

## Arboretum Creek Headwaters Project — Summary Comments from Key Stakeholders at 30% Design — Friends of Arboretum Creek — as of July 2022

The Headwaters Project will:

- Reunite uphill springs with Arboretum Creek,
- Keep the creek flowing year round,
- Capture and clean stormwater,
- Reduce flooding,
- Protect the Japanese Gardens, and
- Enhance the creek ecosystem.

Our project has achieved 30% design as of mid-July, 2022. The 30% Design Report is available via Friends of Arboretum Creek's website: <http://www.arboretumcreek.org/LatestNews/30PctDesignReport.pdf>, or by contacting us at: [arboretumcreek@gmail.com](mailto:arboretumcreek@gmail.com).

As the Headwaters Project moves into the 60% design phase we, Friends of Arboretum Creek (FOAC), are working to capture all relevant comments and questions from the Community, our Advisory Group, Seattle Parks & Recreation's ProView group, and the Arboretum's Master Plan Implementation Group. Below are our summary notes to date. We will continue to investigate and resolve issues as we move forward with the guidance of engineering consultants and stakeholders.

### General:

**0 Project "Creep" or Evolution.** It has been noted that FOAC's original focus was on simply reconnecting Alder and Alley springs to the creek's headwaters, either through or around the Japanese Garden. Significant winter floods which inundated the Japanese Garden, as well as uphill streets, in recent years convinced us to enlarge our project to capture stormwater flows. This will reduce flooding as well as provide treatment of these flows before they discharge into the creek. We think we have a more robust project now which addresses multiple concerns.

**0 More detailed site and survey mapping needed.** During the 30-60% phase, we will be doing a more thorough analysis of available mapping of utilities, topography, trails, and other fine details in the area of the potential project's impact, including on-the-ground surveying as needed.

**0 Marketing graphic.** Early in the next phase, a landscape graphic that displays the planned, "Olmsted-like" beauty of the finished water quality treatment facility will be needed to assist in securing construction funding, and in ensuring all interested parties that our project's design will result in a net improvement to the Arboretum.

**0 Combined sewage cannot be allowed into the creek.** This project will reduce input to King County's combined sewer (the Arboretum Trunk Line which runs parallel to Lake Washington Blvd. through the edge of the Japanese Garden) and will therefore increase capacity in that line, reducing overflows. No combined sewage will be routed through the proposed treatment facility into the creek. This will be a major net improvement to environmental quality.

O **Maintenance.** Cost impacts to Seattle Parks and Recreation (SPR) for maintenance throughout the proposed project, but especially related to the water quality (WQ) treatment facility, need to be analyzed and considered. The proposed capture and treatment of stormwater from uphill west of the Japanese Garden as well as from Lake Washington Blvd. raise the need to address co-mingling maintenance agreement between SPR, Seattle Public Utilities (SPU), and Seattle Department of Transportation (SDOT). Determination is needed for who (which agency) “owns” the stormwater coming off Lake Washington Blvd as well as uphill. Given the positive impact of the project on King County’s Arboretum Trunk Line (combined sewer), would King County agree to cover some project costs, including long-term maintenance (such as “vactoring-out” the pretreatment maintenance hole, for example), or cost-sharing? Also, does this approach nullify the need for “vactoring” downstream at the WQ treatment facility?

O **Revocable Use Permit.** Any activity on SPU’s property by an outside group requires a Revocable Use Permit. FOAC already has experience with the RUP when we collected water quality samples a few years ago. All future activities will be assured to follow proper protocol.

O **Construction Staging.** A mockup of where construction staging might be located will be helpful during further project design. Traffic management, closures, and public impacts all need to be addressed. Some possibilities:

- a) A portion of the parking lot south of the Japanese Garden;
- b) The SPR Maintenance Yard near 28th Ave. E. and Ward St.; or
- c) Closing and using Prospect St. between 26th Ave E. and 28th Ave. E.

O **Property ownership.** We need to determine who owns (or has responsibility for) all parts of the potentially-impacted areas, including Rights-of-Way and other properties, such as 28<sup>th</sup> Ave. E, E. Prospect Street, Lake Washington Blvd., and any other uncertain ownership areas within the project’s scope.

O **Project ownership.** While currently run through grant funding by a non-profit group (FOAC, with fiscal support from Seattle Parks Foundation), which public agency will ultimately take on management for the construction phase and for eventual ownership of the assets? It is in the current discussion that Seattle Parks & Recreation will take on project management at or sometime after 60% design, given this department’s ownership of the property. A project management transition agreement (Memorandum of Understanding) has yet to be negotiated. Potentially, certain assets will be owned by (or under the responsibility of) other entities, such as SPU, SDOT, and King County DNRP. Determinations of ownership and long-term cost-sharing have yet to be made.

#### **Uphill by Alder and Alley Springs, 26<sup>th</sup> Ave. E, E. Prospect St. and 28<sup>th</sup> Ave. E:**

O **Traffic concerns on E. Prospect Street.** There have been bicycle fatalities on this stretch of roadway, as well as many traffic-related concerns and requests for traffic calming, a sidewalk, and access down the steep slope into the Arboretum. While these issues are not directly related to our project to address water flows, a convergence of interests might facilitate solving multiple public requests at the same time.

O **Planting native trees where year-round water exists.** Further design will consider enhancing the existing trees in the uphill area with additional native species.

O **Address the “seep” on 28<sup>th</sup> Ave. E nearby Alley Spring.** If piping is intended along 28<sup>th</sup> Ave. E to reroute Alley Spring from the combined sewer, it makes sense to also capture the seep of groundwater that creates a traffic hazard year-round on this section of 28<sup>th</sup> Ave. E.

O **Protect the Sequoias.** Two enormous Sequoia trees — part of the Arboretum collection and Olmstead legacy — at the junction of E. Prospect St. and 28<sup>th</sup> Ave. E must be protected. Construction impacts, as well as routing of pipes and related facilities, must ensure the protection of these significant trees.

O **Existing drainage for Alder spring and stormwater.** Where does the flow from Alder Spring go after it descends along E. Prospect Street? There are four storm drains, two on each side of the street ROW, that collect spring flow as well as stormwater. The existing pipes carry these flows downhill to the east, assumed to enter King County’s trunk line. Confirmation of location of these pipes will occur in the 60% design phase.

O **Public access downslope into the Arboretum.** Interest has been expressed about including a stairway or ramp to allow easy public access from E. Prospect and 28<sup>th</sup> Ave. E into the western edge of the Japanese Garden. If the construction of piping is going to occur, public access might be a beneficial add-on at the same time.

#### **Japanese Garden area (inside and out):**

O **No routing of spring flows or stormwater into the Japanese Garden.** During 30% design, it was determined that the preferred routing for the uphill spring flows (and additional stormwater) would be around the south edge of the Japanese Garden, rather than providing a possible summer-time diverter to allow spring water to flow through the Koi Ponds. The potential contamination was too significant to allow for flows through the Koi Ponds. The project will help significantly to reduce stormwater flows, pollution, and flood damage to the Japanese Garden property, buildings and pond during major storms.

O **Flexibility of routing near the entrance of Japanese Garden.** Discussions are underway for improvements to the area at the entrance to the Japanese Garden. This project will be flexible to ensure that it will not impact future proposals in the immediate area.

O **Piping will go under the sidewalk.** It is proposed to run piping around the south entrance to the Japanese Garden and then under the sidewalk on the west side of Lake Washington Blvd, before crossing under the Blvd to get to the area of the proposed WQ treatment facility and extended creek.

O **Extend the headwaters area of Arboretum Creek.** The 30% design includes an extension upstream (to the south) of approximately 200 feet for the creek. This will be parallel to and incorporated into the design of the WQ treatment facility. This extension of creek length will both assist the WQ treatment facility’s function and hopefully garner a positive response from the permitting agencies.

#### **Proposed Subsurface Gravel Wetland/Water Quality Treatment Facility:**

O **Capacity.** Concerns were expressed about the sizing of the facility to accept currently proposed storm flows as well as potential future flows from additional sources upstream, and/or

increased flows due to climate change. Our engineers will sharpen their pencils to address this important issue during the 60% design phase. Additional peak-flow reduction will also be addressed.

O **Pretreatment and access for maintenance.** The proposed pretreatment maintenance- (“man”-) hole will be located between the Japanese Garden entrance and the adjacent parking lot to the south, in a spot where access for clean-out will be most convenient to all parties. This node in the system will allow heavy sands to settle out and will screen out debris that might clog the downstream WQ treatment facility.

O **Treat outflow from the Japanese Garden Koi Ponds.** We determined at the 30% level to include the outflow from the Koi Ponds in the WQ treatment facility. This will help to address relatively high nutrient loading from the ponds into the creek.

O **How will the proposed subsurface wetland work?** More explanation is needed (for non-engineers and non-wetland biologists) regarding the design and function of the proposed WQ treatment facility.

O **The role of microbes in the WQ facility.** The design of the subsurface wetland WQ treatment facility incorporates microbial activity as essential to its function. Further evaluation and explanation of these important processes will occur in the 60% phase.

O **Direct annual maintenance.** SPR staff will need a grass bench at least 6 feet wide between the facility and the edge of Lake Washington Blvd. to facilitate ease of mowing. Access for maintenance vehicles will need to be designed for this grass strip.

O **The role of plants in the WQ facility.** Many questions remain regarding the selection of plants for the various cells and adjacent edges. Concerns were raised about recommending horsetails, as they are so invasive. Questions arose about how the plants will survive in a hydroponic situation or with minimal or no soil within the sorted gravel cells.

O **In and nearby plantings, as well as impacts to existing collections.** Close coordination will be needed with Arboretum staff to ensure that existing collection specimens will be maintained and that any new proposed plantings meet Arboretum approval and long-range plans.

O **Opportunities to reduce maintenance.** If year-round water flow is expected through the facility, will it more naturally mimic a stream system, full of biotic, WQ-treating growth on the gravel, and thus potentially not need as much maintenance as initially proposed? Consultation with local *hyporheic-zone* expert, Katherine Lynch at SPU, will be important to refinements of the design. We plan to scrutinize the design to minimize maintenance requirements.

O **Proposed facility location and permitting requirements.** Various concerns were raised regarding details of permits required for the WQ treatment facility. The 30% design report includes an initial assessment of permitting. Much further work on needed permits will occur during the 60% phase.

O **Geotechnical studies are needed.** During the 60% phase, geotechnical studies will be done to assess steep slopes, soils, groundwater levels, and other concerns.

**Downstream:**

O **Capacity.** Will the additions of year-round spring flows as well as extra stormwater events impact Arboretum Creek downstream? We don't expect the minimal (20%) increase in base flows from the springs to change the functional hydrology of the creek. However, the additional flow will be a critical benefit for the upper portion of the creek which currently stops flowing during summer. Hydraulic and hydrological analyses will continue in the 60% phase to assure no downstream impacts.

Currently, in extreme stormwater events, the combined sewer reaches capacity and excess surface/stormwater (but not combined sewage) is unable to get into the pipe and instead flows through the Japanese Garden and into Arboretum Creek. The new design will help protect the Japanese Garden from such flooding, while also slowing and cleaning the flood waters before they enter Arboretum Creek.

O **Relationship to daylighting of Arboretum Creek.** What is the relationship of the headwaters' project to the proposed daylighting of the mouth of the creek? Is there a need to synchronize schedules, or are they relatively independent? The two projects are separate and not dependent on each other in terms of scheduling, yet together will greatly improve the ecological health of the creek.

**Follow-up:**

We anticipate that our consultants, Jacobs Engineers and the Berger Partnership, will incorporate addressing all of these concerns in our project's next phase. Be assured that all issues will be addressed. We will make a point of bringing back updates to our various stakeholder groups and to the community at large to answer particular questions as the project continues.

For more information about our project timeline and funding needs visit:

<http://www.arboretumcreek.org/index.html>

Sincerely,  
Friends of Arboretum Creek