April 30, 2024

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.

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 an attachment to the Joint Aquatic Resources Permit Application (Exhibit 4).

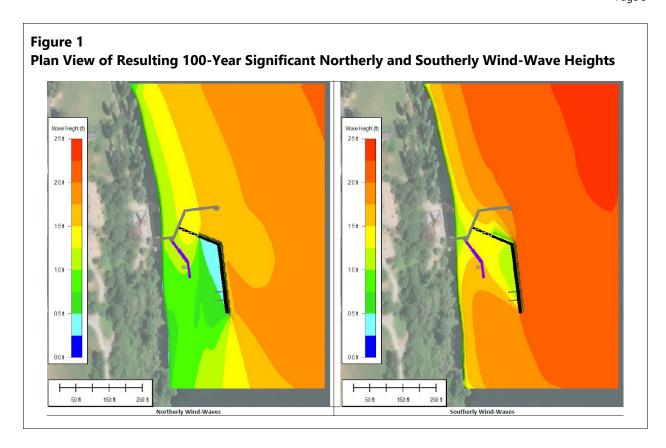
2 Shoreline Master Program Compliance

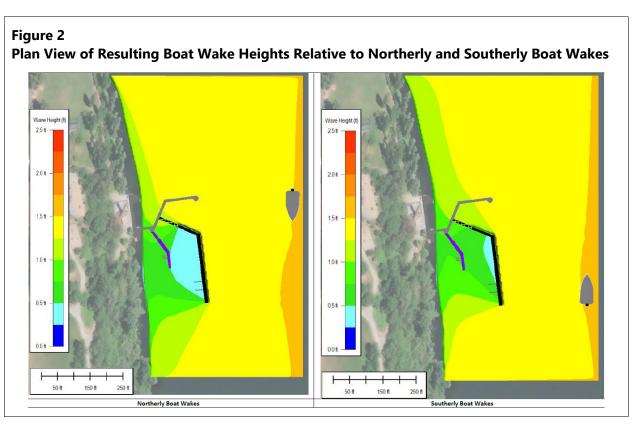
The Project is located within the City's Shoreline Master Program (SMP) jurisdiction, within the Urban Park shoreline environment on Lake Washington. Per the SMP, the Urban Park shoreline environment consists of shoreland areas designated for public access and active and passive public recreation. The purpose of the Project is to modernize the park to an extent consistent with other similarly sized waterfront parks on Lake Washington and aligned with current standards for accessibility and safety. This will be accomplished by optimizing public access, recreational uses, and public safety, including reconfiguring the waterfront park to better accommodate small boats and non-motorized 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.

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 central dock, 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 wave modeling results for both wind-wave and boat wake modeling completed for the proposed design.





Because of anticipated storm wind-wave and typical boat wake conditions at the site, larger pile diameters are required to support the docks from permanently shifting, breaking apart or causing damage to the piles. For example, based on the analysis completed for the South Dock Reconfiguration, if 10-inch-diameter piles were installed as the first set of piles, the dock would experience over 16 inches of deflection, or anticipated movement of the structure, during a storm survivability event and over 6 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 analyses were completed for the Central Dock Reconfiguration with 24-inch-diameter piles limiting deflections to approximately 12 inches from the large storm survivability loads. Typical boat wake wave deflection was found to be approximately 6 inches. These diameters are required to provide these floating structures with greater stability, longevity, and they increase user safety during the wind-wave and boat wake conditions that are anticipated for the site.

3 Reasonable Use

Per Washington Administrative Code (WAC) 173-27-170(2)(a), the applicant must demonstrate that "the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes, or significantly interferes with, reasonable use of the property." "Reasonable use" has been defined broadly by the courts, so further clarification is necessary to understand what a reasonable use of the property is in the context of this project. Based upon the needs of the Project applicant and the character and scale of the subject parcels and other similar urban waterfront parks on Lake Washington, the denial of a structurally sound pile diameter to support safe use of a public and ADA-accessible dock from this project precludes "reasonable use" of the property. As such, the following discussion will establish how the notion of "reasonable" has changed over time and how the Project, as proposed, will result in a reasonable use of the parcel.

The preclusion of "reasonable use" of a parcel dates back to the original variance criteria found in the Shoreline Management Act of 1971 (SMA). However, the term "reasonable use" or "reasonable" is not defined by the SMP, the SMA, or within WAC 173-26 or RCW 90.58. Merriam-Webster defines the word "reasonable" as "moderate, fair" and "not extreme or excessive." In addition, the term has been the subject of several Shoreline Hearings Board (SHB) cases, including the following:

• Garrett v. Ecology (2005):

The determination of whether strict application of a shoreline plan precludes or interferes with

"reasonable use" of property is always a fact-specific inquiry that examines a number of factors.

The Board will look at the uses of adjacent and nearby lots, the reasonable expectations of the

owners, and the unique attributes of the lot.

Buechel v. Ecology (1994):
 The size, location, and physical attributes of a piece of property are relevant when deciding what is a reasonable use of a particular parcel of land.

Luther Burbank Park was established in 1968 by King County, and the public dock was built in 1974 as a regional park facility. The dock is located within the largest park and is also the largest dock on Mercer Island. The dock has always been a focal point of waterfront programming at the park and is used by the public for water-based programming such as use by small motorized and non-motorized watercraft users that require safe access to the water. There is a high and growing public demand for kayak and sailing programs at Luther Burbank Park. This demand was expressed in the 2006 Luther Burbank Park Master Plan, which envisioned this waterfront complex as a small craft boating center. The master plan, the result of a 2-year planning process with high public involvement, represents reasonable use of this site. The proposed project is a direct result of the master plan. The dock is the only public dock that provides this type of programming on Mercer Island and is part of the limited inventory of day use moorage on Lake Washington. A 2015 study found that there are 237 day use slips on Lake Washington, and 54% of these are in Kirkland. The dock is located on the shoreline of Lake Washington, in a unique waterfront environment that experiences challenging wave and wake conditions, particularly given recent increases in ski and wake surfing boats on the lake.

Additional park amenities include a fishing pier and swimming beach that are located to the south of the dock. These features of the park do not provide similar programming as the dock, so waterfront access to small motorized and non-motorized watercraft is not provided. In the immediate vicinity of the dock are public trails that extend from the parking lot and lead to the promenade and steam plant building. This area provides a central meeting point for groups of watercraft and other park users to congregate and access the water.

The Seattle metro area population has doubled since the park was built in 1974 and is expected to grow another 10% by 2035. A statistical survey of users of Luther Burbank Park found that 60% did not live on Mercer Island. The park is a 2-minute drive from I-90, a 7-minute walk from transit, and is bordered by the Mountains to Sound Regional Trail. The regional nature of this park means that an increasing population will result in an increase in demand for this park. This includes more people using the dock for recreational activities such as small watercraft use. Another City survey of waterfront visitors in 2018 found that 10% come by boat. The new Sound Transit 2 light rail line will include a stop near the park. Luther Burbank Park is one of only three shoreline locations within a 10-minute walk of a Sound Transit light rail station. This will also increase park visitors and the need for waterfront public access improvements and programming at the site. This anticipated increase in park use requires that safety measures and ADA-accessible features be incorporated into the dock

¹ The Berger Partnership, 2006. Luther Burbank Park Master Plan, City of Mercer Island, Washington. April 2006. Available at: https://www.mercerisland.gov/parksrec/page/luther-burbank-park-master-plan-2006.

design to support increased use of the park's waterfront facilities. It is generally recognized in public lands management that providing users with appropriate access facilities reduces impacts on nearby critical areas. The boating facility, a swim beach, and pocket beaches at Luther Burbank Park serve to protect the remaining 3/4 mile of undeveloped, unarmored shoreline.

There are relatively few large waterfront public parks on Lake Washington. The few that do exist are regulated under the SMA and all include docks that offer similar programming as the Luther Burbank Park dock and feature dock widths greater than 6 feet wide that extend to deeper depths, requiring wider pile diameters to support them. For example, the Meydenbauer Bay Park dock in Bellevue includes an up to 22.5-foot-wide dock that is supported by up to 18-inch-diameter piles. Marina Park in Kirkland includes a 12-foot-wide dock that is supported by up to 14-inch-diameter piles. These docks require greater pile diameters to withstand waves and wakes in Lake Washington and support longer and wider docks that are ADA-accessible and provide safe programming to park visitors.

Just as design and construction capabilities and budgetary constraints have changed in the preceding decades, so has the perception of what is "reasonable" within a shoreline setting. The Project area was initially developed for public park use around 50 years ago. The initial programming included motorized craft, but non-motorized watercraft use has been more recently introduced to the park in this area. Similarly, there has been an increase in safety regulations and requirements to provide improved accessibility to public structures, necessitating the need for wider pile diameters to improve access and safety for all public users.

The aforementioned other public waterfront parks on Lake Washington, each of which has been recently updated to more current public use and safety and mobility guidelines, establish a modern concept of "reasonableness" for parks of this type. Therefore, the proposed Project seeks to fully establish a reasonable use of the subject property, through the installation of docks with appropriately sized piles, which align with the general scale, character, and dimensions of those found at these other parks. Thus, strict application of the dimensional standards of the City's SMP preclude reasonable use of the property. The applicant therefore proposes use of current design and construction techniques in order to redevelop the existing dock to what would today be considered a reasonable use of the shoreline property.

4 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 SMA 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 WAC 173-27-170.

5 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 with any questions.

Sincerely,

Josh Jensen

Senior Managing Environmental Planner

Anchor QEA

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)

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

Code Reference	Development Standard Compliance
Code Reference 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.	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. The City is seeking a variance from pile diameter requirements 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. 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. These improvements will help to bring the park up to standards that are consistent with those that are present in other, more recently updated, waterfront parks on Lake Washington.
	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. 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

Code Reference	Development Standard Compliance
	include reducing net overwater coverage and shoreline landscaping and riparian plantings. Additionally, BMPs will be implemented during construction to reduce potential impacts to the shoreline environment. 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. ² The Project will not result in any detriment to the public interest.
 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: b) 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; c) 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; d) That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area; e) That the variance requested is the minimum necessary to afford relief; and f) That the public interest will suffer no substantial detrimental effect. 	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: b) The hardship on the applicant for meeting the standards of this SMP is specifically related to the property and the necessity to ensure that the park provide publicly accessible features consistent with the modern standard for urban waterfront parks on Lak Washington. 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. As described in Section 3 of this application, the strict application of the dimensional standards of the City's SMP preclude reasonable use of the property. c) The Project includes replacing an existing dock and providing waterfront improvements that are compatible with existing authorized uses and programs at the park. These improvements are also consistent with the dimensional extents of similar features found at other, more recently updated, urban waterfront parks on Lake Washington. Improvements are also consistent with the comprehensive plan and SMP and will result in no net loss in ecological function at the site.

² 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
	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, including similarly sized waterfront parks on Lake Washington, including Gene Coulon Park, Marina, Park, and Meydenbauer Bay Park. e) The requested variance is the minimum necessary to afford relief. The dock replacement activities are designed to safely support existing programming based on modeled site conditions. This includes providing the minimum pile diameter necessary to safely support dock structures that have been intentionally shifted waterward of the nearshore for habitat preservation purposes, while still supporting programming needs at the park. The pile diameters are consistent with those found at other, more recently updated, waterfront parks on Lake Washington, and are sized to provide the minimum necessary size to accommodate geotechnical and wave and wake conditions that have been modeled at the site. f) The variance is being requested to support a structure designed to protect shoreline restoration ecological functions and public dock users from wave and wake conditions in a unique waterfront environment, and it is expected that the public will benefit from the proposed waterfront improvements. Overall, there will be no substantial detrimental effect to the public interest.
 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: 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; b) That the proposal is consistent with the criteria established under subsection (2)(b) through (f) of this section; and 	a) 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 is consistent with conditions found at similar waterfront parks on Lake Washington and 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.

Code Reference	Development Standard Compliance
Code Reference c) That the public rights of navigation and use of the shorelines will not be adversely affected.	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. 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. 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)
	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 Critica Areas Report and Biological Evaluation included with the JARPA (Exhibit 4 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 is not being requested to grant special privilege that could not be enjoyed by other properties in the area, including similarly sized waterfront parks on Lake Washington, including Gene Coulon Park, Marina, Park, and Meydenbauer Bay Park. As described in Section 3 – Reasonable Use, in the body of this document, there are relatively few large waterfront public parks on Lake Washington. The few that do exist are regulated under the SMA and all include docks that with pile
	diameters that exceed 12 inches that support similar programming as the Luther Burbank Park docks. For example, the Meydenbauer Bay Park dock

Code Reference	Development Standard Compliance
	in Bellevue includes 18-inch diameter piles. Marina Park in Kirkland includes a dock with 14-inch diameter piles.
	Just as design and construction capabilities and budgetary constraints have changed in the preceding decades, so has the perception of what is "reasonable" within a shoreline setting. The Project area was initially developed for public park uses around 50 years ago. The initial programming included motorized craft, but non-motorized watercraft use has been more recently introduced to the park in this area. Similarly, there has been an increase in safety regulations and requirements to provide improved accessibility to public structures, necessitating the need for wider pier infrastructure to improve access and safety for all public users. The aforementioned other public waterfront parks on Lake Washington, each of which has been recently updated to more current public use and safety and mobility guidelines, establish a modern concept of "reasonableness" for parks of this type. Therefore, the proposed Project seeks to fully establish a reasonable use of the subject property, through the installation of docks with appropriately sized piles, each of which align with the general scale, character, and dimensions of those found at these other parks. Thus, strict application of the dimensional standards of the City's SMP preclude reasonable use of the property. The applicant therefore proposes use of current design and construction techniques in order to redevelop the existing dock to what would today be considered a reasonable use of the shoreline property. b) See previous response for 2) above. c) The Project replaces the existing dock structures with similar dock lengths
	to support current and future programming at the site. With no overall increase in length compared to existing conditions, public rights to navigation will not be adversely affected.
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.

Code Reference	Development Standard Compliance
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