Portland
City Council

Type IV Land Use Hearing Meeting Packet

Meeting Date:
April 23, 2015

Project Website:
www.portlandoregon.gov/water/wpreservoir

PORTLAND WATER BUREAU

AECOM

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WASHINGTON PARK
RESERVOIR IMPROVEMENTS PROJECT

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ACRONYMS AND ABBREVIATIONS

BDS	Bureau of Development Services
CSB	Community Sounding Board
DAR	Design Advice Request
EA	Early Assistance
EN	Environmental Review
EPA	US Environmental Protection Agency
HD	Historic District
HLC	Historic Landmarks Commission
HR	Historic Resource Review
LT2	Long Term 2 Enhanced Surface Water Treatment Rule
LUR	Land Use Review
MOA	Memorandum of Agreement
OHA	Oregon Health Authority
PP&R	Portland Parks & Recreation
PWB	Portland Water Bureau
PZC	Portland Zoning Code
SHPO	State Historic Preservation Office

DOCUMENT REFERENCES

1. Portland Comprehensive Plan https://www.portlandonline.com/bps/Comp_Plan_Nov2011.pdf

2. Portland Scenic Resources Protection Plan https://www.portlandoregon.gov/bps/article/89965

3. Washington Park Master Plan https://www.portlandoregon.gov/parks/article/448289

FIGURES

WHAT PWB IS REQUESTING AND THE HLC'S ROLE

Portland Water Bureau (PWB) proposes to demolish three contributing historic resources within the Washington Park Reservoirs Historic District: the two reservoir basins and the Weir Building.

In this Type 4 historic resource demolition review, the Historic Landmarks Commission (HLC) is asked to give advice to the Portland City Council regarding the merits of this request. The City Council is responsible for making the demolition decision based on the balancing of applicable policies of the Portland Comprehensive Plan.

As part of the balancing process, the City Council will consider the overall proposal and its merits on the one hand, and the demolition on the other. Based on an extensive community outreach program, three design advice meetings with the HLC and discussions with the Oregon State Historic Preservation Office (SHPO), PWB developed a "Design Concept" that will both **REPLACE** and **PRESERVE** various components of the District:

DEMOLITION (See Figure 1)

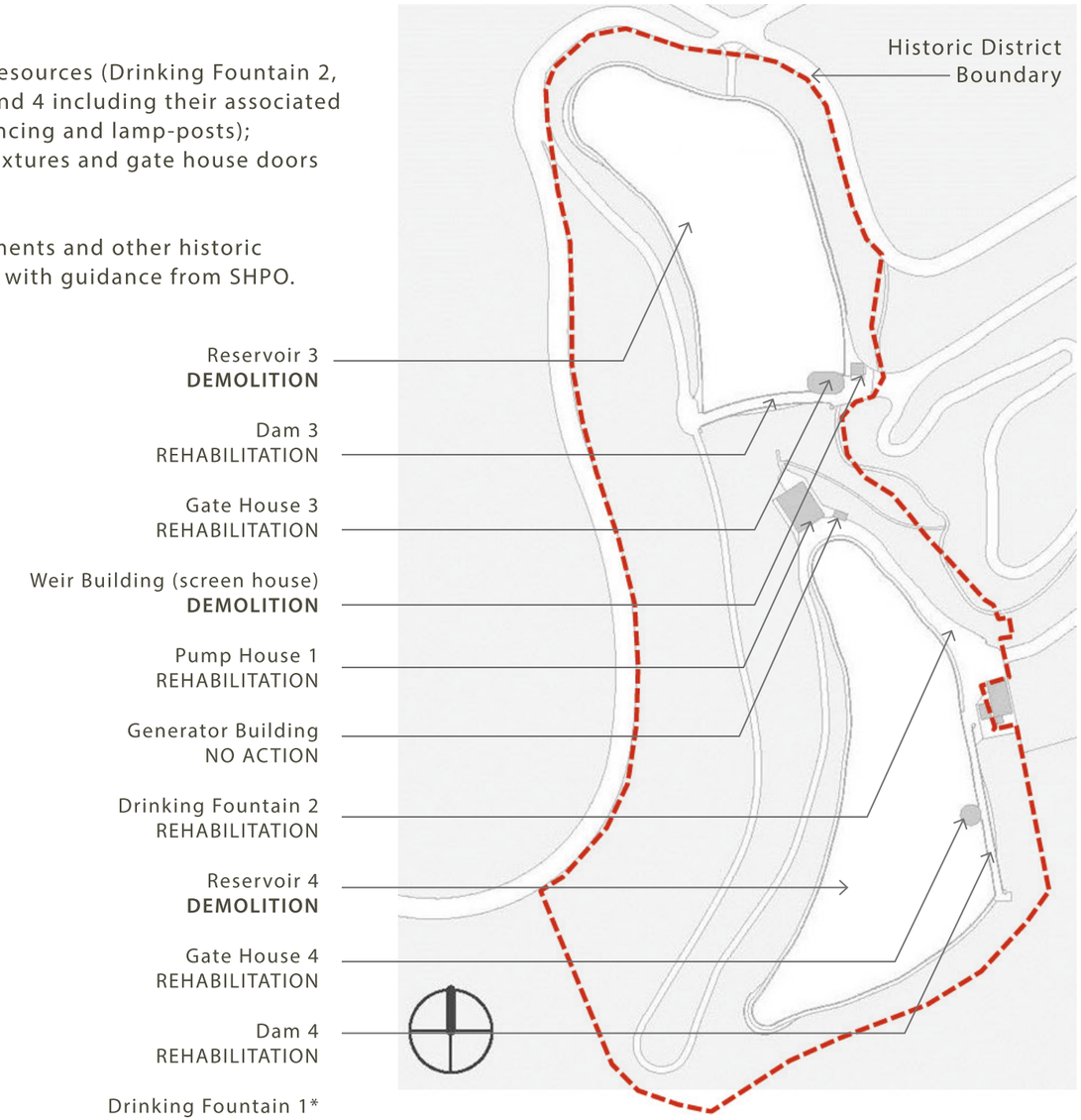
- Reservoir 3 will be removed to construct a new buried drinking water reservoir;
- Reservoir 4 will be removed/ buried to provide weight at the toe of the historic landslide;
- The Weir Building will be removed to protect Gate House 3 during Reservoir 3 demolition, and to improve views at this area.

REPLACEMENT

- Two reflecting pools will replace the existing reservoirs;
- A lowland habitat and grassy stormwater swale will replace drinking water storage with water filtration/quality, reservoir drainage and reservoir overflow functions at Reservoir 4;
- A new, wider Grand Stairway will replace the existing one north of Reservoir 3;
- Public access walkways will be replaced around both water features along with other pedestrian amenities.

PRESERVATION (See Figure 2)

- Rehabilitating 5 contributing resources (Drinking Fountain 2, Gate Houses 3 and 4, Dams 3 and 4 including their associated parapet walls, wrought-iron fencing and lamp-posts);
- Removing incompatible light fixtures and gate house doors and windows;
- Restoring historic views;
- Incorporating interpretive elements and other historic restoration and reconstruction with guidance from SHPO.



*Drinking Fountain 1 is a concrete remnant only and currently stored on-site.

Figure 1. Contributing Resources in the Historic District

PRESERVATION ACTIONS

LEGEND

- Rehabilitated balustrade
- Rehabilitated parapet wall and rehabilitated wrought iron fencing
- Rehabilitated parapet wall and preserve-in-place wrought iron fencing
- Preservation Intervention Marker
- IB - # Intervention Beginning- (diagram action #)
- IE - # Intervention End- (diagram action #)
- Original reservoir footprint
- Contributing buildings and structures
- New reflecting pools

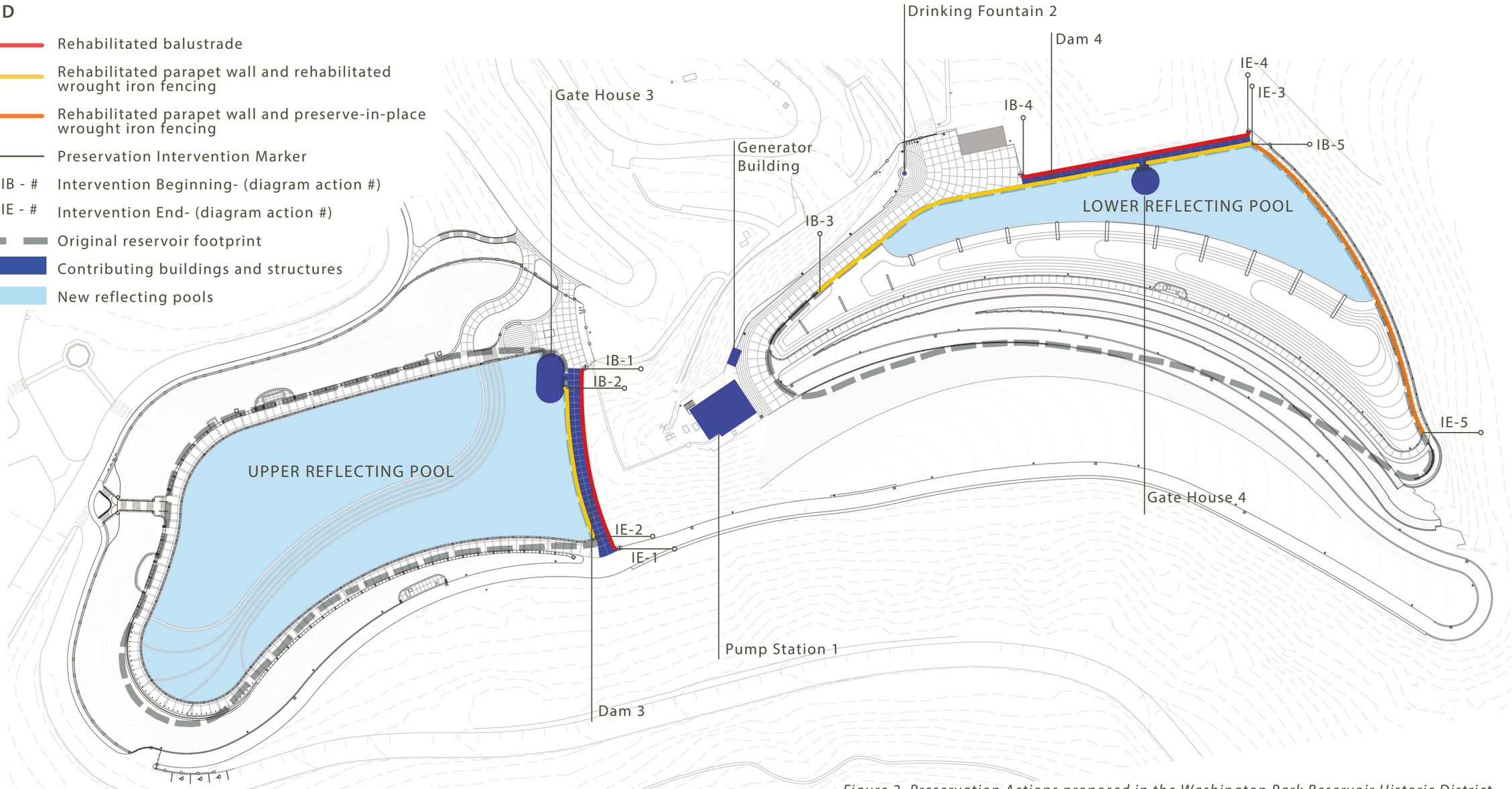


Figure 2. Preservation Actions proposed in the Washington Park Reservoir Historic District

PROJECT DRIVERS AND LOCATIONAL CONSIDERATIONS

LANDSLIDE

One of the key issues driving this project is the presence of an active, ancient landslide at the reservoir site. When the Washington Park Reservoirs were constructed in 1893-1894, this landslide was reactivated by the excavation of part of the toe of the landslide. Prior to construction of the reservoirs, the heavy weight of the soil at the bottom of the slope resisted being pushed by the force of the landslide. When the reservoir construction removed this soil (and weight), the landslide began to move more rapidly.

CLEAN DRINKING WATER AND EPA LT2 RULE

Another key driver for this project is the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) promulgated by the U.S. Environmental Protection Agency (EPA) on January 5, 2006. The goal of the rule is to "reduce illness linked with the contaminant Cryptosporidium and other disease-causing microorganisms in drinking water."

There are two major requirements of the LT2 Rule that apply to Portland's drinking water system:

- Provide additional Bull Run source water treatment to specifically address Cryptosporidium.
- Cover, treat or replace uncovered finished drinking water reservoirs.

AGING INFRASTRUCTURE

Condition assessments were performed at the Washington Park Reservoir site in 1997 and 2001. Based on these condition assessments, the 120 year old reservoirs and structures are nearing the end of their useful service life. Should the existing reservoirs be maintained, they would require significant maintenance and retrofitting as they continue to age and will ultimately need to be completely replaced.

SEISMIC SUSCEPTIBILITY

The original facilities were designed and constructed prior to current seismic standards and do not meet structural requirements for current anticipated seismic activity. Therefore, they are vulnerable to severe damage or failure during a significant seismic event. Failure of these reservoirs and structures could be catastrophic and result in loss of PWB's ability to provide drinking water to the west side of Portland including all of downtown.

FUTURE TYPE 3 HISTORIC REVIEW

In three to four months from the time of the Type 4 review, PWB plans to submit a Type 3 historic resource review application to the HLC. The review will formally consider the "Design Proposal" which includes the proposed replacement and preservation actions outlined on page 1. In the Type 3 review, the HLC will hold a public meeting to evaluate proposed changes within the Historic District and make a decision based on the 10 applicable historic review criteria found in Portland Zoning Code (PZC) 33.846.060.G. As with all Type 3 decisions, anyone who participates in the HLC review process may appeal to the City Council.

Figure 3. View of Reservoir 3 and Gate House 3 from the Grand Stairway, c. 1912

TYPE 4 DEMOLITION REVIEW CRITERIA

The Portland Zoning Code (PZC 33.445.330.A) includes one relevant review criterion for use by the City Council in determining whether to approve the demolition of one or more contributing historic resources in a historic district:

"Demolition of the resource has been evaluated against and, on balance, has been found supportive of the goals and policies of the Comprehensive Plan, and any relevant area plans."

PWB's application identifies the following applicable Comprehensive Plan Goals (and implementing policies):

- Goal 3 Neighborhoods
- Goal 6 Transportation
- Goal 7 Energy
- Goal 8 Environment
- Goal 9 Citizen Involvement
- Goal 11 Public Facilities, Goal 11E Water Service, Goal 11F Parks and Recreation
- Goal 12 Urban Design

Comprehensive Plan Goals 3 and 12 include policies directly related to historic preservation.

Two additional relevant area plans are the Washington Park Master Plan because it includes policies related to the Washington Park reservoirs and the Portland Scenic Resources Plan because scenic resources are found at the edge of the Historic District.

PZC 33.445.330.A suggests the use of "evaluation factors" to consider in the balancing process. These evaluation factors address the merits of demolition in relation to the merits of replacement development, preservation plans, and proposed mitigation. The Type 4 demolition application applies these evaluation factors in Sections 2-3.1 through 2-3.3 of the application.

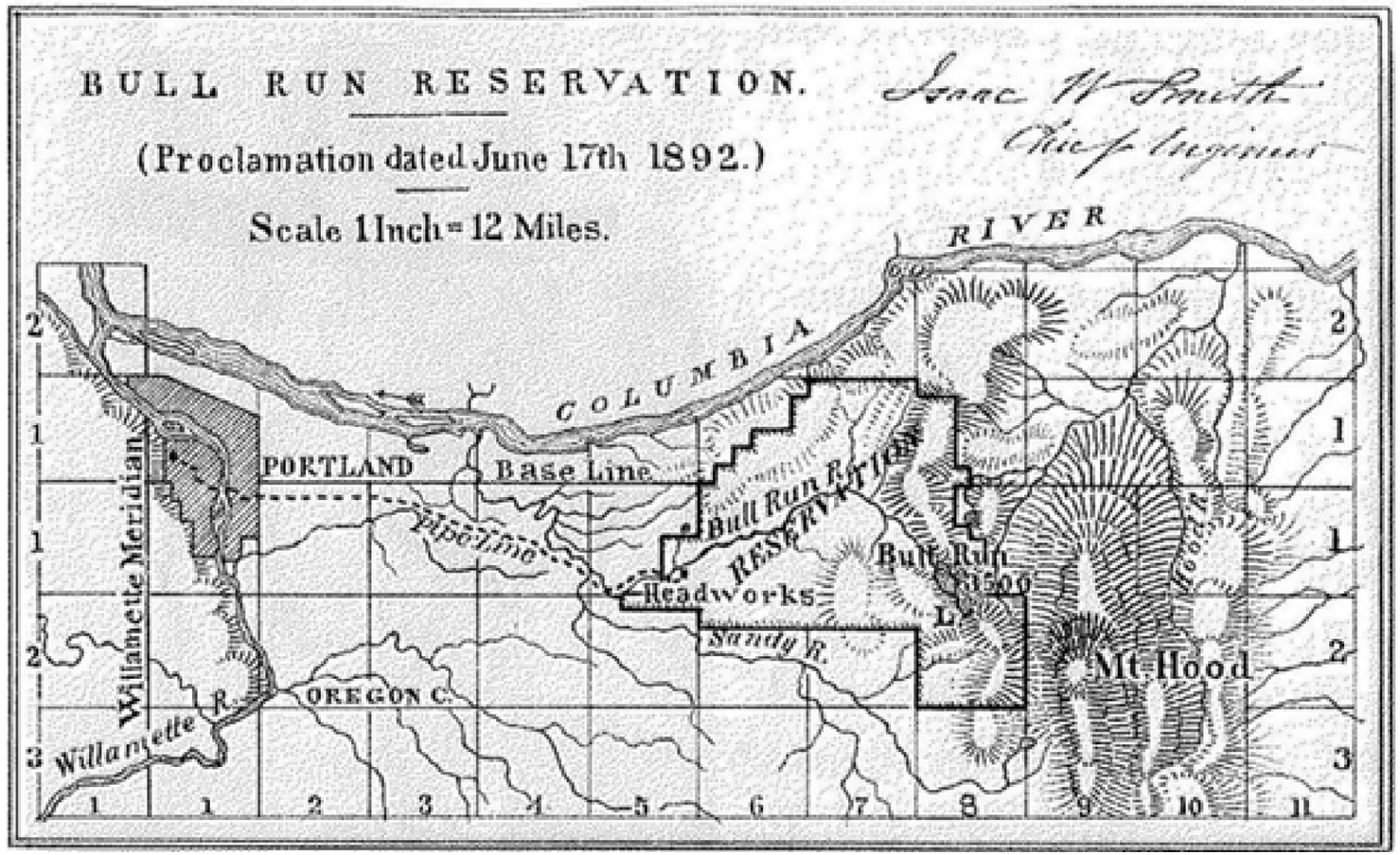


Figure 4. 1892 Proclamation indicating the pipeline ending in Washington Park – and reflecting the brilliance of Colonel Isaac Smith, Chief Engineer in the design of the gravity fed water system.

AREAS OF SIGNIFICANCE

The Washington Park Reservoirs Historic District was nominated under four major areas of significance. These areas of significance tie into the Type IV approval criteria as described in Section 2-3 of PWB's application and include:

1 Community Planning and Development
- Investment in the system as a City-owned resource that would last for many generations;
- Legally protected source of the water (Bull Run Watershed) and the necessary easements

2 Entertainment and Recreation
- Egalitarian value in ensuring access for all classes of citizens;
- Developed as a scenic respite and recreational destination;
- Walkways and carriage ways provided ways to move through the landscape

3 Engineering
- Delivery of exceptionally clear water from Bull Run 30 miles to the east;
- Gravity-fed distribution and storage system;
- Patented reinforced concrete structural design and concrete finish methods

4 Architecture
- Classical Romanesque, rusticated style of architecture;
- Naturalistic setting of the elements and the landscaping;
- Unfolding series of views of open water as one moves through the site;
- Extremely fine level of detailing and finishes, including wrought iron work.

1

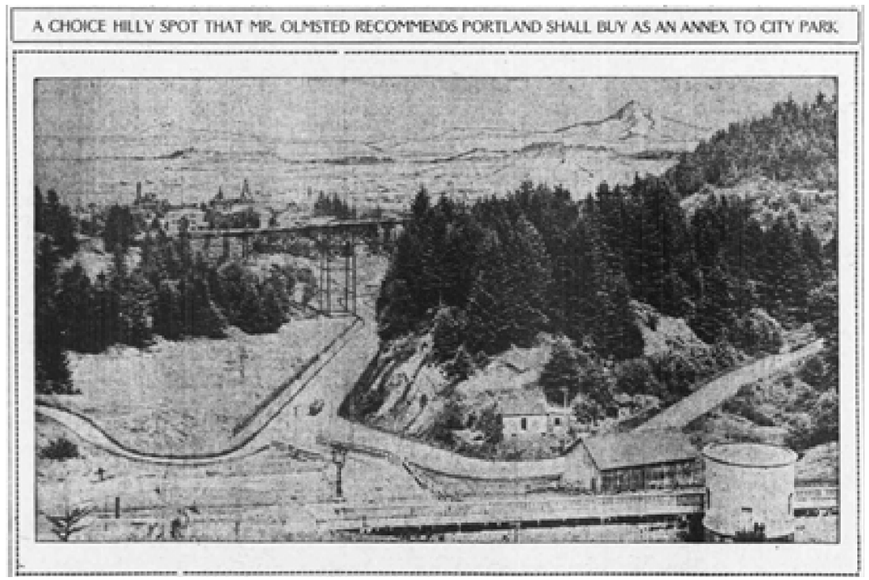


Figure 5. The Sunday Oregonian. June 19, 1904 references City Park

2

Figure 6. Gate House 3

3

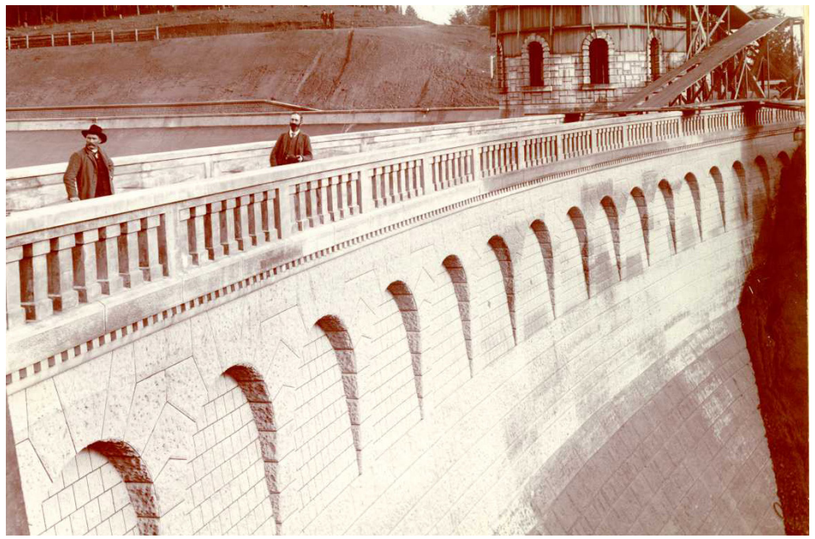


Figure 7. Dam 3 and Gate House 3 during construction

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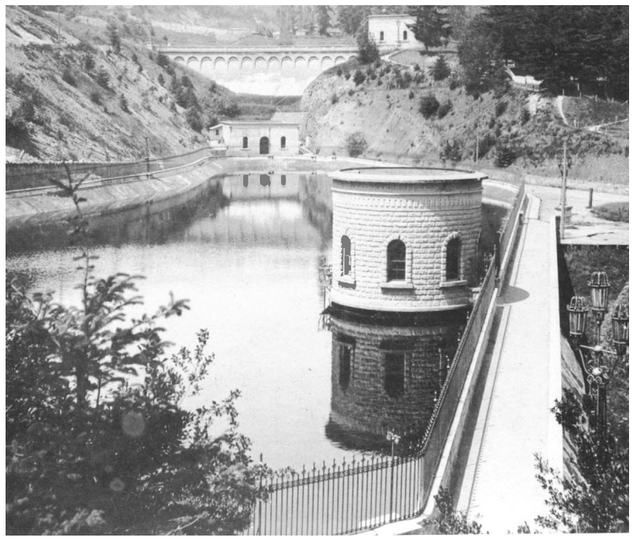


Figure 8. Reservoir 4, Gate House 4, Dams 3 and 4, c. 1910

APPLICABLE COMPREHENSIVE PLAN GOALS AND POLICIES

As documented in Section 2-3.3 of the application, most of the relevant Comprehensive Plan Goals and implementing policies support the proposed demolition requests when considered with the Design Concept, including proposed mitigation measures.

SUPPORTIVE GOALS AND POLICIES

Goal 3 Neighborhoods, Policy 3.5 Neighborhood Involvement: The Design Concept resulted from an extensive community outreach process that included nearby neighborhood associations, a community sounding board and general public. Public support for the Design Concept should be given great weight in the balancing process.

Goal 6 Transportation, Policies 6.22 Pedestrian Transportation and 6.23 Bicycle Transportation: The Design Concept includes improved bicycle parking near WPR entrances and pedestrian access within the Historic District.

Goal 7 Energy, Policy 7.2 Energy Efficiency: The Design Concept provides for the continuation of Portland's energy-efficient, gravity-fed water storage and distribution system.

Goal 8 Environment, Policies 8.5 Interagency Cooperation – Water Quality, 8.13 Natural Hazards, 8.14 Natural Resources, 8.16 Uplands Protection and 8.17 Wildlife Habitat: The Design Concept has been coordinated with Portland Parks and Recreation, the State Historic Preservation Office, and the Portland Bureau of Environmental Services (BES). The design of the new buried reservoir will substantially reduce potential slide and earthquake damage to Portland's drinking water system; the proposed grassy swale will clean surface water runoff before it enters the public storm drainage system and will provide lowland wildlife habitat; natural and scenic resources will be enhanced through landscaping with native species.

Goal 9 Citizen Involvement, Policy 9.1 Citizen Involvement Coordination: the extensive community outreach program resulted in broad community and professional consensus in support of the Design Concept.

Goal 11 Public Facilities and Goal 11E Water Service, Policies 11.26 Quality, 11.28 Maintenance, 11.31 Design and Community Impact, 11.36 Water Pressure and 11.37 Energy Conservation: The demolition of Reservoirs 3 and 4 is necessary to insure a reliable, energy-efficient and adequate water supply and delivery system to meet existing and future needs of the community, while ensuring community access to open and accessible water in Washington Park. **Goal 11E should be given great weight in the balancing effort.**

Goal 11 F Parks and Recreation, Policy 11.38 Master Development Plans and 11.39 Maintenance: The Design Concept is consistent with the Washington Park Master Plan which calls for "flooding" over the new below-ground reservoir if necessary to meet EPA water quality rules; the Design Concept will substantially reduce maintenance due to ongoing landslide activity and by burying the water supply.

Goal 12 Urban Design, Policies 12.1 Portland's Character, 12.2 Enhancing Variety, 12.4 Provide for Pedestrians and 12.7 Design Quality: The Design Concept provides for accessible, well-designed reflecting pools and the historic rehabilitation of reservoir dams and gate houses, parapet walls, and wrought-iron fencing and lampposts. The Design Concept incorporates the results of three HLC Design Advice Review meetings and is supported by Oregon Chapter of the American Institute of Architects Historic Resources Committee. Removal of the Weir Building will help protect Gate House 3 during construction and will open views of the rehabilitated Gate House 3. **Goal 12 should be given great weight in the balancing process.**

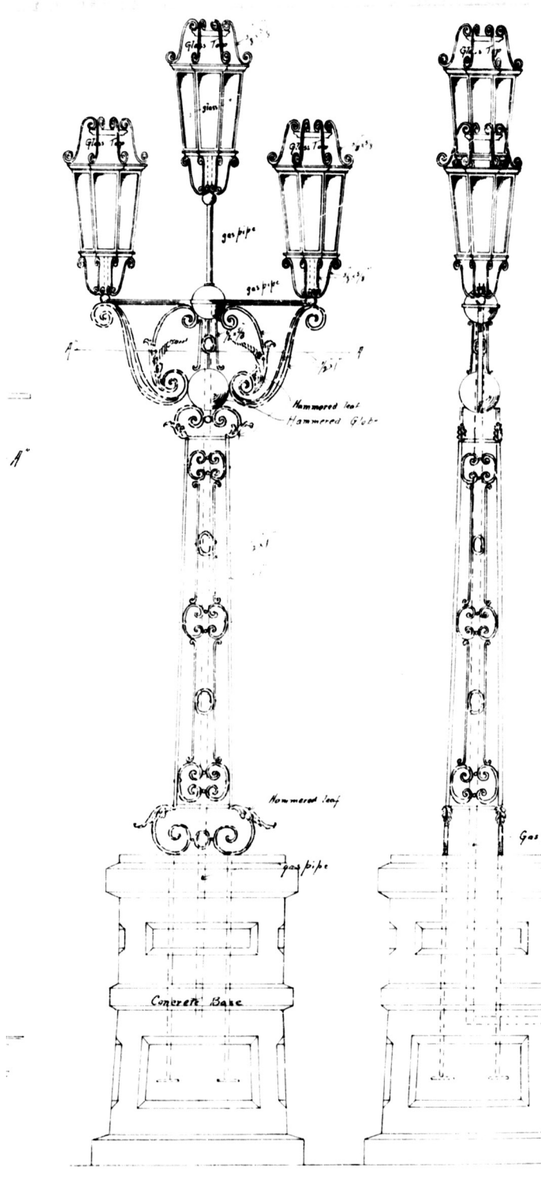


Figure 9. Elevations of lamp posts on Dams 3 and 4 as designed

BALANCING APPLICABLE POLICIES

In making its decision, the City Council will balance applicable Comprehensive Plan Goals and Policies. Historic Preservation Policies 3.4 and 12.3 are addressed on page 9. The Design Concept shows PWB's commitment to replacing the demolished reservoirs with accessible, open water reflecting pools and rehabilitating major historic structures in the Historic District – especially Dams 3 and 4, Gate Houses 3 and 4 and accessory parapet walls, wrought-iron fencing and lampposts. PWB is working with SHPO to develop additional mitigation measures by opening historic viewpoints and installing interpretative elements.

The mission of PWB is to ensure that the City has continuous, safe, and reliable drinking water service. Without this, all other goals will be adversely affected. For this reason, PWB is recommending that Goal 11E should be given great weight.

In addition, PWB believes that the three following goals should be given greater weight than other supported goals and policies:

- Goals 3 Neighborhoods
- Goal 11F Park and Recreation
- Goal 12 Urban Design

Figure 10. View of Portland and Mount Hood with Reservoir 3 in lower right corner, c. 1969

HISTORIC PRESERVATION POLICIES

There are two applicable historic preservation policies below which PWB acknowledges are generally not supportive of demolition for any reason. These policies support the preservation of all contributing historic resources in the District but also provide direction regarding what should be done if a resource must be demolished. **The historic resources are described in detail on pages 10 and 11.**

Policy 3.4 Historic Preservation. "Preserve and retain historic structures and areas throughout the city. "

Policy 12.3 Historic Preservation. "Enhance the City's identity through the protection of Portland's significant historic resources. Preserve and reuse historic artifacts as part of Portland's fabric. Encourage development to sensitively incorporate preservation of historic structures and artifacts."

PWB, the CSB, SHPO and the HLC all recognize that Reservoirs 3 and 4 enhance Portland's livability in multiple ways. They have historically contributed to Portland's urban and recreational fabric and epitomize Portland's legacy of visionary government, intergovernmental cooperation and the exceptional engineering – characteristics that make Portland a truly great city. The Design Concept continues these traditions and represents the results of an inclusive and open community, professional and agency outreach program.

PWB recognizes that the reservoir basins are extremely important to the Washington Park Reservoirs Historic District. Absent the four drivers for this project as described in Section 1-3 of the application, PWB would not have proposed demolition of these historically significant structures in the first place. However, the landslides will continue to damage the aging basins and structures, the seismic threat is certain and destructive, and the state and federal rules require that the reservoirs be covered. Recognizing that these critical drivers exist PWB has taken extraordinary measures to recreate bodies of open water within an accessible, tranquil setting that is so critical to the original vision of Washington Park.

Policy 12.3 includes several "objectives" that are paraphrased below and are addressed directly in the Design Concept:

A. "**Preserve and accentuate historic resources** as part of an urban environment that is being reshaped by new development projects." The Design Concept preserves and rehabilitates 8 of the 11 contributing resources in the Historic District and through proposed preservation measures, will make these resources more attractive, longer-lived, and more accessible to Washington Park users. The Weir building in particular, is being removed in order to ensure the preservation of another contributing resource, Gate House 3. Without the removal of the Weir building, Gate House 3 will be vulnerable to damage during the construction of Reservoir 3.

B. "**Support the preservation of Portland's historic resources through public information,** advocacy and leadership within the community as well as through the use of regulatory tools." PWB has sponsored and supported an extensive public involvement process that has created opportunities for interested parties to participate in its proposal to remove certain historic resources and construct new elements with a historic character in the Historic District.

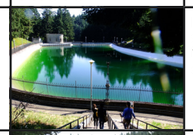
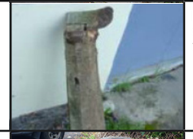
C. "**Maintain a process that creates opportunities for those interested in the preservation of Portland's significant historic resources to participate** in the review of development projects that propose to alter or remove historic resources." PWB has studied alternative sites for water storage over many decades, and alternative proposals such as floating covers. The current proposal has been revised many times under a process incorporating direction from the HLC, SHPO, the AIA HRC, and many other sources.

E. "**Protect potentially significant historic structures from demolition** until the City can determine the significance of the structure and explore alternatives to demolition." PWB has explored a variety of alternatives to demolition of these significant historic resources.

F. "**Preserve artifacts from structures and sites that are historically, architecturally and/or culturally significant** and seek to reintroduce these artifacts into the City's streetscape and building interiors." PWB will preserve artifacts from the demolished reservoirs, including wrought iron fences, lamp-posts and a drinking fountain. At Dam 3 and the eastern border of Reservoir 4 (including Dam 4), the walkways, parapet walls, fencing and lighting will be reconstructed in a historically accurate manner, and placed at or near their original location in relation to the new surface water features.

Figure 11. Historic photo of landslide zone, the Rose Garden, and the reservoirs

REVISED HISTORIC RESOURCE PRESERVATION OVERVIEW

CONTRIBUTING RESOURCE	PHOTO	HISTORIC CONTEXT	CURRENT CONDITION	PROPOSED DESIGN
Reservoir 3		Irregularly shaped components were constructed in sympathy with the topography. The basin was gravity-fed from Bull Run via Mt. Tabor's reservoirs and was constructed using Ransome's "twisted iron" reinforcing.	The reservoir is functional. Much of its west side has already been rebuilt several times due to the landslide. Liners have been in place since the 1970s. The parapet wall no longer has its original finish.	A new buried drinking water reservoir will preserve the historic drinking water storage function at the site. The existing basin and its parapet and walkway must be removed to construct the buried reservoir. A new reflecting pool/water feature will retain the historic relationship between water, the dam, and Gate House. The footprint of the new reflecting pool will closely follow the footprint of the existing basin, and the new edge will include new perimeter walkways with a seat-wall/ retaining wall on the outer edge. The inner edge will include a shortened historic fence and historic lamp posts.
Reservoir 4		Similar to the upper reservoir, the shape echoes the topography of the ravine, and the construction was the Ransome reinforced concrete.	The reservoir is rarely used. Much of the basin's west side and parapet edge has been rebuilt multiple times due to the landslide. As a whole, parapet walls are cracked, and at the southwest corner, large areas are broken.	The basin's west side and adjacent slope must be buried by heavy fill dirt to mitigate the landslide, restoring the original slope contours closer to pre-reservoir construction. A permanent reflecting pool of water will be located along the dam and Gate House, with a habitat area in the remainder of the basin. The vegetated areas provide a new water-related (and required) stormwater function. The parapet walls and lamp posts will be rehabilitated (or rebuilt as necessary). The historic fence will be rehabilitated along the east wall and will remain as-is at the south wall. The new parapet edge at the west side and north end will be differentiated by having no fence or parapet wall. Additional mitigation for SHPO agreement proposed.
Dam 3		The dam has a curving decorative form, and is battered in section with two different angles. The dam face drops approximately 70 feet down.	Dam 3 is still original concrete, except at the parapet finish and the added asphalt surface. Documented damage is a result of weather and age.	The dam will be preserved, and unneeded piping and equipment removed. Original elements across the top of the dam, including the parapet walls, balustrade, and existing fence, will be rehabilitated. This includes cleaning, baluster reconstruction, and crack and spall repair. Asphalt topping will be removed and a new concrete topping poured.
Dam 4		Ransome's patented concrete rustication and Romanesque styling, using a blind arcade, create an Old World feel.	Dam 4 has an added asphalt surface. Documented damage is a result of weather and age.	The dam will be preserved, and unneeded piping and equipment removed. Original elements across the top, including the parapet walls, balustrade, and existing fence, will be rehabilitated. This includes cleaning, parapet wall and baluster repair/ reconstruction, and crack and spall repair. Asphalt topping will be removed and a new concrete topping poured.
Pump House 1		Pump House 1 is a one-story reinforced concrete building, with flat parapeted roof under an added gable. It was built to house water flow regulatory equipment, including the original 1894 Pelton wheel water pump, "Thumper No. 1."	Due to ground movement and resulting cracking, Pump House 1 is structurally damaged. Two historic windows remain; four have been removed and infilled. A gable roof was installed over the flat roof, and stucco was added.	Although the critical equipment for drinking water system distribution will be removed from Pump House 1 and put into Pump House 3, Pump House 1 will still house back-up pumps and related equipment as well as historic "Thumper." The building will be cleaned, and visible cracking will be repaired. The two missing (infilled) front windows will be reconstructed to match the existing side windows and replaced in their original openings. Additional mitigation for SHPO agreement proposed.
Weir Building		The Weir building was added in 1946 in a style not matching the Richardsonian Romanesque architecture of the other structures. It was built to screen the water and function as a weir.	The Weir building has had doors and windows replaced. It no longer serves a primary function.	Construction of the new reservoir requires the installation of shoring during reservoir excavation to protect Gate House 3 from damage during construction. The Weir building is poured construction and cannot be moved. Its removal will provide the necessary space to build shoring around Gate House 3 and allow construction access to the reservoir from the east side.
Gate House 3		The gate house is oval in shape and was designed to hold various system piping and equipment. It is Romanesque in style and constructed using Ransome's patented hand-tooled finish technique. Round glass lights (also patented by Ransome) were cast into the floors.	Gate House 3 has continuous horizontal hairline cracks, though window sashes are in good condition. The exterior has a visible coating of biological growth. Metal doors are modern. Structurally, the building is unreinforced.	Gate House 3 will continue to house system piping, instrumentation, and reflecting pool and circulation equipment. The building will be structurally upgraded and the roof replaced. The exterior will be cleaned. Unneeded non-historic exterior equipment will be removed, and holes patched. The solid metal doors will be replaced with more visually appropriate doors. The original window sashes and frames were recently (2009) repaired and rehabilitated, but will be repainted. The gate house entry stairs will be rebuilt with a lower rise to run but with a similar curve and design.
Gate House 4		The lower gate house is round in footprint with similar features to Gate House 3. Both gate houses can enable water to bypass the reservoirs to go directly to consumers.	Cracking runs around the building similarly to Gate House 3. Metal coping was added in 1988-89. The water table base is heavily damaged.	Gate House 4 will house reflecting pool treatment and circulation equipment, and continue to be an access point for the existing tunnel drain and site drains, and house reflecting pool and circulation equipment and piping. Extraneous (unneeded) exterior equipment will be removed, and holes patched. The exterior will be cleaned, concrete holes patched and spalls repaired. The original window sashes and frames were recently (2009) repaired and rehabilitated, but will be repainted. The metal doors will be replaced with more visually appropriate doors. The roof will be replaced.
Generator Building		The 1920s-era building is a small, concrete building with three wood windows and dentilated cornice.	The building is in fair to good condition. The windows and door have been replaced.	The building will be retained as a generator building. The exterior will be cleaned.
Drinking Fountain 1		Drinking Fountain 1 was located on the concrete plinth outside the Pump House. It illustrated the two functions of the site; recreational and clean drinking water.	Drinking Fountain 1 is a concrete remnant only, consisting of the pedestal and stem, but no basin or metal piping. It is currently stored in Pump house 3.	There are no known historic drawings of this object, and no clear photographs. The nomination describes the concrete bowl as being "1-inch" in diameter which is clearly an error. No restorative work is proposed in the absence of information about the original design.
Drinking Fountain 2		Drinking Fountain 2 is located inside the fence near the Reservoir 4-area entry in its original location. It illustrated the two functions of the site; recreational and clean drinking water.	Drinking Fountain 2 is in its original location, but is inoperational and missing a few components.	There are no known historic drawings of this object, and no clear photographs. The nomination describes the concrete bowl as being "1-inch" in diameter which is clearly an error. No restorative work is proposed in the absence of information about the original design.

REVISED HISTORIC RESOURCE PRESERVATION OVERVIEW, CONTINUED

FEATURE	PHOTO	HISTORIC CONTEXT	CURRENT CONDITION	PROPOSED DESIGN
Wrought iron fence (at contributing dams and basins)		The wrought iron components are ornate and rather formal. They were designed by Portland architects Whidden and Lewis and constructed by I. K. Tuerck. The fence is approximately 9 feet from grade (to top of fleur-de-lis verticals) including a 36" tall concrete parapet.	The fence has surface corrosion and a few missing components. It has previously been repaired, re-installed and/or welded.	The wrought iron fence will be retained and fully rehabilitated along both Dam 3 and Dam 4. Additionally, the historic fence will be re-used at the rehabilitated east and south edges of Reservoir 4, but not along the west edge where there is a new configuration and all-new materials. The historic fence will be rehabilitated along the east side of Reservoir 4 and the dam, but will be preserved at the south side of Reservoir 4. At the Reservoir 3 reflecting pool, the historic fence will be rehabilitated and adapted (shortened, with some flourishes removed) and reinstalled around the water.
Triple - lantern gas lamps (at contributing dams)		At both Dam 3 and Dam 4, there were two three-globe wrought iron lights mounted on concrete pedestals, one at each end of the dam.	Freestanding lampposts at Dam 4 are missing. The freestanding iron lamppost columns are partially intact at Dam 3, but multi-lamp fixtures and components are missing.	The four existing concrete pedestals, including the two with wrought iron posts, will remain in place and will be protected during construction. Additional mitigation for SHPO agreement proposed.
Reservoir path lighting (at contributing basins)		The reservoirs were both lit by a series of single-fixture wrought iron gas lamps, interconnected to the fence. The light posts with all components (as initially designed) are about 22 feet high from grade.	There are 5 historic lampposts around the Reservoir 3 basin and 7 at the Reservoir 4 basin perimeter. All are missing their lantern components and have surface corrosion, similar to the fence. Modern light poles were installed in the 1970s.	The 1970s-era light poles will be removed. The historic lamppost ironwork will be refurbished and re-installed at walking paths. New visually unobtrusive lighting will be installed along walking paths to meet PWB security lighting levels.
Site Retaining Walls, Perimeter Walkways and Gutters		There are two concrete retaining walls at the Reservoir 3 (NW and SE) and one at Reservoir 4 (SW). All are constructed with Ransome concrete finish. Walkways are 5 feet wide (or wider in some places) and concrete, with edge gutter.	Retaining walls are cracked, sporadically patched, and spalling. The lower wall is especially degraded due to water saturation.	Public access to the overall site, including the Reservoir 3 and 4 areas, will be restored. The original retaining walls and perimeter walkways will be removed with the construction of the buried drinking water reservoir at the upper reservoir area and the landslide-mitigating earth fill at the lower reservoir area. New visually compatible retaining walls and pathways will be constructed. Perimeter walkways will be approximately 12 feet in width. Additional mitigation for SHPO agreement proposed.
Grand Stairway		The stair was one of two major entry points to the walking paths around the Reservoirs. It was originally a 7-foot wide, straight run.	The stair was covered in vegetation until the mid-2000s. The stair was altered both at the top and along the length, with concrete repair, landings, and new railings in 2008-09.	The existing stair will be removed with the construction of the buried drinking water reservoir at the upper reservoir area. A new stair will be constructed in the same approximate position and using a compatible design and details, will be constructed. The stair will be wider, with several landings, and will include handrails in a historically compatible style. The stair will meet current code requirements.
Decorative Features - Urns		There are two urns at the top of the Grand Stairway which were restored in 2008-09, and another at the west end of Dam 3. There are some associated low walls and pedestals as well.	The low wall and Dam 3 urn show cracking, spalling, and significant biological growth. The Grand Stairway urns have a few minor spalls.	These decorative site features will be cleaned, refurbished, and stabilized. The three urns will be temporarily moved and then reinstalled close to their original position.
Roadways and Basalt Walls at Roadway		The circa-1917 roadway was installed to create access between the two reservoir areas. The road slope was a constant 1:20 (5%). A 5-foot tall retaining wall maintained a constant height on the downhill side.	The roadway has been asphalted and is in fair condition, with some root damage and cracking. An asphalt curb has been added. The low wall is deteriorated and has fallen in places, with a significant growth of vegetation over much of its length.	The roadway and low wall will be removed to construct the landslide-mitigating earth fill at the lower reservoir area. A new roadway will be constructed in keeping with the character of the site. The basalt from the demolished walls will be removed, protected, and may be re-used on the site. Additional mitigation for SHPO agreement proposed.

GOAL 3 NEIGHBORHOODS AND GOAL 9 CITIZEN INVOLVEMENT

Goal 3 Neighborhoods: "Preserve and reinforce the stability and diversity of the City's neighborhoods while allowing for increased density to attract and retain long-term residents and businesses and insure the City's residential quality and economic vitality."

Goal 9 Citizen Involvement: "Improve the method for citizen involvement in the on-going land use decision-making process and provide opportunities for citizen participation in the implementation, review and amendment of the adopted Comprehensive Plan."

Section 1-4 of PWB's application and Figure 15 on page 13 of this document describes the extensive public outreach process which, together with the results of three Design Advice Reviews with the HLC, meetings with the AIA HRC, and collaborative efforts with SHPO, led to the preferred Design Concept.

All nearby neighborhoods participated in the Community Sounding Board (CSB).

PROJECT DESIGN GOALS AND OBJECTIVES

Based on feedback from neighborhood groups, the CSB, the HLC, the AIA HRC, and the general public, professional and other groups, most people and organizations support the goal and objectives as expressed in the Design Concept. Project goals and objectives identify what is important to consider in developing concepts for the visible features, and provide a framework for evaluating those concepts. They include the following:

Be Good Stewards of Public Funds

- Ensure costs are focused on the greatest benefits to the community
- Spend public money prudently and limit impact on ratepayers
- Keep maintenance and operating costs low
- Respect Historic Resources
- Minimize impacts to historic structures and features
- Maintain historic character of the site
- Honor the historic function of the Washington Park reservoirs in the context of the overall Portland water system

Be a Good Neighbor

- Reduce use of neighborhood parking by park visitors
- Avoid attraction of nuisance and illegal activities into the park and surrounding neighborhoods
- Enhance the quality of the park as an amenity for neighbors, as well as visitors
- Minimize construction impacts

Enhance Park Experience

- Provide public access to the area with opportunities for low-intensity recreation
- Retain the reflective and tranquil character of the site that is now created and heightened by the visual connection to an expanse of water.

Enhance views into and from the area

- Provide people with ability to connect with nature in the city
- Maintain security of the park and water facilities
- Ensure the new visible features enhance current park uses and are compatible with future park uses

Support Sustainability

- Create sustainable landscapes that provide habitat for birds and other native wildlife
- Minimize climate change impacts due to construction, operations and maintenance.
- Promote wise use of our water resources through design, maintenance and education.

Numerous stakeholders have written letters regarding the proposed Design Concept including:

- The CSB wrote in support of the proposed Design Concept and the public process for this project.
- The Arlington Heights Neighborhood Association, which is closest to Reservoir 3, wrote raising concerns about construction traffic and providing recommendations for truck routing alternatives that could address these concerns.
- The Southwest Hills Residential League wrote to express its unanimous support for the project.
- SHPO wrote to describe its productive and continuing consultation process with PWB, which began in June, 2013.
- The AIA Historic Resources Committee wrote in support of the project, finding that the proposed level of mitigation is appropriate and that "the project brings back all of the elements that brought people to the site historically."

Figure 12. Public tours of the Washington Park Reservoirs, June 2013

GOAL 11E WATER SERVICE AND POLICY 8.13 NATURAL HAZARDS

Goal 11 E Water Service: "Ensure that reliable and adequate water supply and delivery systems are available to provide sufficient quantities of high quality water at adequate pressures to meet the existing and future needs of the community, on an equitable, efficient and self- sustaining basis. "

As noted in Section 1-3.1 of the application, historic landslides have caused damage to Reservoirs 3 and 4 since they were constructed in the 1890s. Even if Portland was not required to cover its reservoirs by EPA rules, the persistent historic landslide problem, seismic issues and aging infrastructure concerns would still need to be addressed.

- If Reservoir 4 were not demolished, the slope could not be mitigated by filling in the toe of the excavated slope that extends into the old Reservoir 4 basin. If Reservoir 4 remained in place, the historic landslide conditions would remain and the aging basin structure would continue to deteriorate and incur damage from predictable earth movement.

- If Reservoir 3 were not demolished, it would remain vulnerable to landslide damage and there would be no room to construct the intervening compressible inclusion as described in the application. By replacing Reservoir 3 with a new, buried reservoir located away from the toe of the landslide, and creating room for the compressible inclusion, landslide hazards can be mitigated.

- If the Weir Building were not demolished, construction of the new buried reservoir and preservation of Gate House 3 would not be feasible.

Demolition of Reservoirs 3 and 4, and redevelopment of facilities shown on the Design Concept, is supportive of Comprehensive Plan goals and policies related to natural hazards, provision of an abundant supply of high-quality drinking water that complies with EPA rules, and maintaining/increasing energy efficiency associated with gravity fed water storage and distribution system. The demolition and replacement facilities as shown on the Design Concept maintain the historical gravity-fed engineering concept and honor the community planning tradition that led to the funding and design of the exceptional Portland's water supply and distribution system.

Natural Hazard Mitigation: The proposed demolition of Reservoirs 3 and 4 is supportive of Policy 8.13 Natural Hazards because the existing reservoirs are highly vulnerable to ongoing historic landslide activity and the potential for a major earthquake. The Design Concept proposes that the redeveloped facilities be designed to withstand both types of hazards with much less risk to the public or interruption of water service. Proposed demolition of Reservoir 3 and replacement with a buried reservoir is necessary to comply with EPA and OHA rules.

Reliable Water Service: Demolition of Reservoirs 3 and 4 is necessary to carry out the policy directives found in Goal 11E Water Service by insuring that reliable and adequate water supply and delivery systems are available to provide sufficient quantities of high quality water at adequate pressures to meet the existing and future needs of the community. Because providing drinking water infrastructure is an essential city service, support of 11E Water Service should be given substantial weight in this review process, when compared with other applicable goals and policies.

Energy Conservation: Demolition and reconstruction of Reservoir 3 at its current location and elevation is necessary to maintain a gravity-fed system that conserves energy while providing sufficient storage and pressure to westside water users. Maintaining the existing gravity system will avoid increased energy consumption and costs.

Figure 13. 1897 Landslide damage to Reservoir 4

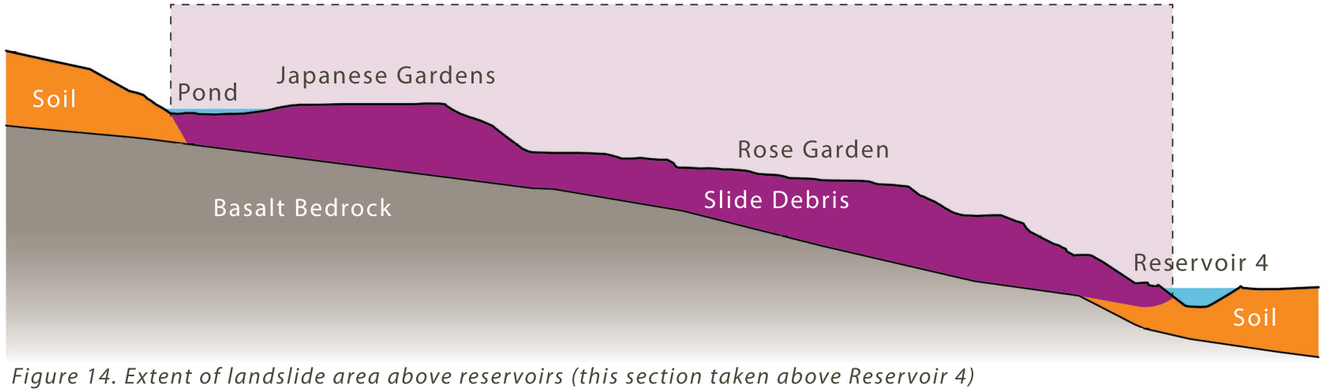


Figure 14. Extent of landslide area above reservoirs (this section taken above Reservoir 4)

GOAL 11 F PARKS AND RECREATION

Goal 11 F Parks and Recreation: "Maximize the quality, safety and usability of parklands and facilities through the efficient maintenance and operation of park improvements, preservation of parks and open space, and equitable allocation of active and passive recreation opportunities for the citizens of Portland."

The Design Concept supports Goal 11F Park and Recreation and related policies by maintaining the existing balance between passive and active recreational uses in Washington Park, while reducing future maintenance costs and improving the quality of passive recreational opportunities in the Historic District. The Design Concept restores public access to the reservoirs during regular park hours for the first time since the 1970s. The Design Concept supports the policy direction in the Washington Park Master Plan by moving sections of the existing chain-link fence to a less conspicuous location and providing attractive, accessible open water above the buried drinking water reservoir.

Construction of proposed improvements shown in the Design Concept will have a positive effect on the area's desired historic and open space character. The Design Concept improves upon the passive recreational experiences in the Historic District and Washington Park by:

- Restoring and enhancing pedestrian access to the reservoir system,
- Integrating wildlife habitat into reservoir functional areas,
- Incorporating the results of an extensive public and professional outreach effort,
- Complying with the policy direction set forth in the Washington Park Master Plan,
- Protecting/rehabilitating 8 of the 11 historic resources in the Historic District, and
- Incorporating modern design and engineering principles in the historically-sensitive redevelopment of Reservoirs 3 and 4 sites.

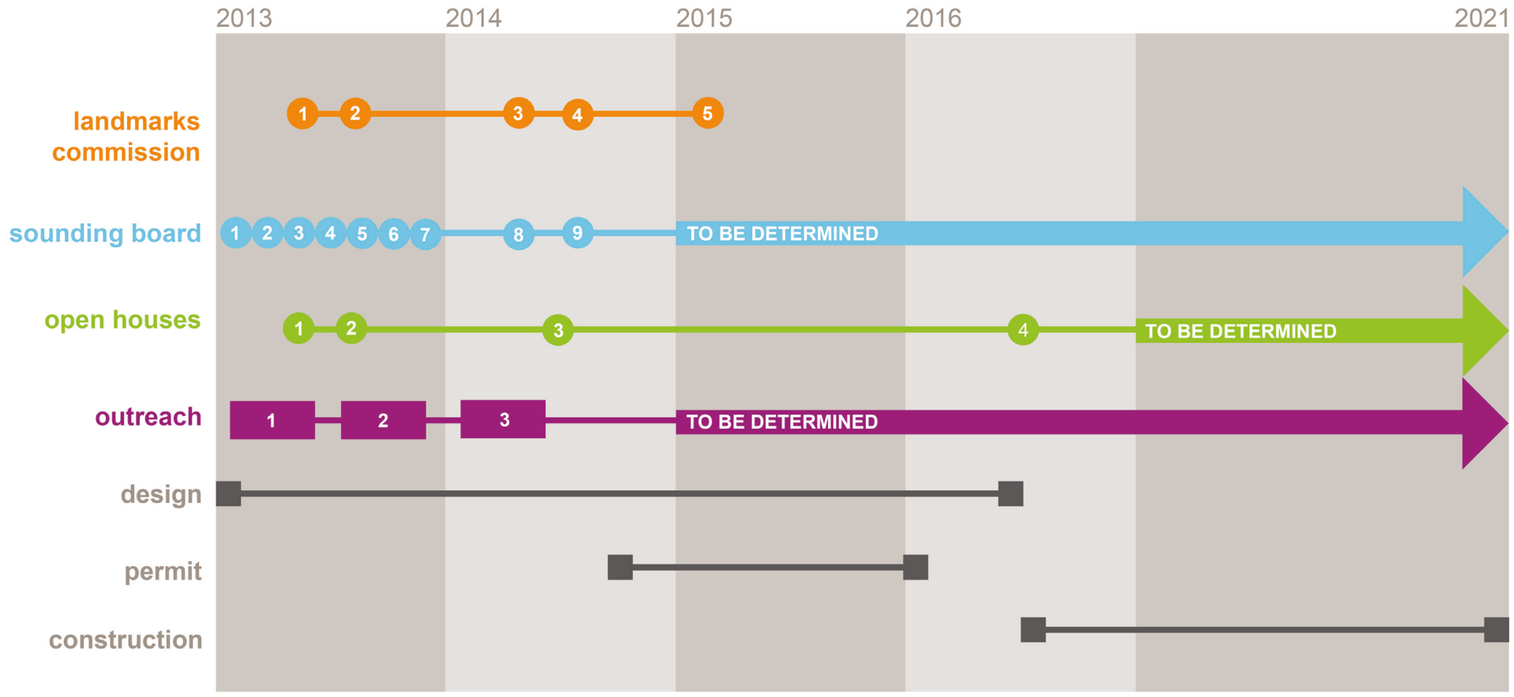


Figure 15. Washington Park Reservoir Improvements Project Community outreach and engagement schedule