Informational Posters

- Basin Map showing City System/County System & Combined System/Separated System
- Map of each alternative with basin inset (3 boards)
- Map of all three alternatives
- “What is a Combined Sewer Overflow?”
- CSO Control approaches overview
- Factors used for alternatives evaluation
- Decision Process graphic

List of Handouts Available

- Information Packet
 - Meeting agenda
 - Public Information Document
 - Diagram of decision process
 - Map of basin
 - Feedback form
- Dept of Ecology CSO fact sheet
- Ratepayer report
- “Don’t Flush Trouble” flier
- RainWise brochure (City of Seattle)
- “Natural Drainage Systems” (City of Seattle)

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Summary of Questions and Input

Questions and input from the public are summarized below.

There were multiple questions and remarks on the following topics.

Hillside stabilization above 32nd Ave W

- Would there be a permanent retaining wall?
- How high would the retaining wall be?
- The hillside should be replanted after construction to create a natural-looking area.
- Is there a risk of the slope collapsing and damaging the storage tank?
- There are great examples at the West Point treatment plant of terraced, vegetated slopes. These could be a model to follow.
- The 32nd Ave W underground storage facility should not be considered due to steep, unstable slope issues.

Response: If the 32nd Ave W underground storage alternative is selected, the hillside would be regraded for construction activities. The hillside has a vertical height of approximately 40-50 feet. It would be stabilized during and after construction. There are multiple methods for stabilizing the slope; the method that would be used would be determined after geotechnical investigations and detailed design is started. It is possible to put soil and vegetation back on the hillside after construction, and the project team is interested in restoring vegetation to the slope. If that is the method of slope stabilization selected, the storage tank will be designed to withstand soil loads.

Rooftop drain disconnection and green stormwater infrastructure

- Could rooftop drain disconnection and green stormwater infrastructure be used to reduce the size and cost of storage?
- In the central part of the basin where over 40% of basin flow originates, steep slopes and water run-off have resulted in settling and landslides. Increasing the amount of groundwater would exacerbate these problems.
- Could cisterns be used to capture rooftop run-off?
- Would rooftop drain disconnection be more feasible for controlling CSOs if the disconnected rooftop drains flowed to the street and were captured by the existing stormwater system?
- Who is responsible for disconnecting downspout connections to the combined sewer system? Is there a mandate to disconnect?

Response: The project team considered very seriously the potential for using rooftop drain disconnection and green stormwater infrastructure. We have received input at past public meetings that there is interest in these options and that there are also concerns about exacerbating existing groundwater problems.

When we considered this input, the extent of the existing storm sewers, and the voluntary nature of rooftop disconnection, our evaluation concluded that there are probably not enough rooftops disconnects available to make an appreciable difference in the size or

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cost of storage needed to adequately control CSOs. Once the project team made that determination, no further evaluation was carried out on demand management alternatives.

If cisterns were used to capture rooftop runoff, they would have to be much larger than typical cisterns to capture the amount of runoff that occurs during major storms. Cisterns adequate enough to make an impact on peak runoff reduction would have to be over a thousand gallons per house, which may be restrictive for some.

Downspout connections are the responsibility of the property owner. Downspout disconnection is voluntary, and the City of Seattle's RainWise program offers assistance for property owners who wish to voluntarily disconnect their rooftop drains from the stormwater system or the combined sewer system.

Environmental impacts

- Make sure the construction contractor protects the environment; we don't want these construction projects to cause environmental damage.
- Have you considered the potential for the construction of the 32nd Ave W underground storage alternative to exacerbate drainage problems along 32nd Ave W?

Response: The construction contractor will be required to meet the permit requirements, and the specifications provided by King County, which include measures to protect the environment. King County Wastewater Treatment Division (WTD) carries out construction projects in a range of areas such as shorelines, parks, wetland areas, and the marine nearshore. WTD takes environmental protections very seriously and works to ensure that contractors follow permit requirements and specifications for Best Management Practices (BMPs) including construction site erosion control and protection of water quality. We work to provide information about environmental protections during construction on project web pages and in community meetings and newsletters.

For the 32nd Ave W underground storage alternative, the project team would design the project to avoid worsening existing drainage problems. The potential for making drainage problems worse will be considered during the evaluation of alternatives.

Long Term Considerations for Operating Facilities in South Magnolia Basin

- Won't flows in the combined sewer system increase over time as density increases? Will this project be able to handle future flows?
- How long would the new facilities last?
- How would an earthquake affect any of the potential CSO control facilities? Is there a risk of liquefaction and would that damage the facilities?
- Have you considered the energy it takes to pump flows to West Point via the current wastewater system versus a more direct route to the West Point treatment facility?

Response: The combined sewer system is sized to handle about double the current average wet weather flow. There is room in the system for increases in sewage flows for at least the next fifty years and probably longer. Under the City's stormwater drainage

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code, the expectation is that stormwater flows in the system will not increase over time and may actually decrease.

King County continuously monitors CSO control facilities and reports to the Washington State Department of Ecology to make sure the facilities are working.

New facilities are built to last up to 100 years.

The potential storage tank sites for the 32nd Ave W to 23rd Ave W conveyance and underground storage alternative are located in a liquefaction zone. The facilities would be designed to withstand seismic forces. A storage tank at either of these sites would likely need to be pile-supported due to the poor soil conditions at the sites. A portion of the 32nd Ave to Interbay Pump Station conveyance and treatment alternative is located in a liquefaction zone. These facilities would also be designed to withstand seismic forces. Pipelines typically move with the ground during an earthquake.

The 32nd Ave W underground storage alternative is not located in a liquefaction zone. It would, however, be designed to withstand seismic forces.

The storage facilities being considered for CSO control use less energy than other options because they fill by gravity. A small pump is required to pump stored flow back into the conveyance system. It would require more energy to pump the flows directly to West Point from South Magnolia via Discovery Park as has been suggested. For the proposed alternatives, little energy is needed as only one existing pump station is required.

Additional questions and input from the public included the following:

- How much would these alternatives cost? (Response: Planning level cost estimates indicate that design and construction would cost approximately \$25-30 million for each of the alternatives.)
- Who makes the final choice about the proposal for CSO control to submit for environmental review? (Response: The project team will evaluate the alternatives based on a range of factors; the factors were discussed during the presentation. The project team will make a recommendation to King County Wastewater Treatment Division management, who will make the decision about a proposal to submit for environmental review. Public input will help inform the evaluation and decision process. There will be several more opportunities to provide input during environmental review and during project design and construction.)
- If the 32nd Ave W to 23rd Ave W conveyance and underground storage alternative is proposed and the Port property is used, there is interest in creating habitat and providing public access at that site. Maybe it could be a park. (Response: Once a proposal for CSO control is made, the project team will work with the community and agencies like the Seattle Department of Parks and Recreation and the Port of Seattle to incorporate input into design of the storage sites.)

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- What is the City of Seattle doing to prevent sediment from flowing into the stormwater system and to Puget Sound during rain events? (Response from SPU representative: SPU is monitoring sediment in the stormwater system. Private property owners are responsible for preventing sediment run-off from their properties, and SPU abides by the City's new stormwater code regarding sediments when building projects.)

Attendance

Puget Sound Beach CSO Control Project Team

King County Wastewater Treatment Division

Shahrzad Namini, Project Manager; Linda Sullivan, Capital Projects Managing Supervisor; John Phillips, CSO Control Program; Mary Wohleb, Assistant Project Manager; Hien Dung, Real Estate Services; Monica Van der Vieren, Community Relations; Sue Meyer, Environmental Planning

Carollo Engineers

Allen de Steiguer, South Magnolia basin lead engineer

Triangle Associates, Inc.

Bob Wheeler, facilitator; Ellen Blair, community relations support

Seattle Public Utilities

Sahba Mohandessi