

# SPU Pipers Creek Natural Drainage System Project

## Frequently Asked Questions

### Why is Seattle Public Utilities (SPU) bringing this project to my neighborhood?

More than 12 million pounds of pollution are carried into our water bodies by stormwater runoff every year. Water that falls on the roofs, streets, and parking lots in your neighborhood eventually makes its way into Pipers Creek, which flows into Puget Sound.

To address water quality in Pipers Creek and Puget Sound, SPU is working to minimize pollution at its source by installing natural drainage systems (NDS). NDS are made up of a series of cells, or shallow depressions, along a block designed to capture and slow stormwater, and filter pollutants before they can reach our waterways. NDS cells are located in the roadway shoulder (the space between the street edge and property line) and are filled with a special soil and deep-rooted plants to temporarily hold and filter polluted stormwater from streets.

### What are the project's goals?

This project is part of the [Plan to Protect Seattle's Waterways](#), an initiative that aims to:

- Improve water quality and help manage stormwater flows by constructing natural drainage systems.
- Improve your neighborhood by increasing landscape diversity, calming traffic, and providing better pedestrian safety and community mobility where possible.

### *Project Selection*

#### How was my neighborhood selected?

SPU is currently working on NDS projects in several urban watersheds throughout Seattle, including the Thornton, Longfellow, and Pipers Creek watersheds. This project is focused on improving water quality in Pipers Creek, the creek in your neighborhood, which flows into Puget Sound. The project area is located within the boundary of the Pipers Creek watershed and meets other technical requirements.

#### How does SPU decide where to locate NDS cells?

SPU selects potential project locations by working with other city departments (for example, when undertaking planned street or pedestrian improvements), by looking for areas where this project may address water quality and stormwater flow issues, and by collecting information from the community.

The final project location depends on many factors, including:

- The amount of stormwater that can be managed at a particular location
- Location of nearby adverse conditions (steep slopes, high groundwater, or contaminated sites)
- Potential impacts to existing trees
- Existing soil conditions

- Existing surface and piped stormwater flows
- Location and condition of existing utilities
- Community input
- Width of existing public right-of-way
- Presence of driveways
- Existing parking congestion and availability of off-street parking
- Project construction, operation, and maintenance cost

### **How did SPU select the blocks to include in this initial design phase?**

For this project, SPU is going through several stages of evaluating blocks as candidate NDS sites. For each stage of this process, the location factors identified in the previous question are evaluated for all potential blocks, including input from the community collected from online surveys, emails, and conversations. The factors for each block are compared, and a subset of blocks exhibiting qualities of successful NDS locations are selected to move forward for more detailed review in the next phase. The final selection of blocks identified for building NDS will move into construction.

We have already completed one stage of this process during the options analysis phase, where a selection of blocks was narrowed down to the current selection that is being considered. This initial selection was done by taking community input into account along with a technical review. We will repeat this process in the current design phase to refine the selection further.

### **I have flooding issues at my home or in my neighborhood. Will this project address this issue?**

This project is primarily focused on water quality and runoff. While flooding is not the main issue being addressed, NDS projects may help improve some drainage issues in your neighborhood.

### **Will SPU consider implementing natural drainage systems on blocks outside of this project area?**

The current project we are evaluating options on, the Pipers NDS project, is focusing on the area bounded by the west and east: Greenwood Ave. North and Evanston Ave. N, and by the north and south: North 130th St. and North 115th St. We are not considering blocks outside of this area for this project.

### **Will we be getting sidewalks if this project is built?**

SDOT's Home Zone program is planning pedestrian improvements on Dayton Ave within the Pipers NDS project area. SPU is partnering with SDOT to build these improvements alongside the Pipers NDS work. For more information, contact Shauna Walgren at 206-684-8681 or [Shauna.Walgren@seattle.gov](mailto:Shauna.Walgren@seattle.gov).

In addition to the Dayton Ave work, SPU is working with SDOT on building pedestrian pathways in areas where NDS is being installed. This collaboration provides opportunities for installation of sidewalks, but there may be instances where a pedestrian pathway is not built as part of the natural drainage system project.

### **Would you consider using porous pavement in this project?**

While porous pavement is a great option for directing stormwater runoff into the ground, we are not considering it for this project.

**Are there any current neighborhoods where this project design has been completed for us to view?**

Yes. SPU has implemented other similar natural drainage system projects. A few of them are exhibited on the internet: [The Broadview Green Grid](#), [Venema Creek NDS](#), and [Street Edge Alternatives \(SEA Streets\)](#). Natural drainage system projects each have a unique appearance and structure due to the variability in the landscape and streets where they are built, so they don't all look the same.

**Are there any data that shows how a project like this is effective, or is this a pilot project?**

Yes. We've been building natural drainage systems for a couple of decades now. We have monitored several of these systems, testing water that flows into and out of them to see how well they work. The data show these projects do provide a significant flow reduction and water quality treatment for the waters that go into them.

**Is there a preference for building natural drainage systems on east/west streets or north-south streets?**

Due to other factors, most of the streets being considered right now run north-south, however some east-west streets are still under consideration. How the blocks fit into the overall drainage of the system will matter more than their orientation in the selection process.

***Timeline***

**What is the timeline for this project?**

Currently, this project is in the early design phase, where we have identified several potential locations for NDS installation. Next, we will refine these locations based on further studies and community feedback. Design will continue through 2023-2024, and construction is expected to wrap up by the end of 2025. Opportunities for public input will be available throughout the design process.

**When will I know if my block was selected to get a natural drainage system?**

We have selected fourteen potential blocks to consider for this project. These blocks will need to be refined further over the next several months until we get to a number of blocks that will help us to meet project goals while remaining within budget. We will present a further refined list of potential locations and will be directly in touch with the households most likely to get NDS in front of them.

**Does the City aim to get a certain percentage of homeowners on a block to welcome a natural drainage system project?**

We do not aim for a percentage of interested homeowners on a block. We try to work with homeowners on the entire block to understand why they may or may not be interested in the project. We use that information to see if there may be different ways and specific places where we can install the project that works for everyone.

***Community Input***

### **How much input do you want from residents?**

Community involvement is important to us, and we will consult with you during location selection, design, and construction. We want to understand specific concerns and interests from you and your neighbors. We will collect information from you using tools such as surveys, online and in-person events, and meetings with neighborhood stakeholders. We will keep you informed through email, mailers, and community briefings.

### **Will SPU be holding additional public meetings to discuss the Pipers NDS project?**

We will schedule additional meetings with the community as we refine potential project locations and learn more about project options. Information on new public meetings will be posted on the project website. We may hold an in-person event or smaller group meetings as well.

### **How will you use community feedback?**

While SPU can build these systems only where it is technically feasible, we incorporate community input into the final decisions as much as possible. Once SPU has assessed potential locations, we will decide on project locations and work with residents from those blocks on design and construction of the natural drainage systems.

### **If we would welcome our project on our block, how would we let you know, and does that help in any way? Or will you be selecting the blocks on your own?**

You can call or email the project contact, Rex Davis, to provide input on your interest in natural drainage systems on your block: 206-561-5801 or [rex.davis@seattle.gov](mailto:rex.davis@seattle.gov). You can also visit the project website to learn more and stay in touch as things move forward: [www.seattle.gov/utilities/neighborhood-projects/pipers-creek-natural-drainage](http://www.seattle.gov/utilities/neighborhood-projects/pipers-creek-natural-drainage).

## ***Project Impact and Maintenance***

### **What will natural drainage systems look like after they are built?**

Natural drainage systems are often built between the street and the sidewalk (or existing right-of-way when there is no sidewalk) in residential neighborhoods. The projects use a combination of different soil types and plants to create a natural “filter” that captures and breaks down pollutants washing off roadways and parking areas, as well as minimizing flows to stormwater systems during rain events.

Because NDS projects are built with growing plants, the way they look will change over time. The grasses, shrubs, and trees (when feasible) installed during construction will grow and change as the landscape matures, which usually takes three to five years. In the first few years, the stormwater collected in the natural drainage system will be more visible. We will select plants to provide seasonal interest.

Visit [700milliongallons.org](http://700milliongallons.org) to see examples of past projects from Seattle Public Utilities and our partners.

### **Will I see water in the natural drainage systems?**

During storms, the NDS cells will temporarily hold up to 6 inches of water and then drain within 24 hours after the rain ends. When there are back-to-back storms or a larger storm, the water level will rise and fall, which is a sign that the NDS cells are functioning properly.

### **What if it rains so much that the drainage system overflows?**

The natural drainage systems are designed to completely drain within 24 hours after a storm passes. If there is more water than the system can hold at one time, you will see excess stormwater bypass the system and flow into the nearest overflow pipe, ditch, or storm drain.

### **What happens if the site does not drain within 24 hours?**

Seattle Public Utilities' Operation Response Center maintains a 24/7 hotline for people to call and report drainage issues. If the system near your home isn't draining properly or requires maintenance, please call (206) 386-1800.

### **How will this work affect existing plants and trees?**

Whenever possible, the project team is working to minimize impacts on mature trees. Tree protection is one factor that can influence block selection. In cases where trees are affected, each tree removed within the public right-of-way will be replaced by a minimum of two within the overall project area where feasible. Some smaller or unhealthy trees may need to be replaced or transplanted. During construction, protecting trees is a priority.

### **Who is responsible for maintenance of the system?**

SPU is responsible for all maintenance of the systems, including watering, weeding, and general upkeep. SPU will also prune trees and shrubs as needed. You will not be asked to pay for or perform any maintenance. In fact, it is important for residents to stay out of the NDS to maintain the function of the systems. Plants will mature over time and the mix of plants will likely change, but this won't affect their function.

### **Will this project cause my basement to flood or drainage problems around my house?**

This project is designed to treat and send stormwater flows to the drainage system, not toward yards or basements. SPU uses soil testing information to locate these projects only where the conditions are good for drainage. If needed, the site may be designed with an underground liner for extra protection.

### **How will this project affect street parking?**

This project may affect street parking, but if or where that could happen in this project hasn't been decided yet. Seattle Public Utilities understands that parking and access from the street to your home is very important to residents. We will carefully consider and address the impacts to parking in every potential project location. We also assess the condition and availability of off-street parking nearby.

### **What does 'formalized parking' mean?**

Informal parking is generally a gravel area along the side of the roadway that isn't specifically outlined for places to park vehicles. Formalized parking is where the edge of the roadway and locations to park vehicles are more defined. There may be a hard edge (similar to a curb) or painted markings along the side of the street or beside a natural drainage system that outlines a specific place to park a vehicle.

**Will this project attract mosquitoes?**

No, it will not attract mosquitoes. Mosquitoes need stagnant water (found in bird baths, old tires, dog water bowls, etc.) and natural drainage systems are designed to constantly drain and keep water moving.

**Will my children and pets be safe when the water is collected and stored here?**

Natural drainage systems are designed with safety in mind. They will typically drain within 24 hours of the end of a storm, and, in most cases, it will be even faster.

**Who do I reach out to if maintenance is needed?**

If the completed project near your home isn't draining properly or requires maintenance, please call (206) 386-1800.

**Can natural drainage systems reduce traffic speeds?**

Installation of natural drainage systems with potential inclusion of walking paths may reduce the width of the road, and in doing so, traffic speeds are generally reduced.

**Will fire trucks still be able to use the street if natural drainage systems are installed there.**

Yes, fire trucks and other emergency vehicles will be able to drive through the streets once there is a natural drainage system installed. We will work with the local fire department to make sure that any design will meet their needs for emergency access.

**Will the City consider improving the conditions of alleys to promote parking there, to decrease the needs for parking on the streets where you might install natural drainage systems?**

SPU typically does not do alley improvements, so that would not be the scope of this project.

**Would a natural drainage system impede access to mail delivery to my door?**

No, mail delivery will not be impeded; access for pedestrians and for vehicles into existing driveways or across the planting strip will be maintained.