Volunteer Park Amphitheater
Schematic Design: Phase II
04.21.17
Volunteer Park Trust
ORA + Walker Macy
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**Volunteer Park Amphitheater Project**  
**ORA + Walker Macy**  
**04.21.2017**
EXECUTIVE SUMMARY

Having successfully completed Phase I of Schematic Design, Volunteer Park Trust (VPT) along with ORA and Walker Macy moved forward with Phase II for a replacement outdoor Amphitheater in Volunteer Park. The official kick-off meeting with the consultant team took place on November 16, 2016. Having developed a strong design direction during the previous phase, the team focused on refining the design to more fully address landscaping concerns and ensure that the new stage design improves upon the existing context, integrates sustainable practices and ultimately becomes an inviting amenity in Volunteer Park.

During phase II of Schematic Design several concerns were addressed, including landscape strategies for accessibility, ideas for storm water management, as well as material selection and structural options. In an effort to further mitigate the amphitheater’s footprint upon the park, the building design strives to achieve some level of Living Building Certification by utilizing strategies such as a biomimicry, solar, and water collection.

Acoustics are a key consideration for overall design of the amphitheater. In-depth exploration and review of on-site acoustics are included in the Phase I Schematic Design report completed in 2016. Further acoustic review will be included in the next phase.

CORE PRINCIPLES

The following core set of principles that emerged as fundamental during the feasibility study continued to guide the process through the second phase of Schematic Design:

• **Enhance Olmsted Landscape** (distinctive character that respects original Olmsted vision)

• **Improve Quality of Space for Daily Park Users** (design for non-event / informal use and views)

• **Broaden Performance Diversity - Not Size** (existing 500-600 primary audience capacity is optimal)

• **Provide Accessibility for All** (full ADA compliance – pathways, audience, and backstage)

• **Improve Acoustics and Noise Control** (physical acoustic improvements + tighter event management)

• **Improve Safety and Access** (parking and traffic; lighting; improved visibility and safety)
EXECUTIVE SUMMARY - SITE

SITE STRATEGY OVERVIEW

Following a comprehensive site analysis, ORA and Walker Macy worked together to create a plan that could address the several concerns brought to light by the Feasibility Study, mainly the stage’s orientation and its accessibility from the street.

Phase II of Schematic Design addresses these concerns in a more concrete manner. The new design places the amphitheater north of its original location. This site facilitates the creation of a more intimate “outdoor room” around the proposed seating area. Perhaps more importantly it reintroduces a key Olmsted pathway that was removed when the current stage was constructed. Furthermore, a series of upgrades to the existing pathways along the south and west edges of the great lawn help create an ADA compliant path from new ADA parking stalls along the main concourse to the stage and audience seating area. Stormwater infrastructure on the site will also be improved in part by incorporating bioretention planters that are integrated in to the overall
EXECUTIVE SUMMARY - PROGRAM

FLEXIBLE OPEN SPACE

The new amphitheater is conceived as an open, flexible venue to host a diverse range of performances, as well as serve the community in other ways. The intent is to create a venue that can accommodate a wider spread of users, perhaps as a dance or exercise platform, an outdoor classroom, or simply an informal gathering area for community groups, activists, and neighbors. This will enhance the experience of the park for daily use throughout the year.

DESIGN PROGRAM

The design program includes comprehensive recommendations for the entire amphitheater space. The stage, backstage, open lawn area, pathways, and related site work should integrate seamlessly with the surrounding park to create a unified space which respects and enhances the historic Olmsted landscape. The design should be optimized for everyday non-event uses and diverse performances. The key design program elements are as follows:

Stage: Provide a 1200 sf stage floor surface, nominally 30’ deep by 40’ wide; provide a resilient floor surface (concrete is problematic for actors and precludes dance performances). Provide backstage entry positions for improved performer access.

Backstage: Provide flexible space that can be used as a changing and storage space (200 sf), an area for staging and waiting in the wings, and (2) single restrooms. Spaces should be flexible to accommodate summer youth programs and daily use of the pavilion. Provide drivable space behind the backstage area for loading and maintenance access. Provide ADA compliant access for performers from the backstage loading area to the stage.

Acoustics and Weather Protection: Integration of a translucent roof over the stage to provide cover from the elements without creating a dark, cave-like space on sunny days. The roof should provide infrastructure for hanging sound equipment and improve acoustics where possible.

Lawn & Amphitheater Seating: Provide continuous ADA compliant pathways from ADA parking spaces to the seating bowl area and public restrooms. Stormwater issues to be addressed with an underground detention tank and bioretention planters. Low, 18” site walls incorporated to provide limited raised seating under the tree and ADA seating near the stage. The impact of these walls on the site to be reviewed in Design Development as maintaining a continuous lawn area for optimal flexibility is preferred.

Public Restrooms: (4) public restrooms to replace existing are integrated into the design of the new amphitheater. The restrooms comply with the Seattle Parks & Recreation Department (Parks Department) standard for all-gender facilities. Water to serve the restrooms from the on-site detention tank.
COMMUNITY ENGAGEMENT

GOALS OF THE COMMUNITY AND USER ENGAGEMENT PROCESS

Phase II continued to build upon the comments and valuable insight gathered from our meetings with user groups, neighbors, and our encounters with daily park users. As part of the outreach process, the team continued to meet with several performance groups in order to acquire feedback on the functional aspects of the project. Comments from a few of the outreach meetings are summarized in the following pages and incorporated into the suggestions presented in this report. As a result of this collaborative process, several groups have written letters of support for the project which can be found in the attachments to this report. The report itself is a part of the input process intended to allow interested parties to examine the issues surrounding the existing performance space, and respond as the design of the project develops.

The aims of the community and user consultation process were to:
• Understand and address the dreams and concerns of the community, neighbors and everyday park visitors
• Explore the full range of desired functionality and appearance of the amphitheater
• Develop a facility that meets the needs for new and existing users
• Coordinate with the VPT and Parks Department staff to identify and address operational issues
• Develop proposals which respect and enhance the historic Olmsted vision for Volunteer Park
• Encourage active dialogue and understanding of all community needs and goals
• Develop a shared vision with strong community support

COMMUNITY GROUPS INVOLVED IN THE DESIGN PROCESS

12th Ave Arts          Seattle Opera
Act Theater            Seattle Peace Concerts
Capitol Hill Housing    Seattle Pride Picnic
Capitol Hill Arts District Seattle Shakespeare Company
Fleet Feet Sports       Seattle Symphony
Eritrean Society Of Greater Seattle Southside booty Camp
Greenstage (Shakespeare In The Park) Spectrum Dance
Hugo House              St Mark’s Episcopal Cathedral
Jack Straw Cultural Center Taco Truck Challenge
Make Music Seattle       Theater Schmeater
On The Boards           Theatre Puget Sound
Pacific NW Ballet       Velocity Dance Center
Parkour Visions         Vibrations Festival
Seattle Asian Art Museum Volunteer Park Conservatory
Seattle Chamber Music Society Wayward Music Festival
Seattle Choral Company  Whim W’him
MEETINGS WITH COMMUNITY GROUPS

ORA worked closely with the VPT and the Parks Department to continue and advance conversations with the community about the design of the Volunteer Park Amphitheater. A representative from the Parks Department was actively involved in key reviews and community meetings as well as the monthly Task Force meetings, maximizing the collaborative discovery process and assuring that the Parks Department was aware of and responsive to community concerns and operational issues.

The Volunteer Park Amphitheater Project Task Force was actively involved in nearly all the interviews and outreach, providing strong continuity and insights, with deep understanding and responsiveness to community concerns.

Depending on the timing of the presentations, some comments from the meetings were incorporated into the design for this phase. Any comments given after the completion of the design will be assessed and incorporated where possible in the next phase. The meetings with community groups are summarized as follows:

December 8, 2016 – Performers Focus Group
This meeting took place early in the phase and focused on the functionality of the space for performances. The biggest takeaways from the meeting were the need for an enclosed backstage space on both sides and more secure green-room/changing room space. In response to those comments, the enclosed space on the north side of the stage, previously envisioned as storage, increased in size and incorporated an additional door so that the space could be divided into two changing spaces. Also incorporated into the design was an additional large pivot door to block most of the view and wind from the east into the performance space.

Also suggested was a loading dock for sound and staging equipment. A study was done that included a loading dock between the ramp and the stair at the back stage area. Ultimately the safety and maintenance issues associated with the dock, which would have to have a removable guardrail, led to the final design without a formal loading dock area. In the next phase, the design team will look at ways to connect the ramp from the back stage to the stage more directly.
MEETINGS WITH COMMUNITY GROUPS - CONTINUED

December 8, 2016 – Holiday in the Park
As a part of the Volunteer Park Trusts’s annual Holiday in the Park event, the design team set up a tent and table with the design materials. The intent of this was to gain more exposure for the project and share the progress with neighbors and users of the park. There was no formal recording of comments, but the general feedback was very positive and enthusiastic about the improvements the proposed design would bring to the park.

March 6, 2017 – Friends of Seattle’s Olmsted Parks (FSOP)
This meeting was intended to keep the FSOP involved in the progress of the design. Most of the comments shared at this meeting pertained to the landscape design. There was concern especially about the impact of installing handrails at the east end of the ADA path. The design and visual impact of the handrails has not been developed in this early phase of design. The appearance and detailing of the handrails will be examined and reviewed in the next phase. FSOP was also keen to see the regrading plans with the context of the historic grades. Regrading in the park affects the historic, sloping lawns and has been carefully considered.

March 10, 2017 – Architectural Review Committee (ARC) of the Landmarks Preservation Board
Much like the FSOP review, this presentation was intended to keep the ARC up to date on the development of the project. Most of the comments were positive, especially regarding the openness and the roof form, and asserted that the existing structure was not contributing significantly to the history of the landmark park. Like FSOP the ARC had concerns regarding the landscape design. They were concerned about the impact of the handrails as well as any proposed low site walls and would like to review visual impact and design of those elements in the next phase.

The ARC expressed mixed opinions regarding the materials for the amphitheater. Some members were concerned that the weathering steel as a new material in the park was too far of a departure from other structures in the park. Other members argued that all of the structures in the park are of different materials, different eras, and different styles and so the proposed amphitheater design fits into the already mismatched folly-like elements in the park. The conclusion was to further explore materials and articulate justification for final material choice within the context of the park at the next Landmarks Preservation Board review.
March 23, 2017 – Fleet Feet Sports

ORA approached neighborhood running store, Fleet Feet Sports to gain the outdoor exercise enthusiast perspective. The group regularly uses the park for special event runs like capture the flag, training group runs, and free community runs that are on or near the proposed site for the amphitheater. One of the design team attended a Thursday community run which ran past the existing stage and site and culminated in a presentation of the proposed design. The group was engaged and excited by the proposed design.

The primary ask was a water fountain incorporated into the building that could be utilized year round. The group also suggested that the covered richlite stage could serve as an excellent space for strength training boot camp organized by one of the running store staff people. The safety improvements to the park of proposed lighting was seen as a very important part of the design. There was some discussion about the possibility of incorporating a more “natural” material to finish the restrooms and flex space as well as plantings that encouraged natural habit for hummingbirds and other desirable park wildlife. The group also asked if there were ways to make the roof canopy appear lighter and concerns regarding the ability to keep a translucent roof clean. Further material research and structural refinement will strive to address these comments in the next phase.

April 6, 2017 – Public Open House at the Conservatory

In order to potentially reach a different demographic, the team decided to host an Open House in the Volunteer Park Conservatory for a public display of the project. Questions were answered one on one by members of the project team including representatives from the VPT and the Parks Department. Anonymous feedback was also solicited on slips of paper. Not everyone answered all questions and many people came through without providing written feedback. The questions asked and the feedback provided is as follows:

**Question 1: LOVE - What is your favorite thing about the proposed design?**

“The roof: Love the undulating form. Also love the transparency of the whole composition. Nice job! Well done.”

“I love that the back wall will be open when the stage is not being used for performances! Thank you!”

“That there will be no ‘DB Fest’. ”

“Won’t kill birds flying through.”

“Creating clean usable space.”

“…The view of the structure head on… from this perspective it looks light and thin. Off center the structure trying to look thick and heavy.”

“The base end holding the columns back from the stage.”

“Everything.”

**Question 2: WANT - What is the one thing you think would improve the proposed design?**

“Smaller structural members to make the design less obtrusive. Taper the members at the ends to fit the ‘natural concert’.”

“Add to the budget: Fixing the tennis courts. New tarmac, lights, and nets!”

“A non-see-through roof. Sorry, but it is so ugly. And will surely look filthy before too long.”

“Ask Macklemore for a Lead Gifts”

“No ‘decibel raves’ cranked to 11 until 10 pm.”
MEETINGS WITH COMMUNITY GROUPS - CONTINUED

“I love the leaf motif… and the beauty of a leaf in section is how thin it is. Can the Structure become more thin? Less depth, but tighter spacing? A parabolic form that provides its own structure.” “We need park rangers.”

“We’ve lost a lot of trees over the years. Please consider adding back a few shade trees.”

Question 3: SOUND BITE - Make your voice heard! Share a quote about the project.

“First construction project I’ve seen in recent times in Seattle that is actually an improvement. It looks great!”

“Ask all Biz whose customers litter to donate (espec. MJ $).”

“Truly civic engagement, lovely community and open process.”

Although some of the comments didn’t directly respond to the scope of the project and some comments directly conflicted, a few takeaways from the public open house will be explored in the next phase. One is the idea of shade in the park. Although no new trees are proposed for the park, the audience area is lacking in shade and plantings will be carefully considered in the next phase. Additionally, there were several comments that asked for the roof structure to become lighter and thinner in appearance. The roof structure will be refined in the next phase to achieve a more lightweight feel to the canopy design.

April 8, 2017 – Eritrean Association of Greater Seattle

The Eritrean Association of Greater Seattle has hosted the annual Eritrean Independence Day Festival, one of the largest events at the amphitheater, for the past 16 years. The ORA team and VPT representatives presented the design to board members of the association. Overall, there was a lot of excitement and interest in the proposed design. The park is a special place for this group to share their culture within their community and with greater Seattle.

There was a request to provide something in the design that allowed for the flexible space to be divided into two changing spaces. The assumption was that performance groups could put up their own curtain in the space, but members of the Eritrean Association pointed out that with groups of children, a curtain would not provide enough separation. Some sort of more sturdy, movable divider will be explored in the next phase. Other requests included the incorporation of a water fountain or spigot, some sort of designated garbage/recycling infrastructure, and hooks on the pivot door and building walls facing the audience for hanging banners and flags.

As this event is one of the larger ones in the park, there were some concerns that the new site would limit visibility to the stage, and more importantly that it would restrict the performance of the Tehambele dance that includes a large number of people and encircles the entire seating bowl of the existing performance space. Contrary to other comments made regarding the larger site design, this group requested more seating or seating height walls to be incorporated along the edges of the space for resting and gathering during the festival.

As these requests affect the historic landscape, careful examination of potential landscape design elements is required. One of the board members pointed out that the space where the existing stage currently is would be open for easy viewing of the stage and Tehambele dance and was optimistic that the festivities could easily work within the context of the new site. That said, any adjustments to the site design will take these concerns into consideration.
DESIGN PROCESS OVERVIEW

The second phase of Schematic Design builds upon the foundation laid out by the preceding concept and design phases. During the previous phase, a Preferred Concept Design option that envisioned the stage as an open pavilion when not in performance use was chosen. This option successfully incorporated several performance group needs and addressed the shortcomings of the existing building. The second phase of Schematic Design focused on further developing this option within the realities of structural and site requirements.

During this stage of development several alternatives testing the shape and structure of the roof, as well as the material finishes of the overall project and the means of ADA accessibility, were generated as the result of an open dialogue between the design team, the Parks Department and others. This stage of design also aims for sustainable strategies put forward by the Living Building Challenge to help minimize the impact of the new structure on the park. The resulting design was then put through a rigorous review process that included extensive meetings and presentations with VPT and the Parks Department, as well as reviews by the ARC, FSOP and others as outlined in the Community Engagement section of this report, to ascertain merits and shortcomings. From this process, a final Schematic Design was developed.

This Schematic Design: Phase II report also includes the work, recommendations and conclusions from Structural and Civil consultants. Coupled with the architectural and landscape design intent, these narratives provide the starting point for the next phase of Design Development. However, it is important to note that the resulting Schematic Design option is not the final design, but a solid foundation on which design details, material selection, building systems, etc. can be refined.
SITE STRATEGY NARRATIVE

Having conducted a thorough site analysis, ORA and Walker Macy proposed a series of strategies to incorporate the new amphitheater into Volunteer Park in a manner that enhances the surrounding landscape. Coupled with a few modifications to improve ADA accessibility, the resulting site plan strives to restore the integrity of the original Olmsted design, while creating a more ideal space for the new amphitheater.

The following strategies, considered during the concept phase, were fully implemented during Schematic Design phase II:

**New Location & Orientation:** The new amphitheater is situated to the north of the existing building. The stage now oriented to the east allows the audience to effectively avoid the worst of the sun’s glare during the summer, typically the most active time for the park.

**Improved Accessibility:** The design provides ADA compliant surfaces and an accessible route to the new stage and seating area. The design also includes an improved pathway from the main park concourse that does not exceed a 5% maximum slope.

**Lawn Regrading:** A careful plan to restore the lawn slope closer to its original grade condition, prior to the amphitheater construction in 1971, was developed during this phase.

EXISTING FACILITY

The Volunteer Park Amphitheater is a performance space and park pavilion designed to replace the existing stage and restroom facility in Volunteer Park, which was originally designed by the Olmsted Brothers in the Capitol Hill neighborhood of Seattle, Washington. The existing facility, completed in 1971, is not adequate for proper use by performers. Actors often choose to perform in front of, rather than on the stage and must bring tents to protect themselves from the elements and to provide private changing spaces. When the existing stage was constructed, the original Olmsted path through the space was reconfigured from a graceful arc to a winding path between the backstage restrooms and a dense tree grove. This siting created an unsafe condition at the restrooms due to lack of visibility thereby reducing the functionality of the facility. As a result, the restrooms intended for public use in the park are kept locked except during performances and then primarily for performer use only.

By re-siting the performance space to the north, the original Olmsted path can be reintroduced and the public restrooms will be situated near that path for easier access and visibility. The stage, backstage, open lawn area, pathways, and related site work integrate with the surrounding park to create an ADA accessible route to the intimate seating bowl at the amphitheater. The design program includes comprehensive recommendations for the entire amphitheater space and surrounding lawn to optimize everyday non-event uses as well as provide for diverse performance types.
RESTORED OLMSTED PATH

Top: Original Olmsted planting plan. Bottom: New site plan with restored Olmsted path.
ACCESS AND GRADING

A closer look at the grading of the lawn and paths done by Walker Macy, landscape architects, gave the project a clear scope of area needed to create an ADA path to the stage seating area, create a new bowl for the amphitheater, and return the primary slope of the lawn to the original Olmsted contours.

The many constraints and requirements for the site create challenges for the overall grading approach. The Parks Department and FSOP expressed concern regarding the extent of the regrading. Although there has been careful examination of the grading plan to accommodate all of the demands of program and site, possible ways to reduce the impact will be examined in the next phase.

To heal the lawn, regrading is required where the existing path and stage are being demolished. A new lawn seating bowl will be formed around the new amphitheater site at the northeast side of the lawn. Plastic grid lawn reinforcement and sand with an under drain will be required at the bottom of the seating bowl to keep the area from becoming soggy.

Two ADA parking stalls are to be provided near the Seattle Asian Art Museum and some patching of existing asphalt path will be needed to provide an accessible route to these stalls from the new path. Regrading is also required in order to achieve ADA standard slopes for the new asphalt path. Due to the slope, handrails are required at the most southeastern portion of the path from the lily pond to the fork in the path. The area that requires handrails has been minimized as much as possible and is primarily contained in heavily planted areas to keep the handrails from being too conspicuous. There will be breaks in the handrails at the path landings to allow for easy access to the lawn in this area. Even with these precautions, the impact of the handrails on the Olmstedian landscape are still a concern to FSOP, ARC, and the Parks Department and will have to be studied further in the next phase.

Additional landscape and site work includes the following. A Geoblock drive will be provided at the back of house from the Volunteer Park loop road for maintenance and equipment unloading. An ADA compliant ramp from the unloading zone to stage height will be provided. One tall, unhealthy tree will be removed to allow for the new siting of the building. Plantings will be incorporated into the steep slope to the south and east of the amphitheater stage and building. Low retaining walls will be needed to protect a few key trees and to create bioretention planters at the bottom of the slope.

Seating height retaining walls were proposed at the bottom of the amphitheater and near the tree at the top of the seating bowl during this design phase. There was some concern expressed by ARC and the Parks Department regarding the retaining wall impacts on the flowing green lawn, particularly the one closest to the front of the stage. Elimination or materiality, appearance, and reduction of these walls will be explored in the next phase.
SITE GRADING PLANS

BUILDING DESCRIPTION

The building construction includes a 30’ x 40’ stage surface, an enclosed flexible space, (2) performer restrooms, and (4) public restrooms. All restrooms are all gender and include (1) lavatory and (1) water closet. The space between the enclosed spaces is an open area that has two large pivot doors to create a back stage space for performances. The enclosed flexible space serves as a green room and can be divided to provide changing spaces and/or storage. Seating height steps with an incorporated stair are incorporated at back of house to create an open and inviting space when the stage is not in performance use.

Typical materials are as follows:

Enclosed Spaces: Exterior Walls: 8” structural concrete masonry units (CMU) with weathering steel cladding or some other finish material. Although some members of the ARC were in support of the choice of weathering steel as a finish, others felt that this new material in the park was perhaps not the most fitting choice. The weathering steel cladding material was questioned by the Parks Department in terms of resistance to vandalism damage. This material was selected with the intent to blend with the outdoor setting and to provide a material that could be applied to movable doors as well in order to create simple boxes and a simple back drop for performances. Further research of weathering steel and other possible materials to achieve these goals will be done in the Design Development Phase.
ARCHITECTURAL NARRATIVE - MATERIALS

Interior Walls: 8” exposed structural CMU at the service chase for the restrooms and 4” exposed non-structural CMU between each restroom.

Doors: (2) Pivot doors clad to match exterior walls to provide a consistent backdrop for performances sized 27’-2” x 10’-0” and 24’-7” x 10’-0”. (1) 4’-6” x 8’-0” swing door with hidden frame and hinge clad in weathering steel on exterior side at back of enclosed flexible space, (7) hollow metal swing doors for restrooms and enclosed flexible space.

Roofs: Canopy roof over the stage and backstage are ethylene tetrafluoroethylene (ETFE)* membrane with a complex curve structure of galvanized, or powder coated, steel frame. Roof includes mullion attachment system for ETFE membrane at 5’-0” on center that is walkable and includes appropriate pick points for safe cleaning and maintenance. Roof structure also includes hooks for performance groups to attach rigging to the underside. Column supports for roof are steel finished to match the roof framing. Although green roofs over the enclosed spaces are proposed in this phase, there was significant push back from the Parks Department regarding the maintainability of green roofs. Unless the VPT devises a maintenance plan for the green roofs, they will most likely be removed from the design moving forward.

Floors: The stage floor will be Richlite over a pedestal system to achieve the resiliency required for dancers and union actors. The system will be panelized to allow for ease of maintenance and detailed to create a smooth, seamless finish. All other floor areas will be exposed concrete.
ARCHITECTURAL NARRATIVE - MATERIALS

Alternate Materials: Roofing alternate for the stage canopy is fritted/translucent glass instead of ETFE. The cladding of the enclosed spaces will be assessed for vandalism resistance in the next phase. Refinements may include perforation, fins, corrugation, finish or assessment of other materials.

*ETFE quick facts:
• Durability - although the product as a building material has only been around for 35 years, testing of the product shows it is unaffected by UV, pollutants, and other weathering, and the expected life is +50 years; any repairs needed can be made on-site to patch existing foil sheets
• Sustainability - ETFE systems are completely recyclable, ETFE products have been awarded Environmental Product Declaration, minimal energy is required for transport of this light weight material. Solar collection can be incorporated in to the system
• Walkability - flexible and resistant to tearing, the material can cope with deformations of 200%-300% before breakage and tensioning in the installation system accommodates live load
• Cleanability - non-stick surface makes product “self cleaning”

Facts obtained from ETFE Supplier Vector-Foiltec: http://www.vector-foiltec.com and from “ETFE Foil Cushions as an Alternative to Glass for Atriums and Rooflights,” an academic article by Stephen Tanno of Buro Happold Facade Engineering in London, UK.
Note: Drawing at 30% of full scale
Note: Drawing at 25% of full scale
Note: Drawing at 25% of full scale
Figure 1: Surfaces Plan

Note: Drawing at 25% of full scale
Figure 2: ADA Parking

Note: Drawing at 25% of full scale
Figure 3: On-Site Stormwater Management Plan

Note: Drawing at 25% of full scale

Volunteer Park Amphitheater
ORA + Walker Macy  04.21.2017
Figure 4: Utility Plan

Note: Drawing at 25% of full scale
FLOOR PLAN - ORA

TECHNICAL DRAWINGS

Note: Drawing at 30% of full scale
ROOF PLAN - ORA

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ATTACHMENTS:

• Structural Narrative
• Civil Narrative
• Letters of Support
PROJECT DESCRIPTION

The Volunteer Park Amphitheater project is located in Seattle, Washington, between Federal Avenue East and Fifteenth Avenue East and between East Prospect Street and East Howe Street. The single-story amphitheater will contain approximately 1,800 gross square feet of stage area, back-of-house and bathroom area.

The primary use of the building will be outdoor performances. The structure will also serve as a gathering space and bathroom facility outside of performance times.

The structural systems for the various building components are summarized below:

FOUNDATION

The foundation consists of continuous spread footings below the CMU walls and retaining walls. Further geotechnical recommendations are required.

GRAVITY FRAMING

The canopy framing consists of a 40-foot by 60-foot grid of curved HSS members supported by HSS columns. The geometry of this surface will be defined such that all members can be constructed out of segments of single-radius rolled sections. The canopy is clad in ETFE pillows or fritted glass as an alternate.

The bathroom and back-of-house spaces consist of 3-inch concrete slab on 3-inch metal deck supported by concrete masonry unit (CMU) walls. The raised surfaces including the stage, exterior support spaces and ramps consist of concrete slab on grade and concrete retaining walls.

An alternate framing scheme is also shown on the structural plans. This scheme reduces the canopy cantilever length and member side at the south side of the amphitheater by removing one group of columns over the bathrooms and adding one group of columns on the stage.

LATERAL FORCE-RESISTING SYSTEM

Lateral forces will be resisted by cantilevered steel columns supporting the canopy and CMU shear walls placed around the back outhouse and bathroom spaces.

BUILDING CODES

The project is designed in accordance with the following building and material codes:

BUILDING CODE

- City of Seattle Amendments to the IBC.
MATERIAL CODES


LOADING CRITERIA

A summary of the project-specific loading criteria follows. This loading meets or exceeds the requirements of the IBC and incorporates loading requirements specific to this project.

GRAVITY LOADING

The following loads are in addition to the self-weight of the structure. The minimum loading requirements have been taken from Table 4-1 of ASCE 7. For more detailed gravity loading assumptions, refer to the load maps included in the structural drawings. Live loads are reduced where permitted in accordance with Section 4-7 of ASCE 7. Loads are given in pounds per square foot (psf).

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<th>Use</th>
<th>Live Loading</th>
<th>Superimposed Dead Loading</th>
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<tr>
<td>Stage</td>
<td>125 psf (not reduced)</td>
<td>40 psf</td>
</tr>
<tr>
<td>Storage</td>
<td>125 psf (not reduced)</td>
<td>10 psf</td>
</tr>
<tr>
<td>Back-of-House/Bathroom</td>
<td>100 psf (not reduced)</td>
<td>10 psf</td>
</tr>
<tr>
<td>Roof</td>
<td>25 psf + Snow Drift</td>
<td>15 psf</td>
</tr>
<tr>
<td>Green Roof</td>
<td>25 psf + Snow Drift</td>
<td>75 psf (6 inches of soil)</td>
</tr>
</tbody>
</table>

In addition to these uniform slab loads, a perimeter dead load is applied to the structure to account for the weight of the cladding system.

<table>
<thead>
<tr>
<th>Load Type</th>
<th>Load (psf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Cladding</td>
<td>15 psf (wall area)</td>
</tr>
</tbody>
</table>
SNOW DESIGN CRITERIA

Snow loading is in accordance with the IBC and ASCE 7 requirements. Snow drifting, unbalanced loading, and partial loading are considered in the design of the roof framing.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Snow Load (P_g)</td>
<td>20 psf</td>
</tr>
<tr>
<td>Risk Category</td>
<td>III</td>
</tr>
<tr>
<td>Terrain Category</td>
<td>B</td>
</tr>
<tr>
<td>Exposure</td>
<td>Partially Exposed</td>
</tr>
<tr>
<td>Snow Exposure Factor (C_e)</td>
<td>1.0</td>
</tr>
<tr>
<td>Thermal Factor (C_t)</td>
<td>1.0</td>
</tr>
<tr>
<td>Importance Factor (I_s)</td>
<td>1.10</td>
</tr>
<tr>
<td>Flat Roof Snow Load (P_f)</td>
<td>25 psf</td>
</tr>
</tbody>
</table>

WIND DESIGN CRITERIA

Wind loading is in accordance with the IBC and ASCE 7 requirements.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Wind Speed, 3-second gust (V)</td>
<td>110 mph</td>
</tr>
<tr>
<td>Risk Category</td>
<td>III</td>
</tr>
<tr>
<td>Exposure</td>
<td>D</td>
</tr>
<tr>
<td>Enclosure Classification</td>
<td>Open</td>
</tr>
<tr>
<td>Internal Pressure Coefficient (GC_{pi})</td>
<td>+/- 0.18</td>
</tr>
<tr>
<td>Mean Roof Height</td>
<td>40 feet</td>
</tr>
</tbody>
</table>
SEISMIC DESIGN CRITERIA

Seismic loads are in accordance with the IBC and ASCE 7 requirements.

Table 5. Seismic Design Criteria

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Latitude</td>
<td>47.630°N</td>
</tr>
<tr>
<td>Building Longitude</td>
<td>122.313°W</td>
</tr>
<tr>
<td>Risk Category</td>
<td>III</td>
</tr>
<tr>
<td>Importance Factor (/I_e)</td>
<td>1.25</td>
</tr>
<tr>
<td>Mapped Spectral Acceleration</td>
<td>$S_s = 1.323; ; S_f = 0.512$</td>
</tr>
<tr>
<td>Site Class</td>
<td>D</td>
</tr>
<tr>
<td>Site Class Coefficients</td>
<td>$F_a = 1.0; ; F_v = 1.5$</td>
</tr>
<tr>
<td>Spectral Response Coefficients</td>
<td>$S_{DS} = 0.89; ; S_{D1} = 0.88$</td>
</tr>
<tr>
<td>Seismic Design Category</td>
<td>D</td>
</tr>
<tr>
<td>Lateral System</td>
<td>Special Reinforced CMU Shear Walls*</td>
</tr>
<tr>
<td>Response Modification Coefficient (/R)</td>
<td>5</td>
</tr>
</tbody>
</table>
| Seismic Response Coefficient     | North-South: $C_s = 0.221$  
                                        East-West: $C_s = 0.221$ |
| Design Base Shear                | North-South: $V = 110$ kips  
                                        East-West: $V = 110$ kips |
| Analysis Procedure Used          | Equivalent Lateral Force Procedure |

*Canopy lateral demands were calculated per ASCE 7 Chapter 13 with $a_p = 2.5$ and $R_p = 2.5$. Loads are transferred to the CMU shear walls via cantilevered steel columns.

MINIMUM LATERAL FORCE

A notional load equal to 1 percent of the building’s weight is considered as the minimum lateral design force for the building.
MATERIALS

The material properties used for the design include the following:

Table 6. Structural Steel Properties

<table>
<thead>
<tr>
<th>Member</th>
<th>Standard, Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide Flange Shapes</td>
<td>ASTM A992, $F_y = 50$ ksi</td>
</tr>
<tr>
<td></td>
<td>ASTM A913, $F_y = 50$ ksi</td>
</tr>
<tr>
<td>Tube Sections</td>
<td>ASTM A500, Grade B, $F_y = 46$ ksi</td>
</tr>
<tr>
<td>Pipe Sections</td>
<td>ASTM A53, Type E or S, Grade B, $F_y = 35$ ksi</td>
</tr>
<tr>
<td>Angle and Channel Sections</td>
<td>ASTM A36, $F_y = 36$ ksi</td>
</tr>
<tr>
<td>Miscellaneous Plates and Connection Material</td>
<td>ASTM A572, $F_y = 50$ ksi</td>
</tr>
<tr>
<td></td>
<td>ASTM A588, $F_y = 50$ ksi</td>
</tr>
<tr>
<td>High-Strength Bolts</td>
<td></td>
</tr>
<tr>
<td>7/8&quot; diameter and smaller</td>
<td>ASTM A325</td>
</tr>
<tr>
<td>1&quot; diameter and larger</td>
<td>ASTM A490</td>
</tr>
</tbody>
</table>

Table 7. Concrete and CMU Properties

<table>
<thead>
<tr>
<th>Member</th>
<th>Strength*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slab, Sidewalks, Curbs, Mechanical Pads</td>
<td>$f_c = 4.0$ ksi</td>
</tr>
<tr>
<td>Walls, Foundations</td>
<td>$f_c = 6.0$ ksi</td>
</tr>
<tr>
<td>Concrete Masonry Unit</td>
<td>$f_m = 2,100$ psi</td>
</tr>
</tbody>
</table>

*28-day strength, unless noted otherwise.

QUANTITIES

The estimated structural steel and structural reinforcing quantities for structural components are described below. Cost estimates should consider appropriate contingencies for the current level of design for quantities provided.
Table 8. Estimated Structural Steel and Reinforcing Quantities

<table>
<thead>
<tr>
<th>Element</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Slab</td>
<td>1.5 psf</td>
</tr>
<tr>
<td>Spread Footings</td>
<td>115 pcy</td>
</tr>
<tr>
<td>Concrete Retaining Walls</td>
<td>6 psf</td>
</tr>
<tr>
<td>Misc Concrete Ramps and Curbs</td>
<td>100 pcy</td>
</tr>
<tr>
<td>Masonry Walls</td>
<td>6 psf</td>
</tr>
<tr>
<td>Steel Canopy</td>
<td>25 psf</td>
</tr>
</tbody>
</table>
CIVIL NARRATIVE

Schematic Design

Volunteer Park Amphitheater
Seattle, Washington

February 10, 2017
INTRODUCTION

Volunteer Park is located in the Capitol Hill neighborhood of Seattle, Washington. The 48-acre park is bordered by the Lake View Cemetery to the north, 15th Ave E to the east, Federal Ave E to the west, and E Prospect Street to the south. The amphitheater project is located in the northwest quadrant of the park. An existing concrete amphitheater will be demolished, and a new roughly 4,200-square-foot amphitheater will be constructed. Site work improvements include Americans with Disabilities Act (ADA) accessible seating at the amphitheater and an improved accessible pathway connecting visitors to a parking lot to the east of the site (See Figures 1 and 3). Additionally, two ADA stalls will be installed at the parking lot east of the site and adjacent to the Seattle Asian Art Museum to accommodate visitors. These stalls are not anticipated to require right-of-way improvements for this project at this time.

ADDITIONAL PROJECT NEEDS

The Preliminary Assessment Report (PAR) is a City of Seattle (City) interdepartmental document compiled for new construction projects to confirm the project requirements. Prior to moving forward into Design Development, the PAR will need to be obtained, as it will confirm the project’s drainage and sewage discharge requirements. Additionally, the provided survey does not include utility information or the eastern parking lot where ADA stalls will be required. The survey will need to be expanded to include the parking lot so grades can be designed to include compliant stalls, as well as existing utilities so new connection points can be confirmed. Finally, a geotechnical review and analysis of the site, including mandatory pilot infiltration testing at key locations, is necessary to move forward with design.

The project has moved forward in the Schematic Design phase without these items in the interest of meeting a tight design schedule; this report assesses project requirements using secondary site information that is furnished by others and may not be current. Further site improvements may be required once these items are obtained.

SITE DEMOLITION

Demolition will include, but not be limited to, the removal of the existing amphitheater walls, foundations, and steps. Existing water, sewer, and storm lines servicing the existing structure will be demolished as necessary or cut, capped, and abandoned in place. Additionally, existing gravel and asphalt paths, some plantings, and two trees in poor health will be demolished or removed as part of this project.

TEMPORARY EROSION AND SEDIMENTATION CONTROL

Temporary erosion and sedimentation control (TESC) practices shall be utilized to minimize construction impacts on the surrounding area. Environmentally Critical Areas have been identified to the southwest of the project site; the close proximity of these areas makes the TESC measures essential to minimize runoff and excess sedimentation. Multiple best management practices (BMPs) will be used, including a construction entrance, a wheel wash area, catch basin inserts, and sedimentation barriers around the project scope. Strict maintenance and monitoring criteria will be provided so that the TESC systems are in good working order throughout the duration of construction.
FOUNDATION DRAINAGE

A foundation drainage system for the building and site walls may be required if determined to be necessary by the geotechnical engineer during Design Development. If required, the foundation drainage system would consist of aggregate drainage material connected to perimeter foundation drainage collection pipes. The collection pipes would convey collected subsurface water to the proposed storm drain system.

SITE LAYOUT AND PAVING

The proposed amphitheater is located approximately 100 feet north of the existing structure (See Figure 1). The new structure includes approximately 3,100 square feet of roof surface, and will include a stage area, loading dock, bathrooms, ADA ramps, and a performing space. The new ADA pathway consists of approximately 7,200 square feet of new or replaced pathways, site walls, and seeks to restore the original Olmstead pathway to the west of the site. Re-grading of the landscape directly east of the structure is necessary to provide viewing areas to the new stage. MKA will continue to coordinate with the design team as site elements develop.

ADA PARKING

Two new ADA stalls are proposed at the parking lot east of the site. Limited survey and grading information was provided for this area; MKA has provided preliminary analysis for constructing two ADA stalls using this information in Figure 2. An existing catch basin will need to be relocated to accommodate revised grades. Close coordination with the neighboring Seattle Asian Art Museum Project’s parking lot improvements will be required.

STORM DRAINAGE

Though the PAR is still being obtained from the city, MKA anticipates that soil amendment, flow control, and on-site stormwater management strategies will be required for project permitting. The project appears to discharge to a combined sewer system in Federal Ave E, so water quality treatment will not be required. It is important to note the mitigation strategies to address these requirements are heavily dependent on site layout and paving design, which have yet to be finalized. Rough stormwater square footage requirements and conceptual strategies are provided in Figures 3 and 4.

On-site stormwater management strategies are required for all new and replaced hard surfaces on site. These requirements could be met using a combination of dispersion, rainwater harvesting and non-infiltrating bioretention cells. The project intends to use rainwater harvesting strategies to provide flushing and irrigation for the green roof; further coordination with the plumbing engineer is required. The required flow control tank can be combined with the rainwater harvesting tank; a typical detention tank detail is given in Figure 4.

Figure 3 illustrates these strategies and rough sizing requirements, while Figure 4 depicts required utility layouts. Note that these elements will require refinement through Design Development.
SANITARY SEWER

The new building will include bathrooms, which will require installation of a new sanitary line. The PAR will confirm the sanitary sewer connection point for this project, though it is likely this connection point is in Federal Ave E. It may be possible to connect to the existing sewer lateral for the existing amphitheater bathrooms; this can be confirmed after the updated survey is obtained. A schematic layout for the new sanitary line is shown in Figure 4.

WATER SERVICE

The new building will include bathrooms, which will require installation of a new water supply line. The PAR will confirm if water availability needs to be assessed for this project. If required, the Water Availability Certificate (WAC) will confirm if there is adequate domestic water flow and water pressure to accommodate (or supply) the new development, as well as determine the preferred water main connection point. The WAC will be obtained from the city pending further coordination with the plumbing engineer. It may be possible to connect to the existing water line for the existing amphitheater bathrooms; additional coordination with the plumbing engineer is required. A schematic layout for the new water line is shown in Figure 4.

DRY UTILITIES

Power and telecommunications requirements are still to be determined. The electrical engineer will coordinate with Seattle City Light and other pertinent purveyors on their infrastructure requirements to service the proposed development.
Debra Twersky  
4Culture  
101 Prefontaine Place South  
Seattle, WA 98104

Dear 4Culture:

I am writing to express enthusiastic support for the Volunteer Park Amphitheater. I had the opportunity to take part in valuable design meetings focused on the needs of performers. As the artistic director of Seattle Shakespeare Company, I am excited by the improvements proposed for the Volunteer Park Amphitheater. I believe they will revitalize arts and cultural environment at Volunteer Park by bringing much needed improvements for artists and audiences alike.

Although we perform in Volunteer Park, the current stage is sorely lacking. The existing concrete stage does not meet Actor’s Equity Association (the union of professional actors) requirements for a performance surface, and there is no back of house or changing space to speak of. As a result, we often perform on the grass in front of the stage and set up tents on the stage for back of house changing space. The new space provides secure space for back stage functions and provides designated restrooms for performers to allow for a better separation between performers and audience.

For audiences, the proposed relocation of the amphitheater should reduce the amount of direct sunlight in audiences’ eyes as the sun sets during summer performances. In addition, the regrading of the landscape around the amphitheater will allow for better sightlines and viewing angles.

Our company loves the beautiful setting of Volunteer Park, and with a beautiful and functional amphitheater space, there is an expanded potential for public engagement with the arts. The proposed project brings significant improvements to both the functionality and aesthetics of the performance venue in Volunteer Park. We look forward to being able to realize the full potential of theater performance within the idyllic setting of Volunteer Park.

Thank you.

George Mount  
Artistic Director  
Seattle Shakespeare Company
Debra Twersky
4Culture
101 Prefontaine Place South
Seattle, WA 98104

Dear Debra and 4Culture,

I am very honored to have been involved in the Volunteer Park Amphitheater project from the beginning, and believe this project to be of the highest importance culturally and socially for our city. I was able to participate in several focus group meetings for performers that influenced the overall design of the proposed amphitheater. As an experienced professional dancer and choreographer, Principal Dancer for Canada’s Royal Winnipeg Ballet and Pacific Northwest Ballet, and the founder and Artistic Director of Whim W’Him, a contemporary dance company, I am excited by the opportunity the new Amphitheater would present as a venue for dance.

There are many benefits to presenting a show in an alternative venue like Volunteer Park without compromising integrity of the work or the health of our artists, including reaching new audiences by making dance accessible and visible in public place. Most outdoor performance spaces in Seattle have concrete floors which are too hard for professional dancers, even with the installation of a Marley dance floor on top of them, it is absolutely impossible for them to perform at the highest level without damaging their bodies. The more resilient floor system proposed in the design is a unique and brilliant idea, it would allow for professional dancers to perform safely on an outdoor stage. Within the beautiful setting of Volunteer Park, there is no question that this greatly improved amphitheater space will provide a compelling venue for dance performances in Seattle. I cannot wait myself to see exquisite dances performed in that setting, and have Seattle join the list of very few American cities to have professional public outdoor dance performances.

This is an important project for bringing the art of dance outdoor and in the Seattle community’s own backyard. I eagerly anticipate bringing my company, Whim W’Him, and our art of contemporary dance to this significant public place of performance.

Thank you.

Olivier Wevers

WHIM W’HIM PO Box #70285 • Seattle, WA 98127 • whimwhim.org
Dear Emily,

Thank you for sharing the drawings of the schematic design for the Volunteer Park Amphitheater project. GreenStage is excited about the progress being made. We believe the project as depicted in the drawings will give the city an amphitheater that will provide a much improved experience for performers and audiences alike, and the new amphitheater will be a beautiful facility that blends in well with the surrounding park.

As a theater company that has offered free performances of Shakespeare in the Park at Volunteer Park for nearly thirty years, we are hopeful that the upgraded facility will help draw even more people to performing arts events at Volunteer Park. Our no-charge performances serve a broad community, and the annual Seattle Outdoor Theater Festival that we manage at Volunteer Park is a wildly popular weekend that serves as the unofficial kickoff for the outdoor theater season in the Seattle area. We also believe that the amphitheater as designed will have a positive influence on the educational programs that GreenStage offers at Volunteer Park. Our wide range of affordable Shakespeare summer camp options serve a diverse group of students between the ages of five and eighteen. The new amphitheater will enhance these programs by providing a better, safer place for our young campers, and one that will be less exposed to the vagaries of northwest weather.

Thank you for your good work on the design of this project. GreenStage believes it will make a most worthy and valuable contribution to the overall experience at Volunteer Park, and we stand ready to support the next steps in whatever way we are able to bring this vision into reality.

With best regards,

Ken Holmes
Managing Director
GreenStage
www.greenstage.org
To whom it may concern,

I'm writing this letter in support of the Volunteer Park Amphitheater Project led by the Volunteer Park Trust and architects ORA with landscape architects Walker Macy.

For the past five years as part of its Summer Festival in July the Seattle Chamber Music Society (SCMS) has presented three free live broadcast from Benaroya Hall and a free concert at the current amphitheater at Volunteer Park. These events have grown to see an average of 500 attendees for the Live broadcast and 3000 attendees for the free concert. In July 2018, we will add a fourth Live Broadcast event at Volunteer Park.

From the earliest explorative stage to the current design program towards the creation of a new stage in Volunteer Park, the Volunteer Park Trust and ORA invited our input for our artistic and production needs, and experience with audience management.

The current design would allow for shade from the roof to protect valuable and delicate instruments. The roof also provides elegant framing for our musicians in the bucolic landscape for Volunteer Park; an aspect of our events that resonates greatly with our audience. This design answers also all of the technical and backstage requirements to present performances by world-class artists; from the ease of access to the stage for equipment, the possibility to mount lights and speakers, and an adequate backstage space with privacy all of which are lacking or nonexistent in the current amphitheater. All of these elements are key for SCMS to share the talents of high calibre artists with a larger public audience at our popular, free community events.

The beauty of setting of the new placement and design of this stage will restore the communion of the performance arts and nature both of which are crucial elements of the cultural identity of Seattle. We are very excited to see this project come true as it will enhance the artistic quality of our performances, gracefully integrate performing arts with the lush natural landscape of Volunteer Park and present great opportunities for the community to experience meaningful performances in a unique setting.

Sincerely,

Jeremy Jolley
Director of Education Programs and Operations