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**Date:** October 28, 2024

**To: City of Mercer Island**  
Community Planning & Development

**From: Kati Eitzman – Sturman Architects**  
**Brad Sturman – Sturman Architects**

**Re: Jason Brothers, Inc Residence**  
4006 E. Mercer Way  
Mercer Island, WA 98040  
Parcel ID 413190-0005

**Subj.: Critical Area 2 Review – Criteria Compliance**

This application meets the requirements for a Critical Area Review 2 set forth by MICC 19.07.090, MICC 19.07.160, MICC 19.07.170, MICC 19.07.180, and MICC 19.070.190.

The parcel is a 36,116 square foot lot located in a well-established residential neighborhood. Currently, an older single-family residence exists on the lot and will be demolished. The lot has a slope of about 20% and is allowed 35% Lot Coverage. The lot is heavily populated with trees, most of which exist on the western half of the property.

The project is a two-story single-family residence of approximately 8064 square feet of heated space with an attached 1035 square foot garage.

According to the Mercer Island GIS, the project site exists in Critical Areas designated as Potential Landslide Hazard, Erosion Hazard and Seismic Hazard critical areas. Additionally, a qualified professional has also determined the size and scope of a Category III Wetland along the Shoreline of Lake Washington. A buffer reduction from 100 feet to 60 feet is being requested.

**MICC19.07.090 – Critical Area Reviews**

Multiple studies by qualified professionals were conducted on the site:



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-A geotechnical engineering study with subsurface exploration and geological hazards assessment was provided by H. Michael Xue, P.E., Principal Geotechnical Engineer at PanGeo Inc.

-A wetlands reconnaissance study and buffer mitigation plans were provided by Ryan Kahlo, PWS, Senior Ecologist at Facet.

-These studies have been submitted as part of the Land Use permit # CAO24-033.

### **MICC 19.07.160 - Geologically Hazardous Areas**

The project site exists in areas designated by the Mercer Island GIS as Potential Landslide Hazard, Erosion Hazard and Seismic Hazard Critical Areas. All quotations taken from full ecologist report and mitigation plans (*Updated Geotech Report Proposed Residence – 4006 E. Mercer Way*) submitted with this application.

#### **Potential Landslide Hazard:**

- “During our site reconnaissance, we did not observe obvious evidence of slope instability or ground movement at the site. Based on our field observations and the results of our subsurface explorations, in our opinion, the subject site appears to be globally stable in its current configuration.”

#### **Erosion Hazard:**

- “Site soils are anticipated to exhibit low to moderate erosion potential when disturbed and left unprotected. However, in our opinion, the erosion hazards at the site can be effectively mitigated with the best management practice during construction and with properly designed and implemented landscaping for permanent erosion control.”

-During Construction, temporary erosion control measures should be implemented. Options include installing a silt fence at construction perimeter, placing quarry spalls or hay bales at the disturbed and traffic areas, covering stockpiled soil or cut slopes with plastic sheets, constructing a temporary drainage pond to control surface runoff and sediment trap, placing rocks at the construction entrance, etc.

-Permanent erosion controls measure should also be implemented as soon as possible, including plantings and hydroseeding.

#### **Seismic Hazard:**



- “Based on the dense soil conditions below the groundwater table in PG-1, and shallow dense soil conditions and lack of shallow groundwater table in other boring locations, in our opinion, the potential for soil liquefaction during an IBC-code level earthquake at the site is considered low, and special design considerations associated with soil liquefaction is not needed for this project.”

- Based on the site soil conditions, Site Class D (Stiff Soil) may be used for the seismic design of the proposed project.

### **Conclusion:**

-The geotechnical engineer has provided design recommendations which will be implemented, including but not limited to foundation design with use of pin piles. Other considerations discussed include temporary excavation, control of surface water, and wet weather construction. Please see full geotechnical report (*Updated Geotech Report Proposed Residence – 4006 E. Mercer Way*) submitted for all information.

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### **MICC 19.07.170 – Fish and Wildlife Habitat Conservation Areas:**

This is inapplicable to project as no fish and wildlife habitat conservation areas were located on or adjacent to the project site.

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### **MICC 19.07.180 – Watercourses:**

This is inapplicable to project as no watercourse exists on the project site or near enough to be impacted by required buffers.

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### **MICC 19.07.190 - Wetlands:**

All quotations taken from full ecologist report and mitigation plans (*Facet. October 2024. 4006 E. Mercer Way Critical Areas Report*) submitted with this application.

- “Wetland is a Category III, lake-fringe wetland that is contiguous with the Lake Washington shoreline, extending approximately 10-12 feet landward of the OHWM.”



- “As a shoreline-associated wetland, Wetland A is also regulated under the SMP. Under the SMP (MICC 19.13.10[D]6), if the applicable minimizing measures listed in MICC 19.07.190(D)(3) are not implemented, the standard buffer for a Category III wetland with three habitat points is 100 feet. If the minimization measures are implemented, then the wetland buffers under MICC 19.07.190(C) may be applied. The standard buffer for a Category III wetland with three habitat points under MICC 19.07.190(C) is 60 feet. A 10-foot BSBL applies beyond all wetland buffers.”

- “In order to allow the proposed development, the applicant proposes to implement the standard 60-foot buffer for Wetland A under MICC 19.07.190(C)1 by implementing the impact minimization measures under MICC 19.07.190(D)2.”

- “All proposed new development will occur outside of the 60-foot wetland buffer and the 10-foot BSBL. The proposed project will result in enhanced shoreline and wetland/wetland buffer ecological functions. The current condition of the shoreline buffer is degraded and provides little to no protective functions.”

- “In order to ensure no net loss of functions and to maintain compliance with MICC 19.13.050(K)4.i, the project will enhance 75 percent of the area within 20 feet of the OHWM with a mix of native trees, shrubs, and groundcovers. A 124-square-foot wooden boat ramp, which is located in the shoreline setback and Wetland A, will be removed; approximately 100 square feet of existing paved path in the wetland buffer will be removed; and 1,251 square feet of shoreline setback will be planted/restored.”

- “The reduction of impervious surfaces, installation of mitigation plantings, soil decompaction and amendment within the shoreline setback will improve water quality, hydrology, and habitat functions. The proposed planting plan incorporates a diversity of native plant species, including trees, shrubs, and groundcover plants. The proposed plan will provide better protection of the shoreline environment than exists under current conditions.”

- “A comprehensive five-year maintenance and monitoring plan has been prepared. This plan will ensure that proposed enhancement plantings will be maintained, monitored, and successfully established within the first five years following implementation. Overall, a net improvement in on-site shoreline and buffer ecological functions is the expected result of the project.”

### **Conclusion:**

The proposed project will comply with all local, state and federal regulations regarding the Critical Areas discussed above.



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The proposed project will strictly adhere to all Best Management Practices and Mitigation requirements set forth by the geotechnical engineer and ecologist. We believe this project complies with Critical Area regulations set forth in MICC 19.07.090, 19.07.160, 19.07.170, 19.07.180, and 19.07.190.

Sincerely,

Kati Eitzman  
Brad Sturman  
Sturman Architects