

Sewer/Drainage Improvements

1. Why was the area north of NW 130th Street not included as part of your current planning for stormwater / drainage improvements?

Our primary goal for drainage improvements is to reduce the risk of stormwater flooding from the right-of-way into homes. While we have looked at the area north of NW 130th Street for potential drainage improvements, the information we have collected has not shown flooding into homes in this area.

2. Some Broadview neighbors have experienced increased flooding and groundwater seepage since the implementation of the flood grouting early action pilot project, particularly during heavy rains. How is SPU monitoring the effects of these pilot projects on groundwater flows, and what measures is SPU taking to help protect homeowners from increased flooding?

We have heard and are responsive to these concerns from some Broadview residents. Our technical staff have been out in the field to monitor flow and investigate the increased flooding and groundwater seepage. SPU is also currently investigating groundwater movement in the 12th Avenue NW basin, including the area to the north of NW 130th Street, to determine the potential location and extent of French drains to address this issue.

To reduce groundwater seepage into basements, homeowners can check to ensure sump pumps and drains are working properly and that cracks in their foundation are sealed.

3. Why would SPU spend so much money on sewer backups in a few homes with known issues, when there are stormwater drainage problems affecting many more people in the neighborhood?

Reducing the risk of sewer backups has been and continues to be our first priority because it is a public health issue. Reducing stormwater flooding into homes is our second highest priority. To prioritize the future improvements, we will look at the risk of backups or flooding, the associated costs of these risks, and what improvements would most reduce the risks.

4. Why would SPU potentially look into acquiring private properties rather than building in the right-of-way or on public property?

SPU first looks at construction in the right-of-way, then looks at construction on city-owned properties or privately owned properties. Within the 12th Avenue NW basin,

construction solely in the right-of-way would be challenging for some of the options being considered due to the large amount of storage needed, high costs, and construction impacts. The city-owned properties in this area are all near a steep slope, which creates risks and regulatory challenges. However, we also considered both a stormwater pipe and a sewage pipe under the right-of-way in our analysis of options. Before making any decision to pursue private property acquisition, SPU will thoroughly investigate the possibility of using the right-of-way and/or public property to the greatest extent feasible.

5. How will SPU find four contiguous properties for a stormwater pond or two contiguous properties for a sewer storage tank?

If private property needs to be acquired for the selected alternative, we would look for willing sellers. We will share additional information with the community about the timing and protocol for potential property acquisition, and we plan to meet with potentially affected neighbors in the near term before any decisions are made to select a final alternative.

6. SPU is indicating that a stormwater pond seems to be the preferred drainage option, and that four properties will be required to build it. Explain why a stormwater pond is needed, where it would be built, and why this many properties would be required to build the stormwater pond.

Parts of Broadview's drainage system in the 12th Avenue NW basin are currently over capacity (as can be seen based on the photos you've sent us). To manage these flows and reduce the risk of flooding to private property, we need to increase the size of the pipes in Broadview. However, increasing flows and volumes that discharge to Mohlendorph Creek can pose environmental and regulatory challenges. Moreover, it is against the City's stormwater code. The stormwater flows must be slowed down and discharged at a controlled rate, which requires some type of storage. Stormwater storage could be built in the form of a pond, tank, or pipe. As was mentioned at the September 23, 2014 public meeting, a stormwater pipe option would cost about \$14 million more than a stormwater pond. The stormwater pond option, if selected, would need to be built toward the southern end of the basin. Also, a pond cannot be constructed at the top of a steep slope in order to guard against potential landslides and seismic risks. See Property Acquisition question No. 5 (below) for more information related to siting constraints near the ravine. To meet the stormwater code requirements, preliminary calculations estimate that 550,000 gallons of storage would be required, which translates to approximately four properties if the pond alternative is selected.

7. Why was storage in Carkeek Park dropped from SPU's analysis?

SPU considered Carkeek Park storage as a possible option during the analysis of paired sewer and drainage alternatives for the 12th Avenue NW basin. There are many problems associated with storage in Carkeek Park, including the following:

- Carkeek Park could be used to store sewer flows from the 12th Avenue NW sewer basin and the Dayton Avenue N sewer basin. The estimated cost for this option is about \$60 million; not including any priority (flooding to homes) drainage improvements. We do not have available funding to build this type of facility, and building this type of facility cannot be completed in phases.*
- Even if we had the available budget to build this project it would take about three years longer than any other option to design and build, and there is a risk it would take even longer than that.*
- Construction in Carkeek Park would be very challenging from an environmental and permitting standpoint, and steep slopes also pose a significant risk during construction and for the pipes in the long-term.*
- We would likely have very strong public opposition for building in Carkeek Park, which could cause delays and use up available resources for the project work.*

8. How would SPU connect sump pumps to the storm drainage system? The drainage system is already overwhelmed and flooding streets and yards in the area.

Drainage system improvements would be built first where they are needed. Then sump pumps connected to the sanitary sewer system would be rerouted to the storm drainage system, stormwater cascades or other drainage improvements to slow down and temporarily store rain water diverted from sump pumps, roof drains and foundation drains.

Property Acquisition

1. At the September 23, 2014 meeting you presented a circle showing the general area where properties would need to be acquired. Where exactly within this circle would properties need to be acquired and when will this decision be made?

We have not yet selected a preferred alternative, and therefore have not determined exact property acquisition location or timing. Timing of property acquisition would also be dependent upon project prioritization and funding availability. As noted above, we will meet with potentially affected neighbors early in the process before any decisions are made.

2. What is the process that SPU goes through for acquiring properties?

Should private property need to be acquired, we will look for willing sellers. SPU will follow state and Federal law in the property acquisition process.

3. In what case would SPU use eminent domain to acquire properties, and what does this process look like?

SPU has not yet determined whether eminent domain would be pursued as an option for property acquisition in Broadview, but will communicate our intentions with the community when that decision has been made.

4. Has the city considered other options that do not involve private property acquisition for a potential stormwater pond location?

Yes. In our analysis, we considered city-owned parcels first, as well as vacant parcels in the neighborhood in the southern part of the 12th Avenue NW basin. Unfortunately, there are no vacant parcels in the area where a pond would need to be constructed that are flat enough or far away enough from a steep slope. As noted in Property Acquisition question No. 5, a pond cannot be constructed at the top of a steep slope or on a sloped parcel. This is in order to guard against potential landslides and seismic risks. While an underground stormwater vault could potentially be constructed on a sloped parcel, this would be significantly more expensive than the stormwater pond option while still requiring property acquisition, and was eliminated from consideration during options analysis.

5. What about the two properties the city owns on the NW 120th Street block between 11th Avenue NW and 12th Avenue NW for a potential stormwater pond location?



The above is a 3D view from Google Earth showing the ground near the intersections of 12th Avenue NW and NW 122nd Street. There is a very steep ravine that forms between 11th Avenue NW and 12th Avenue NW, as well as an area of open right-of-way (ROW). The storage cannot be located in the ravine for several reasons:

- It would impact the stream, and depending on the conditions and habitat within the impounded reach, it can make it difficult, or impossible, to permit.*
- It could impact the stability of the almost vertical steep slope which could increase the risk of landslides and would not meet the steep slope setbacks prescribed by the City code.*
- It would necessitate the creation of a dam, susceptible to seismic events and downstream flooding.*
- It would not be accessible for maintenance due to steep slopes.*

- *The “open right-of-way” upslope of the ravine is not large enough for the required storage. In addition, the eastern portion of the right-of-way near 11th Avenue NW is already occupied with a sewer pump station and storm drainage pipes.*
- *It could require the acquisition of additional property immediately upstream.*

6. There has been a lot of talk about property acquisition, why isn't Carkeek Park on the table?

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- *Even if we had the available budget to build this project it would take about three years longer than any other option to design and build, and there is a risk it would take even longer than that.*
- *Construction in Carkeek Park would be very challenging from an environmental and permitting standpoint, and steep slopes also pose a significant risk during construction and for the pipes in the long-term.*
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Schedule/Funding

1. Is the current projected funding of \$23 million for both sewer and drainage improvements in the 12th Avenue NW and Dayton Avenue N basins? What's available for 12th Avenue NW drainage?

The projected budget of \$23 million is for sewer and drainage improvements in both the 12th Avenue NW and Dayton Avenue N basins through 2020. SPU is currently looking at other funding sources and has not yet prioritized funding for either basin.

2. How could SPU increase the budget for drainage and wastewater, or Broadview's share of the budget, between now and 2020? How can community members help secure additional funding?

We are talking to SPU executive leadership about obtaining more funds for the Broadview Project.

3. How will SPU prioritize between needs in the 12th Avenue NW basin and the Dayton Avenue N basin, and when will we know when and where work will occur first?

Once basin-wide paired sewer and drainage improvements are complete for both the 12th Avenue NW and the Dayton Avenue N basins, a preferred alternative will be selected by SPU for both areas. Following the selection of a preferred alternative for each basin, improvements will be prioritized and phased to address the most significant impacts first.

SPU is determining how prioritization would occur, but will target key issues such as estimated risks and costs of sewer and drainage impacts in each basin. We will also look at interim measures that could be taken to manage risks in each basin, and phasing of work.

1. It seems like it's going to take longer to bring improvements to Broadview due to budget constraints and the need to prioritize projects between basins. What's the timeline for completing all needed improvements in Broadview?

It takes time to plan and implement large basin-wide improvements like the Broadview projects. Our ability to fund and construct sewer and drainage improvements is affected by factors such as limitations on utility rate increases, inflation, and needs in other parts of the city. This project is likely going to be implemented in three phases. The first phase will occur from 2015-2020. How quickly the work is implemented after 2020 will depend on the funding level of the project for the 2021-2026 period and beyond. Currently it is estimated that it will take approximately 15 years to complete the improvements in Broadview.

Maintenance

2. What about existing ditches that do not function properly, for example the ditch on the west side of 11th Avenue N south of NW 122nd Street? To what extent can SPU maintenance crews address these problems within the existing ditch and culvert system without spending money on new infrastructure?

SPU field crews are looking at how water flows through the area and where the drainage system is not performing as well as it could. For example, we have investigated the "dry ditch" issue along 10th Avenue NW and confirmed that the ditch on the north side of NW 122nd Street east of 11th Avenue NW only collects flow from the frontage of that block on NW 122nd Street, and therefore does not carry much water.

Based on the information we gather in the field, and follow-up conversations with residents, we will determine what could be done from a maintenance perspective to improve the flow of water and clear ditches in the area. If you have a sewer backup or stormwater flooding near your home, please call our emergency response number at (206) 386-1800. Also provide that information via our project email (SPU_BroadviewProjects@seattle.gov). SPU may not be able to provide an immediate fix, however, information that residents can provide will help inform our design when we implement sewer and drainage improvements in the area.

3. Why hasn't SPU maintained or improved publicly managed ditches and culverts? Many of these features are undersized, overgrown or clogged and the rainy season is just starting.

SPU field crews will work to clean out ditches to the extent possible during the fall months. Our field investigations have also confirmed some locations where culverts conveying drainage are undersized and constrict the flow volume in the drainage system. We will consider these issues during the capital project improvements for drainage in the 12th Avenue NW basin to improve the overall function of the system. However, we will be prioritizing the work based on the priorities for the project and available funds.

4. What about driveway culverts that are clogged? These are causing drainage issues.

Residents should keep in mind that SPU is not responsible for maintaining or upsizing driveway culverts and other private structures, as they are located on private property and the responsibility of the property owner. In some areas where ponding is occurring in Broadview, the problem appears to be associated with private driveway culverts, and this project will not address these issues. In some locations, private culverts may be undersized for the system or require maintenance to relieve constrictions in the flow of water.