

August 28, 2023

City of Mercer Island  
Community Planning and Development  
9611 Southeast 36th Street  
Mercer Island, Washington 98040

Re: Shoreline Variance Request (Pile Diameter) for the Luther Burbank Park Waterfront Improvements Project

To Whom It May Concern:

The City of Mercer Island (City) is proposing the Luther Burbank Park Waterfront Improvements Project (Project) to repair, maintain, and enhance the waterfront program at Luther Burbank Park in the City of Mercer Island, Washington. This letter includes a request for a variance from piling diameter requirements per Mercer Island City Code (MICC) 19.13.050(H)(7). Separate applications are being provided to cover variance requests for dock width, grating, and fixed pier height.

A Shoreline Variance was previously requested from MICC 19.13.050(H)(7) for relief from pile spacing requirements. However, design changes in response to the City's February 2023 comments have occurred to space piles at 18 feet apart, consistent with the code requirement that "piling sets beyond the first shall also be spaced at least 18 feet apart."

## 1 Project Overview

The Project includes repairing the north dock structure and replacing and reconfiguring the central and south dock structures to accommodate waterfront programming and current and projected watercraft uses at the park. Other waterside improvements include installing a grated overwater public access platform in the nearshore to improve access to the water along the existing plaza area.

The Project also includes upgrades to the waterfront plaza and Boiler Building. These include Boiler Building repairs (i.e., new roof, seismic retrofits, and new lighting); Boiler Building restroom annex renovation to improve the restroom facilities and construct a new rooftop viewing deck; concession stand repairs; and waterfront plaza renovations and access upgrades. The Project will improve access to the waterfront by creating new Americans with Disabilities Act (ADA) and universally accessible routes from the plaza to the viewing deck on the existing Boiler Building annex restroom rooftop and to the expanded north beach area, which the Project will improve with fish habitat gravel and riparian plantings. The accessible route will connect to the adjacent future south shoreline trail that will be constructed as part of a separate project. The accessible route will also connect to the existing trail that continues north of the Project area. All proposed waterfront

improvements including the dock structures and gangways will also meet the ADA accessibility requirements. The waterfront plaza renovations and access upgrades will incorporate low-impact development features that will provide stormwater buffering and biofiltration functions similar to a vegetated shoreline. An irrigation intake system will also be installed at the plaza.

A Project description, containing a detailed narrative of each of the elements described previously and Project drawings, is included as attachments to the Joint Aquatic Resources Permit Application (Exhibit 4).

## 2 Shoreline Master Program Compliance

The Project is located within the City's Shoreline Master Program (SMP) jurisdiction, within the Urban Park shoreline environment on Lake Washington. Per the SMP, the Urban Park shoreline environment consists of shoreland areas designated for public access and active and passive public recreation. The purpose of the Project is to optimize public access, recreational uses, and public safety, including reconfiguring the waterfront park to better accommodate small boats and nonmotorized watercraft and to improve universal access to the docks, viewing deck, and beach while avoiding and minimizing potential impacts to sensitive environments and resulting in no net loss of ecological function.

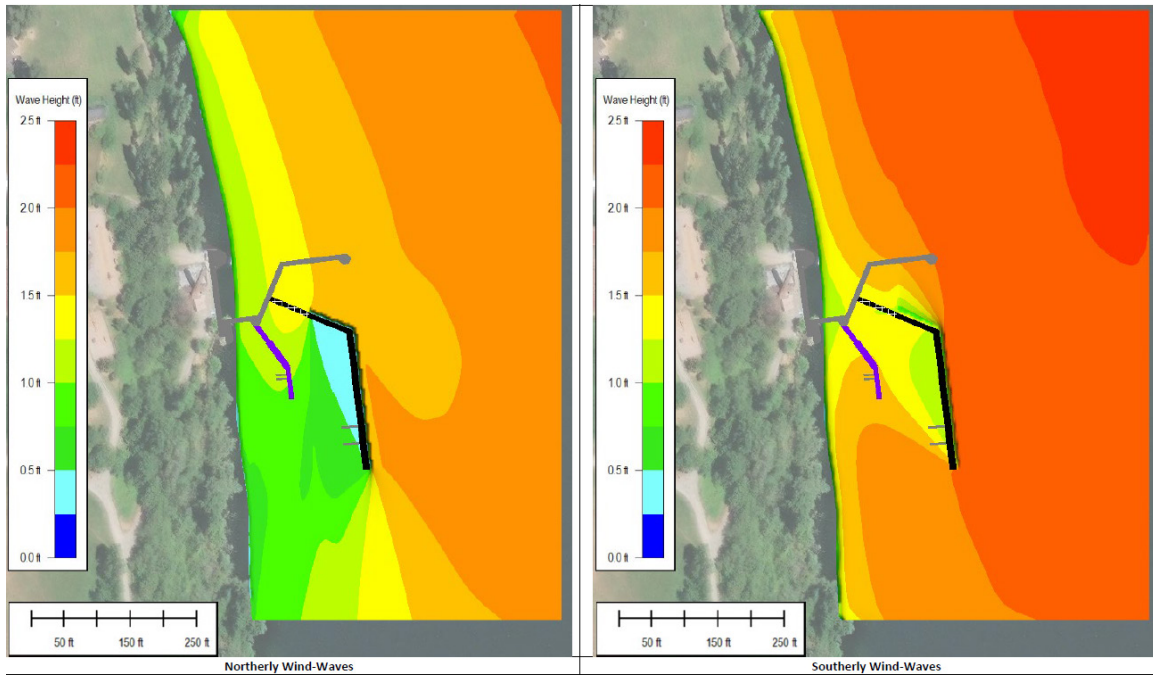
Although public access piers, docks, or boardwalks are allowed uses, the City is requesting a Shoreline Variance from MICC 19.13.050(H)(7) to allow the first set of piles at the dock to be greater than 10 inches in diameter and the remaining piles to be greater than 12 inches in diameter.

The City is seeking a variance from MICC 19.13.050(H)(7) to allow the first set of piles at the dock structure to be greater than 10-inch-diameter and the remaining piles to be greater than the 12-inch-diameter maximum requirements in the SMP. The City is proposing 16-inch-diameter steel piles to be installed along the south dock, which exceeds the maximum diameter requirement of 10 inches for the first set of piles. The City is also proposing 24-inch-diameter piles to be installed to support the wave attenuation float, which exceeds the 12-inch maximum diameter for piles beyond the first set. Specifically, the City is proposing the following:

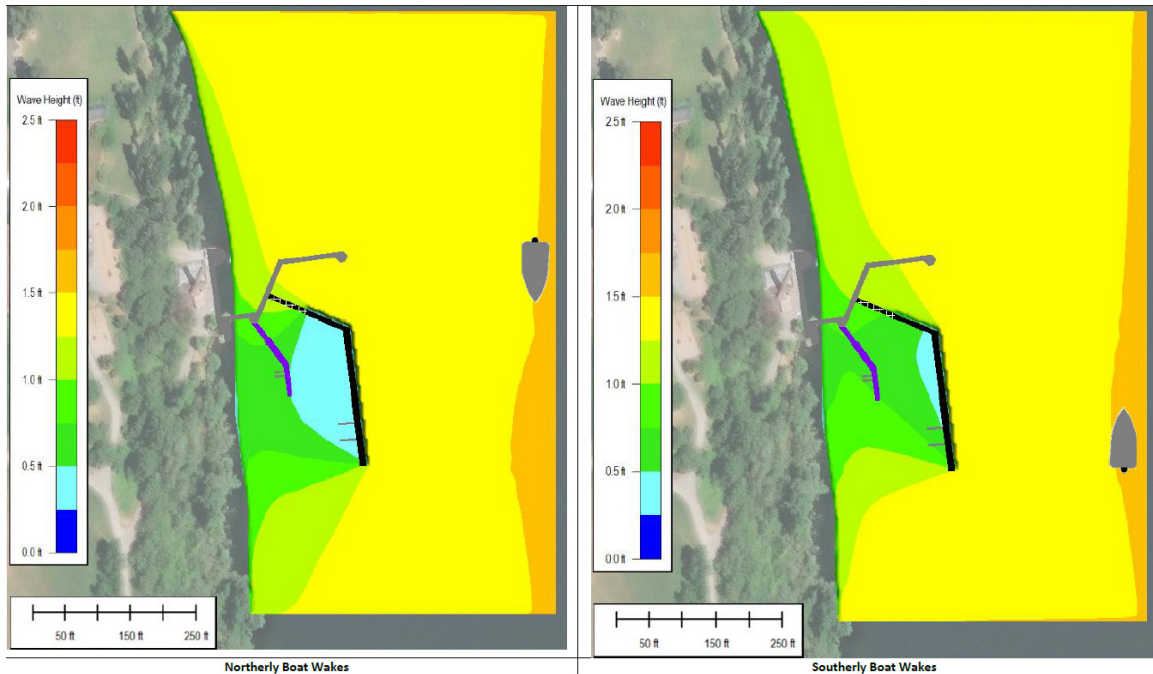
- **Central Dock Structure:** Replacing approximately twenty-six 12- to 14-inch creosote-treated timber piles with approximately sixteen 24-inch-diameter steel piles and one 16-inch-diameter steel pile
- **South Dock Structure:** Replacing approximately 42 piles (forty 12- to 14-inch creosote-treated timber piles; two 16-inch concrete encapsulated piles) with approximately six 16-inch-diameter steel piles

The pile diameter requirements were determined through geotechnical evaluations completed at the site, wave and wake modeling completed by the coastal engineer, and structural engineering analysis. Figures 1 and 2 include graphic depictions of modeling results for both wave and boat wake modeling completed for the proposed design.

**Figure 1**  
**Plan View of Resulting 100-Year Significant Northerly and Southerly Wind-Wave Heights**



**Figure 2**  
**Plan View of Resulting Boat Wake Heights Relative to Northerly and Southerly Boat Wakes**



Because of wave and wake conditions at the site, larger pile diameters are required to support the dock from shifting or breaking in typical conditions. For example, based on the modeling completed for the site, if 10-inch-diameter piles were installed as the first set of piles, the dock would experience over 6 inches of deflection, or anticipated movement of the structure, during a storm survivability event and over 16 inches of deflection in a typical boat wake scenario. Using 16-inch-diameter piles in the same scenarios reduces deflection to approximately 4 and 2 inches for storm wave and boat wake events, respectively. This results in significantly reduced movement and is more favorable for both user safety and ADA accessibility during typical conditions. Similar models were completed for the other 16-inch-diameter piles and 24-inch-diameter piles and had comparable results that these diameters provide the structure with more stability during typical wave and wake conditions that are anticipated for the site.

### **3 Shoreline Variance Requirements Consistency**

The City SMP does not have specific variance criteria. However, per MICC 19.13.020(C)(2), whenever an applicant seeks a variance, the applicant shall provide the City with a plan that demonstrates that the project will not create a net loss in ecological function to the shorelands. The Critical Areas Report for the Project, included with this letter, provides a demonstration of no net loss of ecological function to the shoreline environment from the Project.

The Washington State Department of Ecology (Ecology) promulgates the Shoreline Management Act at a state level and reviews Shoreline Variances once they are approved by the local jurisdiction. To support City and Ecology review, the tables in Exhibit 3 describe the Project's consistency with Shoreline Variance criteria in the Washington Administrative Code (WAC) 173-27-170.

### **4 Conclusion**

A Shoreline Variance is being requested due to extraordinary circumstances that present a hardship at the site, including wave and wake conditions that can be addressed through the design of the Project. Other extraordinary circumstances at the site are related to consistently increasing use of Luther Burbank Park and the need to provide safe access and improve accessibility for those with mobility limitations that visit the park. It is expected that the new Sound Transit light rail line, which will include a stop near the park, will increase park visitors and further the need for appropriate public access improvements and safety upgrades related to this variance request. Pile diameters exceeding size requirements will comply with Shoreline Variance criteria as described in the previous sections and in Attachment 1.

The Project will adequately offset temporary construction impacts and avoid or minimize long-term impacts consistent with MICC 19.13.020(C) and critical areas mitigation sequencing requirements per MICC 19.07.100. The Project minimizes impacts to the nearshore environment through the use of grated surfacing to the maximum extent feasible. Although the Project proposes solid surface decking

for the wave attenuator/mooring float in the deeper water (a variance from grating requirements is covered under separate application), impacts to salmonids are diminished for deeper water cover because the habitat is less suitable for predators and light and dark shadows are diminished in deeper water. Overall, it is anticipated that the Project will result in no net loss of shoreline ecological function, as demonstrated in the Critical Areas Report provided with this application.

Through implementation of avoidance and minimization measures, it is expected that the Project will comply with MICC 19.13.040 for allowed activities, including public parks and open space, and restoration of ecological functions, including shoreline habitat and natural systems enhancement. Therefore, we believe that the Project as proposed meets the intent of the SMP and complies with Shoreline Variance criteria per WAC 173-27-170.

Thank you in advance for your attention to this project. Please feel free to contact me by phone at (206) 903-3374 or by email at [jjensen@anchorqea.com](mailto:jjensen@anchorqea.com) with any questions.

Sincerely,

A handwritten signature in black ink that reads "Joshua Jensen". The signature is written in a cursive style with a large, looping initial "J".

Josh Jensen  
Senior Managing Environmental Planner  
Anchor QEA, LLC

cc: Paul West, City of Mercer Island

## **Attachment**

Attachment 1 Analysis of Compliance with Shoreline Variance Requirements (WAC 173-27-170)

## Attachment 1

Analysis of Compliance with Shoreline

Variance Requirements (WAC 173-27-170)

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## Consistency with WAC 173-27-170, Review Criteria for Variance Permits

Code Reference	Development Standard Compliance
<p>1) Variance permits should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW 90.58.020. In all instances the applicant must demonstrate that extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental effect.</p>	<p>The City is seeking a variance from the following criteria in the SMP per MICC 19.13.050(H) for public access docks or boardwalks.</p> <p>The City is seeking a variance from <b>pile diameter requirements</b> per MICC 19.13.050(H)(7) to allow the first set of piles at the dock structure to be greater than the 10-inch-diameter maximum and the remaining piles to be greater than the 12-inch-diameter maximum requirements in the SMP. The City is proposing 16-inch-diameter steel piles to be installed along the south dock, which exceeds the maximum diameter requirement of 10 inches for the first set of piles. The City is also proposing 24-inch-diameter piles to be installed to support the wave attenuation float, which exceeds the 12-inch maximum diameter for piles beyond the first set.</p> <p>The pile diameter requirements were determined through geotechnical evaluations completed at the site, wave and wake modeling completed by the coastal engineer, and structural engineering analysis. The wave and wake conditions at the site present an extraordinary circumstance that can be addressed through the design of the Project. Because of wave and wake conditions at the site, larger pile diameters are required to support the dock from shifting or breaking in typical conditions.</p> <p>Other extraordinary circumstances at the site are related to consistently increasing use of Luther Burbank Park and the need to provide safe access and improve accessibility for those with mobility limitations that visit the park. It is expected that the new Sound Transit light rail line, which will include a stop near the park, will increase park visitors and further the need for appropriate public access improvements and safety upgrades related to this variance request.</p> <p>The dock structure and platform are located within a shoreline environment that was previously used as a steam plant and is heavily modified from natural conditions, including shoreline fill and overwater development and structures. Consistent with RCW 90.58.020, the Project is compliant with statewide standards for shoreline protection. The City is committed to incorporating environmental enhancements and avoidance and minimization measures into the Project to demonstrate no net loss of ecological functions. Measures include reducing net overwater coverage and shoreline landscaping and</p>

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	<p>riparian plantings. Additionally, BMPs will be implemented during construction to reduce potential impacts to the shoreline environment.</p> <p>Overall, the Project will improve public access and safety at the dock and plaza area and enhance the user experience. The Project is consistent with the approved master plan for Luther Burbank Park and is supported by the City's parks, recreation, and open space plan adopted in 2022.<sup>1</sup> The Project is not anticipated to result in any detriment to the public interest.</p>
<p>2) Variance permits for development and/or uses that will be located landward of the ordinary high water mark (OHWM), as defined in RCW 90.58.030 (2)(c), and/or landward of any wetland as defined in RCW 90.58.030 (2)(h), may be authorized provided the applicant can demonstrate all of the following:</p> <ol style="list-style-type: none"> <li>1. That the strict application of the dimensional standards set forth in the applicable master program precludes, or significantly interferes with, reasonable use of the property;</li> <li>2. That the hardship described in (a) of this subsection is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the master program, and not, for example, from deed restrictions or the applicant's own actions;</li> <li>3. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program and will not cause adverse impacts to the shoreline environment;</li> <li>4. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;</li> <li>5. That the variance requested is the minimum necessary to afford relief; and</li> <li>6. That the public interest will suffer no substantial detrimental effect.</li> </ol>	<p>Not applicable. Variance permits are not being requested for upland development or uses.</p> <p>For compliance with WAC 173-27-170(3), in-water activities must demonstrate compliance with WAC 173-27-170(2)(b-f). These activities are consistent with these standards described as follows:</p> <ol style="list-style-type: none"> <li>b) The hardship on the applicant for meeting the standards of this SMP is specifically related to the property and unique conditions. For the dock structure variance requests, wider piles are proposed to protect the structure and its users against higher wave and wake action, which presents extraordinary circumstances that can be addressed through the design of the Project. The 16-inch-diameter and 24-inch-diameter piles are proposed to accommodate the dock structure in response to evaluated geological conditions.</li> <li>c) The Project includes replacing an existing dock and providing waterfront improvements that are compatible with existing authorized uses and programs at the park. This is consistent with the comprehensive plan and SMP and will result in no net loss in ecological function at the site.</li> <li>d) The existing dock structure to be replaced is designed specifically to protect shoreline restoration ecological functions and protect against wave and wake conditions at the site that have the potential to impact user safety if not addressed through structural methods. The variance will provide needed safety at a public dock and ADA accessibility in a unique waterfront environment and is not expected to constitute a grant of special privilege not enjoyed by the other properties in the area.</li> <li>e) The requested variance is the minimum necessary to afford relief.</li> <li>f) The variance is being requested to support a structure designed to protect shoreline restoration ecological functions and public dock users</li> </ol>

<sup>1</sup> City of Mercer Island, 2022. City of Mercer Island Parks, Recreation *and* Open Space Plan. March 2022. Available at: <https://www.mercerisland.gov/parksrec/page/pros-plan-2022>.



Code Reference	Development Standard Compliance
	<p>from wave and wake conditions in a unique waterfront environment, and it is expected that the public will benefit from the proposed waterfront improvements.</p>
<p>3) Variance permits for development and/or uses that will be located waterward of the ordinary high water mark (OHWM), as defined in RCW 90.58.030 (2)(c), or within any wetland as defined in RCW 90.58.030 (2)(h), may be authorized provided the applicant can demonstrate all of the following:</p> <ul style="list-style-type: none"> <li>a) That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes all reasonable use of the property;</li> <li>b) That the proposal is consistent with the criteria established under subsection (2)(b) through (f) of this section; and</li> <li>c) That the public rights of navigation and use of the shorelines will not be adversely affected.</li> </ul>	<p>A variance for dimensional and performance standards for development located waterward of the OHWM is being requested as described earlier in response to WAC 173-27-170(1) and (2). The strict application of the bulk dimensional standards set forth in the City's SMP interferes with the reasonable use of the property by requiring dock dimensions that limit the City's ability to replace the existing structure in a manner that accommodates the unique waterfront environment, including challenging wave and wake conditions, and adequately protects the safety of public users while improving access to the shoreline.</p> <p>For example, standard SMP conditions include specific pile diameter limitations, which would significantly reduce the dock's structural capacity to reasonably protect shoreline restoration ecological functions and protect facilities against wind and wake and geological conditions experienced at the site as demonstrated through modeling and geotechnical review.</p> <p>The proposed dock repairs to improve public access and use of the shoreline are included in the 2006 <i>Luther Burbank Park Master Plan</i>, which is cited in the most recent comprehensive plan. The <i>Luther Burbank Park Master Plan</i> was used to guide the design process, which provides a vision of a waterfront activity center that is centered around small boats. The dock structure is located within a shoreline environment that was previously used as a steam plant and is heavily modified from natural conditions, including shoreline fill and overwater development and structures.</p> <p>Consistent with RCW 90.58.020, the Project is compliant with statewide standards for shoreline protection. The City is committed to incorporating environmental enhancements and avoidance and minimization measures into the Project to demonstrate no net loss of ecological functions. Measures include reducing net overwater coverage and shoreline landscaping and riparian plantings. Additionally, BMPs will be implemented during construction to reduce potential impacts and result in no net loss of shoreline ecological functions, as described in the Critical Areas Report and Biological Evaluation included with the JARPA (Exhibit 4).</p> <p>The variance is being requested by the City to provide protection of shoreline restoration ecological function and safe access and operation to users who frequent the Luther Burbank Park dock. The variance is for a public facility and</p>

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	is not being requested to grant special privilege that could not be enjoyed by other properties in the area, and it would allow the minimum necessary to afford relief. Overall, the Project will improve public access and safety at the Luther Burbank Park dock and waterfront plaza. The Project is supported by the City and park users and is not anticipated to result in any detriment to public interest.
4) In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example if variances were granted to other developments and/or uses in the area where similar circumstances exist the total of the variances shall also remain consistent with the policies of RCW 90.58.020 and shall not cause substantial adverse effects to the shoreline environment.	The City is not aware of other variances that have been issued in the area for similar circumstances.
5) Variances from the use regulations of the master program are prohibited.	Not applicable. A variance from the use regulations of the SMP is not being requested for the Project.

Notes:

BMP: best management practice

City: City of Mercer Island

JARPA: Joint Aquatic Resources Permit

MICC: Mercer Island City Code

Project: Luther Burbank Park Waterfront Improvements Project

RCW: Revised Code of Washington

SMP: Shoreline Master Program