



Questions and Answers

Winter 2019

What is a Combined Sewer Overflow (CSO)?

In Seattle, like many older cities, sewer pipes carry both wastewater (all the water that comes from toilets and down the drains in homes and businesses) and stormwater (rain or snow that washes off pollutants and debris from streets and parking lots) to a sewage treatment plant. During dry weather, all sewage flows to the treatment plant. During heavy rains, the combined sewer pipes can become overloaded with stormwater and the mixture of stormwater and wastewater overflows into waterways (such as rivers, lakes, streams, creeks, and Puget Sound). When an overflow occurs, it is called a “combined sewer overflow,” or CSO. The mixture of polluted runoff and sewage can harm fish, wildlife, and impact humans who eat the fish or swim in the areas where overflows occur. Because of these impacts to water quality, federal and state regulations require that we take action to reduce overflows.

What is the Vine Basin CSO Control Project?

The sewer infrastructure in the Belltown neighborhood (Vine Basin) is not up to current environmental standards and needs improvements to help protect the environment. The Vine Basin CSO Control project will make improvements to the combined (wastewater and stormwater) sewer system in the Vine Basin so the frequency of CSOs into Puget Sound is no more than one overflow per year on average. We’re currently in the early planning stage of the project. Our first step is to identify and evaluate various options for reducing the number of overflows into the Puget Sound.

Where is the Vine Basin?

The Vine Basin is the geographical area covering the Belltown neighborhood. The basin is generally bordered by Denny Way, Fourth Avenue, Lenora Street, and Elliott Bay in the west.

What options will SPU explore to reduce the number of overflows in the Vine Basin?

Our technical team will evaluate a number of options to reduce overflows and will consider the relative pros and cons of each. Potential options include partnering with King County to send more flows to their existing infrastructure, which would require upsizing the existing SPU pipes so they’re large enough to send more flow during heavy rain events, or building combined sewer storage in the basin to capture overflow volumes, which could include constructing underground storage tanks. We’re also evaluating the feasibility of adding green stormwater infrastructure (GSI), like natural drainage systems or rain gardens, as a part of one of these options.

What criteria will be used to evaluate each CSO option?

We’ll evaluate each option using our triple bottom line analysis that evaluates social, environmental and financial impacts, and feasibility. This includes evaluating the options based on race and social justice equity impacts.

What weight will public input or community benefit have in the selection process?

We are excited to work with the community and will provide opportunities to stay informed and provide input where possible throughout the project. As we move forward with the technical analysis, the community may be able to weigh in on specific public benefits, such as opportunities for new public space or greening in the right-of-way.

What potential is there for green stormwater infrastructure (GSI)?

Green stormwater infrastructure (GSI) uses a combination of plants, trees, and soil, plus built drainage infrastructure underneath the soil to mimic nature and manage stormwater where it falls. There are two general approaches to GSI for helping to manage the volume of stormwater: infiltration and detention. “Infiltration,” is designed specifically to collect stormwater and allow the water to infiltrate into the ground below, while “detention” involves collecting stormwater and temporarily storing it in the soil and underground drainage structure and then slowly releasing it into the combined sewer system.

The potential for GSI to help solve CSOs in this basin is limited because of soil conditions, steep slopes, and the amount of existing development immediately adjacent to the right-of-way. Considering these limitations, we’ll be looking exclusively at GSI options involving flow control via storage, rather than an infiltration strategy, to manage stormwater volume.

We’ll also look for opportunities to add new plants and trees in the neighborhood near the project site, even if it doesn’t have a direct impact on CSO reduction for the Vine Basin.

Is SPU coordinating with other public projects and sites such as the Battery Street Tunnel or Growing Vine Street?

We’re actively coordinating with other public projects in terms of design and construction as we determine a path forward. We will coordinate and explore possibilities with Growing Vine Street and other community- and City-led planning to improve the streetscape in the area. We’ve also heard from the community an interest in using the Battery Street Tunnel, which will be closed as a part of the Washington State Department of Transportation’s (WSDOT) Alaskan Way Viaduct Replacement Program, as a stormwater solution. In March 2018, Seattle City Council considered citizen requests to retrofit the Battery Street Tunnel for non-transportation uses, such as a park or stormwater storage facility. After reviewing the costs required to make the tunnel safe for uses such as this, Council voted to permanently decommission the tunnel. The Washington State Department of Transportation has a contract currently underway to fully decommission the tunnel, so uses including the Battery Street Tunnel will not be included in our options analysis.

What is the project cost, and how will it affect rates?

Because we’re still in the early planning phase of this project, we haven’t yet determined the overall project cost. The CSO program planning budget included a placeholder for this project based on the high-level evaluation in the [Plan to Protect Seattle’s Waterways](#). The project cost will depend on which option we select for reducing overflows. We will evaluate the financial impact as part of our triple bottom line analysis.

When will construction begin?

We are currently in the early planning phase and will evaluate options for improving the overflow system between now and summer 2019. Once we determine a path forward, we will work towards final design and plan for construction in 2022 or 2023. We will continue to inform the community throughout the project and will provide anticipated schedules and impacts as they become available.

Questions? Contact:

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Learn more and sign up for project updates at: seattle.gov/VineBasin

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