

Highline SeaTac Botanical Garden
Master Plan Report: Outline / DRAFT

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Masterplan; Proposed improvements – Program Descriptions.

Cost Assumptions

The cost estimates provided as part of this report were developed using rough area take-offs from the proposed masterplan when possible, and inputting unit costs from other similar projects within the past year. While this is a good starting point, we want to point out that these numbers are contingent on many factors, including actual scope specifics for each project at the time it is built, escalation over time, amount of donated material or volunteer labor, and how projects are sequenced or grouped. In our estimate, we factored in the cost of construction mobilization, estimating contingency, contractor markup and anticipated design fees. These are all based on a percentage of the total project cost, but could vary depending on the situation, contractor and design team. To account for the variability of cost when estimating at the masterplan level, we have developed a price range for each project that we'll describe in more detail below.

Visitor Center

A major program addition to the Garden is the new Visitor Center – a feature that has been planned since the initial master plan was created in 2001. The visitor center is meant to serve the garden in hosting classes and events and generating revenue as a rentable facility. It will serve the public as a horticultural hub and meeting place for the South Sound community, and will help visitors orient themselves, learn, and engage with the Garden in a more meaningful way.

The proposed location of the visitor center at the southeast corner of the property works well for several reasons: the relatively flat terrain in this area will reduce construction costs, and allow vehicular access from 24th Ave S. This new entrance will be more visible to visitors and more convenient for those wanting to access the community gardens just north of the proposed visitor center. Additionally, creating a hub of activity will help to reduce incidences of vandalism and other undesirable behaviors on this side of the Garden.

The specific program for the visitor center should include:

- two enclosed meeting spaces
- a multi-use classroom or library space
- office space with 2-3 rooms
- records storage
- two restrooms
- and a kitchen with a minimum stove, sink and refrigerator.

With those programs and circulation space, we've assumed a 5000 sf building. Parking will likely be required at a rate of either 1 space per 400 sf, or 1 space per 200 sf. We recommend using this as an opportunity to create a sustainable facility with a rain garden demonstration adjacent to the parking and visitor center entry plaza. The King County RainWise program offers rebates for building raingardens that could cover some of the cost of installation.

Likewise, the building should showcase best practices for sustainable construction, emphasizing low-energy use, resource efficiency, and environmentally responsible materials. Opportunities include

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photovoltaics, grey water re-use, composting toilets, a living roof, recycled and sustainably manufactured materials, and low-impact site development.

Visitor Center Cost

For the main visitor center structure, we used a \$300 per sf unit cost for the full build-out option. This unit cost is in line with other recreational structures with bathrooms and kitchen facilities that we have done recently. In addition, the cost of bringing in new utility connections to the building as well as connecting an asphalt vehicular access road and parking area to 24th Ave, with associated raingarden and plaza area leading to the building were added. With mobilization, estimating contingency, contractor markup and design costs, the total for this would be about \$2.7 million.

On the lower end, a partial build-out of the visitor center could be considered. The minimum structure would include semi-conditioned bathrooms and a covered area, which would be enclosed in a later phase to add the additional desired program. This would bring the cost down to \$1.5 million. However, the eventual full build-out cost will be higher if this route is taken.

Event Meadow

An event meadow is proposed as a companion to the visitor center – allowing for large events to utilize this flat area as well as enjoy views of the adjacent valley. The meadow could be kept as a native prairie demonstration for most of the year and mowed selectively to accommodate events up to 200 people.

Event Meadow Cost

The event meadow could be built as part of the Visitor Center, or taken on as a separate project. While there may be some cost savings in completing the meadow at the same time as the visitor center (possibly using same landscape contractor), it would probably be minimal. The main cost elements include clearing and grubbing the 16,000 sf area, routing irrigation, decompacting topsoil, adding a “sowing mulch” of sand to cap the seedbank and minimize weeds, and finally seeding the lawn with a prairie mix adds up to about 4\$/sf. With construction and design costs, this totals to \$100K.

If volunteer labor is utilized, along with some reductions in the infrastructure such as eliminating automatic irrigation, removing the sand layer and hand broadcasting seed – all done without design consultation, the price could be reduced down to \$16K. There is probably a happy medium here, as some important elements like irrigation and proper soil preparation will serve the garden in the long term and minimize maintenance burdens.

Visitor Center – Horticultural Displays

Entry Garden; Display gardens at the main vehicular entry to the Visitor Center and south side of the garden. These displays should be eye-catching and attractive year round as this is the first garden that a visitor sees upon arrival.

Pollinator Garden; North of the Visitor Center, between the meadow and new community garden is a display opportunity that could take advantage of the proximity to native prairie species and food crops. A pollinator garden would fit well, and attract a wide variety of pollinators.

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Entry Garden Costs

For all display garden areas, the high-end cost assumptions are the same. Clearing and grubbing are required, along with automatic irrigation, 12" of imported topsoil, and plants add up to \$6/ sf. We don't recommend eliminating irrigation, but clearing and grubbing could be done with volunteer labor, and plants could be grown or donated to reduce the square foot number down to \$2.50. We are also recommending planting 20 trees on the south side of the visitor center as a buffer to the existing pet daycare. These trees could be purchase at 1.5 caliper to ensure better growth and survival in a non- irrigated environment. If contingency, construction and design costs are also eliminated on the low end, the price range for the entry garden and tree buffer would be between \$12K - \$36K.

Cost could be reduced by using existing site soil and mulch.

Pollinator Garden Costs

Similar to the description above, the cost range for the pollinator garden is based on volunteer vs. paid design and labor as well as donated plants. As the square footage is similar, the range would also be \$12K - \$36K.

Expanded Community Garden

The existing community garden developed in 2017 has been very successful – renting out all 34(?) plots in 2018 and attracting a more diverse group of people to the garden. We are recommending that this success be built upon with additional plots as well as a community gathering space to provide shelter and to accommodate pea-patch related events. The garden itself would be fenced with wood-edged plots and gravel pathways between.

Community Garden Cost

The existing community garden was built by the SeaTac Parks Department in 2017 for \$64K. This amounts to about \$9/ sf. Including clearing and grading, soil, gravel pathways, wood plot frames, fencing and a small storage unit. With a slightly larger proposed expansion plot, the cost would be about \$81K.

Gathering Space and Pavilion

The adjacent gathering space is envisioned as an open area of lawn with an 800-sf pergola or pavilion structure over a concrete or gravel surface. A low-cost solution would be a pre-fab product with pressure treated lumber framing and a metal roof like products made by Poligon. Another option would be to harvest wood from the site as several trees will be taken down as part of implementing the masterplan. Creating a timber framed structure from reclaimed wood would involve additional coordination, but may attract more funding with its sustainability story and an aesthetic that matches the existing structures at the garden.

Gathering Space and Pavilion Cost

The pavilion structure costs were based on a pre-fab product vs. a custom designed and built timber frame structure. At the low end, a 600 sf pre-fab product from a company like Poligon would cost \$40K. A custom designed structure from a company like Cascade Joinery (the firm that designed and

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constructed the Seike Garden Sign) made from reclaimed wood would cost \$80k, including design fees and construction. Add to that a concrete plaza space and lawn, and the high end cost comes out to \$155K. If a gravel pad is swapped for the concrete plaza, the low cost would be around \$60K.

Apiary

Another program we're proposing to expand is the apiary found at the southern edge of the garden. During our community outreach we received a lot of very enthusiastic reaction to expanding the apiary, and many people supported permaculture in general. We think that the expanded permaculture programs could help to draw in a new support base for the garden, and especially attract younger gardeners. The bees are currently being taken care of by volunteers – and so they would be a good resource to start with and consult on new configuration and location. Our initial suggestion would be to locate the apiary in between the two community garden plots, near the property edge which has less foot traffic but has access to pollinator meadow and garden plots which would benefit from the bee population. Additionally, a horizontal hive configuration would support greater accessibility and allow for easier expansion. In the interest of sustainability, we also recommend an emphasis on “natural beekeeping” practices, including using feral bees and minimizing inputs. Additionally, we recommend augmenting the apiary with habitat for native bees.

Apiary Cost: \$2K-\$10K

Commemorative Tree Grove

The commemorative Tree Grove is meant to be a serene resting space centered around tree donations. This is an opportunity to collect and formalize trees that have been given in memory by garden patrons, as well as to provide a place for other donation opportunities such as furnishings and possibly plants or bulbs. A great precedent is found at the New York Botanical Garden daffodil field, where patrons can donate bulbs to an existing field of daffodils that becomes more dense and spectacular with donations over time.

Commemorative Tree Grove Cost

We are already assuming that much of this garden will be donated as described above. The main cost difference would be in the landscaped area – whether it is constructed with volunteer vs. paid design and labor as well as donated plants. The range for this 13,500 sf space would be \$34K-\$124K.

Forest Restoration

The forested acreage to the west of the existing garden is a wonderful asset and a beloved space by community members. Visitors currently use the informal meandering paths, and enjoy its rustic and magical feel. However, this forest is heavily overgrown with invasive species such as ivy and laurel, which are threatening to choke off many of the existing trees. Additionally, there are sporadically encampments within this forest area which present some security issues for the garden. We are suggesting a low impact approach to developing these 4 acres and integrating them into the garden proper – meaning we'd like to preserve and improve the forest, with a few new programs to enliven this area and bring more people through.

Coincidentally, Forterra has recently expanded its Green City Partnership program, funded by the Port of Seattle, to include the city of SeaTac, and have targeted this particular area of forest to be included.

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The process involves an initial assessment of the current condition of a natural area. With this information Forterra works with the city and stakeholders to develop and implement a strategic plan with the forest assessment results, cost estimates, volunteer projections and strategic benchmarks to achieve restoration goals over a set timeline. Planning for the SeaTac partnership will go into 2019, and implementation will happen in in the next 2-3 years.

To keep costs down, volunteer labor could be utilized in the restoration process. There will still be a cost associated with volunteer organizers, tools and some professional crew hours for specialized tasks. On the other end of the cost spectrum would be a professional crew doing the clearing and replanting, as well as ongoing maintenance for long term establishment. Depending on the level of invasive cover determined during the forest assessment, it may make sense to use more or less volunteer labor, as it has been found that with invasive heavy sites volunteer labor is less effective at permanently removing invasive cover than a professional labor crew.

However, in either case we highly recommend working with Forterra and the Green City Partnership to clean up the forested area, and utilize their expertise in organizing volunteers for this type of work. There may be funding opportunities through this program as well, which would be well worth investigating. The main contact for the Green City Partnership program is Joanna Nelson de Flores.

Forest Restoration Cost

The restoration cost is unique in that they are not necessarily predicated on a bid/ build situation. Because we are recommending collaboration with Forterra, our cost information has come largely from conversations with them as well as from the USDA paper published in collaboration with Forterra titled "Urban Forest Restoration Cost Modeling: A Seattle Natural Areas Case Study". As described above, the cost will largely be contingent on the amount of volunteer labor, balanced with the amount of invasive remediation requiring professional crews. The high estimate – involving mostly crew time would be around \$20K per acre, while a more volunteer run operation would be half that cost. With our 4 acres, that puts the range between \$40K-\$80K.

Canopy Walk and Bird Blind

One of the more active features proposed in the forest garden is a 500' long canopy walk. This structure is envisioned to be 9' wide path allowing visitors to experience the forest at the canopy level, view wildlife at the treetops, and to bring an accessible route through the steep forest area. The location shown in the masterplan maintains the same elevation across the entire path, starting and ending at approximately the same elevation. For safety, a 42" ht guardrail would be required along the entire length of the walkway, and long-lasting materials would need to be used such as light-weight metal or rot resistant wood.

There are several ways in which the canopy walk could be structured. Steel or wood piles supports could be used, with care taken to avoid tree root zones. If there are conflicts with root zones and canopy-walk structural support, deep foundation elements called micropiles could be constructed using high-strength, small-diameter steel casing and/or threaded bar. After assessing the tree assets in the forest a more ideal route can be determined that will allow for structural support and avoid damaging sensitive trees.

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The bird blind is an additional element proposed along the canopy walk to allow for better wildlife viewing and to provide a pause point for patrons to stop and enjoy the forest view. This element would need to balance the bird blind element with CPTED (Crime Prevention Through Environmental Design) principals of visibility, accessibility and maintenance.

Canopy Walk and Bird Blind Cost

Coming up with a unit cost was more difficult for the canopy walk in advance of subsequent design. There were several bridge and tree-house type structures done in our office recently that were somewhat relevant, but no direct correlations could be made. We also looked at similar canopy walk projects in other cities. In Cleveland, OH the Holden Arboretum built a 500 foot long canopy walk supported by suspension bridge structures that also included a wood framed tower. The total cost for this project was \$1.3 million. Taking into account our own experience with structural projects of this nature, and using the Cleveland project as a precedent, we estimate that the canopy walk will cost approximately \$1 – 2 million. The biggest factors would probably be the extent to which structures and equipment must work around tree roots, geotechnical information about soils in the forest, and materials used for construction. The main design strategy to reduce cost would be to reduce the length of the walk.

The bird blind... TBD

Foundation Ruins Garden

Several remnants of the former neighborhood are still visible in the southeast quadrant of the forest garden. These pieces of foundation and garden wall provide a glimpse into the past and an appropriately meditative neighbor to the commemorative grove to the east. A few of the foundation pieces have become overgrown with invasive laurel and need to be assessed for their safety, but we believe that these pieces can successfully become the centerpiece for a new display centered around English garden style plantings that express a tidy residence gone wild.

Foundation Garden Costs

The main costs associated with the foundation garden would be assessing and reinforcing exposed foundations, possibly finding new foundations, and adding botanical display to the area. The assessment and reinforcement of the existing foundations could be minimal if they are in good shape, or could involve demoing and re-pouring new concrete replicas of these foundations. Additionally, if a more rigorous foundation plan was to be created, we would recommend a lidar scan of the area in question to find foundations that may be buried and either excavate them or recreate the walls with new concrete. The company Flight Evolved can provide this type of service with drones. The horticultural display would be the other cost factor, which has been described in other projects. So the range for the entire garden would be between \$50K-\$130K.

Nature Play

Bringing children into the garden and engaging their interest in nature and horticulture is a priority for the garden and the community. There is real need in the neighborhood for more nature-based play opportunities, and research that supports the benefits of this particular type of play; it supports creativity and problem solving, reduces symptoms of ADD, and reduces stress to name a few benefits.

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Additionally, we hope this type of play will get kids interested in horticulture and develop future stewards of the garden.

The Nature Play experience we are proposing would include play features made of natural materials such as wood and fibers. The play features should be interactive, with moving parts and ways for kids to create or modify – such as water pumps and devices to divert water. Mud and sand also provide limitless play. There is a great company called Earth Wrights from the UK that specializes in this type of equipment, and could be a good starting point for developing the play features. Other things like woven reed fencing or climbing objects could be artist designed elements that bring another level of playfulness to the garden.

The plantings around the garden should also be child-oriented. Plants with high sensory qualities like smell, movement, sound and color should be used. The garden space could also integrate signs and interactive elements that teach kids about common plants they may see in their own backyards as well as native plants found in the pacific northwest understory.

Nature Play Cost

Play equipment, whether steel and plastic or wood, costs on average about \$10,000 per grouping. Assuming that we could fit about 4 pieces of equipment, 2500 sf of play chips to a depth that accommodates a 10 foot fall height, a perimeter fence and surrounding landscape, the high end cost would be about \$150K. If some of this equipment is built by volunteers or donated, no safety surfacing is required, an artist made fence is funded by an outside grant from a group like 4culture, and the horticultural display is volunteer installed and plants donated, the cost could be as low as \$50K.

Wetland Restoration

A stormwater wetland exists in the NE quadrant of the forest garden, serving the community center and its parking lot. It is currently a ~6000 sf fenced depression in the hillside, with no particular horticultural appeal. It is maintained by the city of SeaTac and mowed periodically. We feel that this is a great opportunity to enhance the facility to become more functional and more aesthetically pleasing with a horticultural focus.

Beyond the minimum King County stormwater requirements, there are many additional green stormwater infrastructure best management practices that could be implemented here to create a more beautiful stormwater facility. A good starting place would be “The Integrated Pond”, a document created by King County to act as a companion their King County Surface Water Design Manual that provides information about making stormwater tracts double as attractive community spaces using appropriate soils and plants that still meet county requirements.

This would be a wonderful demonstration project to show how a typical stormwater facility can be enhanced for better functionality and beauty. The King County WaterWorks Grant Program provides funding every year for non-profit projects that improve water quality utilizing community engagement and stewardship, education and BMP’s for green stormwater infrastructure and habitat restoration. This demonstration could focus specifically on the horticultural aspects of cleaning water, and how plants play an important role.

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Wetland Restoration Cost

The major cost differentiator for the wetland would be whether upgrades to the infrastructure are required, and how much of the landscape can be donated/ volunteer installed. If the existing storm water structure can function properly with minimal re-engineering, the cost could be as low as \$75K, but if updates are needed to the drainage outflows, or major earthwork is required, as well as a full professional planting installation and permitting, the cost could be up to \$160K.

Boardwalk

As a companion to the restored wetland, a boardwalk would help attract visitors to this end of the garden, and get people close to the wetland plants to learn about their functions. Depending on how much the water level fluctuates, a guardrail may be desired on one side of the boardwalk. This could prevent a good opportunity to integrate information signage about the stormwater functions and specific plants.

Boardwalk Cost

The boardwalk cost will be affected most by the type of substructure under the wood planking. Depending on the geotechnical recommendations, the high end would be pin piles, while the low end would be steel framing. In addition, if a guardrail is required, that would add additional cost. So with pin piles and a guardrail, the boardwalk could be up to \$240K, and with out the guardrail and a more simple substructure, as low as \$150K.

Amphitheater

Utilizing the restored wetland as a backdrop, an amphitheater would be another great addition to the NW quadrant of the forest garden. With this serene view, an amphitheater could accommodate performances of 50-100 people as well as small wedding ceremonies, local community gatherings or just a nice spot for a picnic. This particular area would be somewhat more buffered from aircraft noise than the upper garden proper, and could have a more rustic feel that is differentiated from other gathering spaces around the garden such as the Rose Lawn or proposed new Visitor Center.

Amphitheater Cost

At the high end, we assumed the entire amphitheater area would need to be re-graded, then 300 lineal feet of cast-in-place concrete seat steps would be poured, a 1200 sf concrete plaza poured at the bottom of the steps, and a custom pavilion structure (possibly from reclaimed wood from the site) built on the plaza. Surrounding this area would be NW native plantings. To reduce costs, the seat steps could be made from reclaimed wood from the site, and fit to the existing slope without re-grading. The plaza at could be gravel, and pavilion structure a pre-fab product. This puts the cost range between \$65K-\$200K.

Forest Restoration – Horticultural Displays

Within the forest garden we propose to create several horticultural display opportunities sprinkled along the main pathway to add interest to this route. Along with the gardens associated with the Foundation Ruins, Nature Play, and Stormwater Wetlands, we are proposing three more displays;

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Wildlife Garden: At the southwest corner a wildlife garden is positioned to attract birds, squirrels, insects and other forest dwellers to an area visible from the bird blind up the hill. We suggest using plants that provide food and shelter for a variety of animals. While many of the best plants will be NW natives, the sunny aspect to this particular area will provide opportunity to use a different palette of plants.

Cost: \$13K-\$45K

Flowering Understory Garden: Moving north along the main forest path we propose planting a grove of small trees and shrubs that offer a burst of color visible from the upper forest slopes. Not only will this garden act as a beacon to attract visitors to wander into the forest area but will also signal to community members using the forest paths to the west that this is the boundary of the botanical garden.

Cost: \$15K-\$55K

Succession Education Garden:

Cost: \$10K-\$36K

North Entry Garden

The main entrance at the north side of the garden will stay in its current location with the new masterplan, but we are proposing that the paths connecting to the entrance be reconfigured. This allows for smooth and unambiguous navigation to the new forest garden, the existing paradise garden, east to the Seike Garden and the main north/ south axis. With this new pathway re-configuration, we propose an updated horticultural display at the north entry that references back to the original masterplan; cascade cultivars. This is an important area that should be distinct and well maintained to set the tone of the garden and welcome visitors coming from the north.

North Entry Garden Cost: \$16K-\$60K

24th Ave S Entry Sign

Signage is an important part of the garden renovation. We heard from many community members that they had a hard time discovering the garden for the first time, and that having more apparent signage along the main thoroughfare of 24th Ave S. would go a long way to announce the garden's presence. The corner of 24th Ave S. and S 138th St. is currently a mowed lawn with a few plants climbing up the hillside to the gardens perimeter fence. We recommend adding a 6' high retaining wall at this corner with "Highline SeaTac Botanical Garden" in lettering visible to passing vehicles. The least expensive option would be a cast-in-place concrete wall with a simple finish. Adding more complex finishes such as board form would raise the price. At the higher end would be facing the wall with stone, but depending on the contractor, a dry stack stone wall could be comparable to a concrete wall.

Surrounding the sign we propose a backdrop of flowering trees to provide more buffer to the Japanese garden and announce the botanical nature of the garden. An urban meadow could provide an attractive foreground to the sign without blocking it. This would be a drought tolerant and low

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maintenance display, looking good year-round without a lot of added labor needed from scarce garden resources. To control cost, the meadow could be seeded or planted with plugs.

24th Ave S Entry Sign Cost

As described in the discussion above, the entry sign material could be stone on the high-end or concrete on the low-end. The actual lettering could vary slightly depending if they are back-lit, and what kind of metal they are made from. Additionally, the landscaping and meadow planting could be scaled back to volunteer/ donations. This puts the cost range at \$80K - \$160K.

Expanded Seike Garden

Signage throughout the garden will be critical in helping visitors navigate to all the different displays throughout the site – and one very important and hidden display is the Seike Garden. The historic Japanese garden was cited by many community members in our outreach as one of their favorite displays, and is currently tied to the garden’s mission of preserving neighborhood character and history.

While the Seike garden is just out of sight from the main north entrance, we think that the addition of a wayfinding elements at the top of the hill would be an effective way to signal that there is something important beyond. The Seike family have indicated that a traditional torii gateway would be an appropriate element in this location.

We also feel that the hillside surrounding the switchback path down to the Seike garden could be an appropriate place to expand the garden and bridge the space between the gateway and the main pond garden. There are several trees that the Seike family would like to donate which could jump start the new garden, and we would also recommend buffering this area more heavily from the intersection of 24th Ave and 138th St.

Seike Garden Cost

The Expanded Seike Garden cost includes horticultural display and a custom gateway structure. The high-end structure cost is from Cascade Joinery, and low-end could be a volunteer-led effort using reclaimed wood from the site. So with professional design and construction, the high end cost could be up to \$100K, and with volunteer and donated material it would be as low as \$25K.

Other Horticultural Displays

Alpine Garden: South of the Seike garden is a sloped area leading to the community pea-patch. This slope has a very sunny east-facing aspect, and seems perfect for an alpine rock garden display. The low, ground hugging nature of this type of display ensures that it will never cast shade on the vegetable plots to the south and provides a nice transition to the Japanese garden palate to the north. This could also be an opportunity to partner with a local horticultural organization. The North American Rock Garden Society - Northwestern Chapter would be a good starting place.

Cost: \$13K-\$45K

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New Partner Garden: Adjacent to the proposed alpine display is a shady area that could be a good opportunity for an additional partner garden. With this new bed as well as other partner displays throughout the garden, we would recommend integrating companion plants and groundcovers into the displays of single species beds. This would help to make these displays more dynamic and provide year-round interest. With this new bed, consider partnering with a society that encompasses more than one genus of plant, such as the Washington Native Plant Society, Northwest Perennial Alliance, Hardy Plant Society of Washington, or even Puget Sound Mycological Society.

Cost: \$15K-\$55K

Garden Wayfinding

Along with the major signage elements described above, we are proposing a family of smaller scale wayfinding signs at key points throughout the garden. These could be announcements of the direction of different gardens, they could be small maps with a “you are here” icon, or possibly just mile markers along the main loop path. The sign material should be of a family so that visitors recognize and look out for these markers. Rusticated steel could be a nice option as it is a long lasting material, and matches the gate and garden map at the existing north entrance.

Some general principals to consider when thinking about wayfinding are to create a unique identity at each location, use landmarks to provide memorable orientation cues, don't give the user too many choices in navigation, give navigators a vista or map, provide signs at decision points and use sight lines to show what's ahead. We've taking into account these principals throughout our masterplanning process to try to create more intuitive navigation with well-structured paths, unique destinations, and better sign lines. The wayfinding elements can help to provide the other navigational cues.

Garden Wayfinding Cost

The wayfinding signs will involve design and construction fees, as this is not really a volunteer friendly item. However, the cost difference will likely be in the materials used. We are proposing to use Corten steel, which is a mid-range priced metal. If something like wood was used, it would reduce cost. Stainless or powder coated steel may be a bit more. We estimate the range for this to be between \$750 - \$1500 per sign. So with 8 signs, it would be \$9K - \$18K.

Garden Pathways

We are proposing a new circulation path system throughout the garden centering around a loop path that connects visitors to the major program elements throughout the site. Through both our community outreach and also other project experience we've found that walking a loop is one of the most popular activities in a park or open space. A loop also helps first time visitors navigate more easily. The main loop is proposed to be 12 feet wide and paved with asphalt. For a higher cost, a concrete edge band could be installed that would provide a more stable and clean edge, and signal to people with accessibility challenges where the edge of the path is.

Connecting to this main loop are a network of smaller 6 foot wide sub-paths. These paths and trails move through spaces and provide short-cuts and pause points. In the more formal garden areas we suggest continuing to use asphalt as the paving material, but in less formal areas, like the forest

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garden, gravel paths would be appropriate. We have tried to keep as much of the existing pathway network as possible, but have adjusted the area near the north entry gate to accommodate the main loop.

Garden Pathways Cost

Pathway costs vary based on the materials used. We recommend using asphalt for the loop path and connector paths on the east side of the garden. Gravel may be used on the forest side. If a concrete edge is installed along the loop path, there is 100K cost add. So that puts the range for paths between \$320K - \$475K.