

Technical Memorandum



Date: May 13, 2024

To: City of Mercer Island

From: Devin Melville, Environmental Planner

Project Number: 2109.0169.00 | 210930

Project Name: Blackberry Beach

Re: Blackberry Beach Shoreline Improvements Compliance Narrative

The purpose of this memorandum is to document compliance with the City of Mercer Island City Code (MICC) and the Washington Administrative Code (WAC) requirements for proposed shoreline improvements. The project area includes the waterfront portion of six contiguous parcels, (parcel nos. 0824059185, 0824059184, 0824059189, 0824059029, 0824059181, and 0824059240), located near 3820 East Mercer Way in the City of Mercer Island, that are collectively referred to as Blackberry Beach. This memorandum accompanies a Shoreline Exemption Submittal.

Existing Conditions

The project area is located along the eastern shoreline of Mercer Island and is zoned single-family residential (R-9.6). The landward portion of the parcels contain single-family residences situated to the west of a steep slope. The steep slope extends down toward the shoreline area. One small wetland, Wetland A, is located within the toe-of-slope that adjoins a relatively flat area of grass. Pursuant to MICC 19.07.190.D.1.b, Wetland A is exempt from buffer provisions. The lawn area slopes gradually toward the lake, where the shoreline is armored with a failing timber bulkhead (see Figures 2 and 3). Portions of the bulkhead have broken off and as a result, water is coming in behind the remaining bulkhead and eroding the shoreline.

Existing improvements include a storage shed and two docks. The northern dock consists of grated decking and comprises 890 square feet, with three fingers, five lifts, and one covered slip. The southern dock consists of wood decking and is 350 square feet with one boat lift.



Figure 1. Aerial photo of study area, parcels outlined in yellow. (Source: King County iMap, 2021).



Figure 2. Existing condition of timber bulkhead.



Figure 3. Eroding shoreline behind failing bulkhead.



Figure 4. Northern shoreline/bulkhead conditions.

Project Description

The proposed project seeks to repair the shoreline, prevent further erosion, and ensure safe access to the water. Project elements include removal of the existing timber bulkhead, replacement of the existing bulkhead with a new rock bulkhead and beach cove, and construction of a flat barbeque area. No work is proposed to the two existing docks. Creation of the beach cove includes softening of the shoreline and creation of a more natural gradient, and the planting of nine native trees, three shrubs, and 472 square feet of native groundcovers within the nearshore environment.

The existing bulkhead is comprised of timber beams that extend the entire frontage of the shoreline (approximately 146 linear feet). A portion of the bulkhead is failing and the bank of the shoreline is being eroded as a result. Additionally, the current bulkhead prohibits safe shoreline access. The bulkhead is likely to continue to deteriorate if left alone and water will continue to erode the shoreline behind the damaged structure. Replacement of shoreline stabilization measures is allowed when the existing structure can no longer adequately serve its purpose (MICC 19.13.050.B.1.iii). The cove will be created centrally along the shoreline, with new rock added on either side of the cove to protect adjacent areas of the shoreline and to tie into neighboring properties to the north and south. The cove will be utilized for safe entry into the water, including the launching of handheld personal watercraft. Additionally, the proposed replacement bulkhead will tie into the neighboring bulkheads to the north and south to provide uniformity and maximize protection from wave action.

To increase usability and enjoyment of the waterfront and proposed beach area, a flat barbeque pad is proposed northwest of the beach cove. The pad will be 120 square feet in size and will be located well outside of the 25 foot structure setback from the OHWM.

Mercer Island Municipal Code Compliance

MICC 19.13.050(B)(1): An existing shoreline stabilization measure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents or waves, and the following conditions shall apply:

- i. The replacement structure should be designed, located, sized, and constructed to assure no net loss of ecological functions.*
- ii. Replacement walls or bulkheads shall not encroach waterward of the ordinary high water mark or existing structure unless the primary structure was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure. Soft shoreline stabilization measures that provide restoration of shoreline ecological functions*

- may be permitted waterward of the ordinary high water mark.*
- iii. For purposes of this section standards on shoreline stabilization measures, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure which can no longer adequately serve its purpose. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.*
 - iv. Construction and maintenance of normal protective bulkhead common to single-family dwellings requires only a shoreline exemption permit, unless a report is required by the code official to ensure compliance with the above conditions; however, if the construction of the bulkhead is undertaken wholly or in part on lands covered by water, such construction shall comply with SEPA mitigation.*

The project proposes to remove and replace the existing failing timber bulkhead with a new beach cove area. As mentioned, and shown above in Figure 3, the existing timber bulkhead is failing in several locations and water is coming in behind the bulkhead and eroding the shoreline. As a result, the feature can no longer adequately serve its purpose. Replacement of the bulkhead is necessary to prevent further erosion and will not cause adverse effects to the shoreline or nearshore environment. Implementation of the project will create a more natural shoreline gradient and reduce the amount of linear stabilization. The linear portions of the proposed new rock will be setback behind the existing bulkhead location and will not encroach further waterward. The proposed beach cove will enhance fish habitat through the addition of shoreline gravel, which provides spawning substrate. Plantings proposed near the shoreline will improve water quality, hydrology, and habitat functions. The aforementioned project elements will help to ensure no net loss of ecological functions. The arrangement of the replacement rock, beach cove, and installation of shoreline gravel will ensure the improvement remains stable long-term, dissipates wave energy, prevents upland erosion, and minimizes impacts.

WAC Exemption Criteria Compliance

Each element of the project must individually comply with the exemption criteria found in WAC 173-27-040. Elements of the project are listed below separately and compliance with the appropriate exemption is demonstrated.

Beach Cove Creation

The project proposes to remove the existing failing timber bulkhead and replace with a new beach cove area. Pursuant to WAC 173-27-040(2)(b), replacement of a structure may be authorized as repair and is exempt from Shoreline Substantial Development Permit requirements:

Normal maintenance or repair of existing structures or developments, including damage by accident, fire or elements. "Normal maintenance" includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition. "Normal repair" means to restore a development to a state comparable to its original condition, including but not limited to its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or environment;

The existing timber bulkhead is failing in several locations, allowing water to come in behind the bulkhead and erode the shoreline. Softening of the bulkhead is necessary to prevent further erosion and will not cause adverse effects to the shoreline or nearshore environment. Implementation of the project will create a more natural shoreline gradient and reduce the amount of linear stabilization. The linear portions of the proposed new rock will be setback behind the existing bulkhead and will not encroach further waterward. The proposed beach cove will enhance fish habitat through the addition of shoreline gravel, which provides spawning substrate. Plantings proposed near the shoreline will improve water quality, hydrology, and habitat functions. The aforementioned project elements will help to ensure no net loss of ecological functions. The arrangement of the replacement rock bulkhead, beach cove, and installation of shoreline gravel will ensure the improvement remains stable long-term, dissipates wave energy, prevents upland erosion, and minimizes impacts.

Barbeque Pad

In addition to the above, the project also proposes to construct a flat barbeque area. Pursuant to WAC 173-27-040(2)(a), developments that do not exceed \$5,000 dollars and do not interfere with normal public use of the water are exempt from a Shoreline Substantial Development Permit:

Any development of which the total cost or fair market value, whichever is higher, does not exceed five thousand dollars, if such development does not materially interfere with the normal public use of the water or shorelines of the state. The dollar threshold established in this subsection must be adjusted for inflation by the office of financial management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. "Consumer price index" means, for any calendar year, that year's annual

average consumer price index, Seattle, Washington area, for urban wage earners and clerical workers, all items, compiled by the Bureau of Labor and Statistics, United States Department of Labor. The office of financial management must calculate the new dollar threshold and transmit it to the office of the code reviser for publication in the Washington State Register at least one month before the new dollar threshold is to take effect. For purposes of determining whether or not a permit is required, the total cost or fair market value shall be based on the value of development that is occurring on shorelines of the state as defined in RCW [90.58.030](#) (2)(c). The total cost or fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials;

The total cost of the flat barbeque area is less than \$5,000. This feature will be located outside of the shoreline setback, will comply with hardscape requirements, and will not interfere with public use of the water. The feature is intended to increase recreational usage of the waterfront area for the property owners.

Conclusion

The project proposes to repair and improve the recreational shoreline area by replacing the existing damaged timber bulkhead with a new beach cove area. In addition to the shoreline softening, a flat barbeque area is proposed. As demonstrated, the project complies with the shoreline stabilization provisions of MICC 19.13.050(B)(1) and the WAC exemption criteria of 173-27-040(2)(a) and (b). Ancillary improvements include the installation of nine trees, three shrubs, and native groundcover plantings within the nearshore environment. Additionally, the proposed beach cove will enhance fish habitat through the addition of shoreline gravel, which provides spawning substrate. Overall, implementation of this project will result in no net loss of shoreline ecological functions and will improve existing shoreline habitat and water quality functions, for a net gain to the aquatic and terrestrial nearshore environment.