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Date: **June 25, 2025**
To: **City of Mercer Island**
Community Planning & Development

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

Re: **RKK Construction Residence**
4115 78th Ave SE
Mercer Island, WA 98040
Parcel ID 362350-0210

Subj.: **Critical Area 2 Project Narrative**

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 19.07.190.

The parcel is a 9,930 square foot undeveloped lot located in a residential neighborhood on Mercer Island. The site has a slope of approximately 17.9% and is allowed 35% lot coverage. It is vegetated with trees and typical undergrowth.

The project consists of a two-story single-family residence with a basement level, totaling approximately 4,718 square feet of heated space and an attached 608 square foot garage.

According to the Mercer Island GIS and the geotechnical study, the site lies within designated Critical Areas for Erosion Hazard, Potential Landslide Hazard, and Seismic Hazard.

MICC19.07.090 – Critical Area Reviews

A Critical Area Study was conducted by a qualified geotechnical engineer on the site:

- A Geotechnical Engineering Study and Critical Area Report were prepared by Earth Solutions NW, LLC (ESNW), led by Kyle R. Campbell, P.E., and Stephen H. Avril.

- These reports include test pit observations, slope stability modeling, erosion and seismic hazard evaluations, and subsurface characterization.

- These studies have not yet been submitted under a formal permit application but will support the forthcoming land use submittal.

MICC 19.07.160 - Geologically Hazardous Areas

The project site is located within areas designated as:
- Erosion Hazard Area (15–39% slopes)
- Landslide Hazard Area (15%+ slopes)
- Seismic Hazard Area

Key findings from ESNW's Critical Area Report (Jan. 31, 2025):

Potential Landslide Hazard:

- "Based on slope stability modeling (SlopeW) and analysis of the soil and grading plans, the development will not adversely affect the long-term stability of the slopes."

- "The residence excavation results in partial unloading of the slope, further improving stability."

Erosion Hazard:

- Soils on site are glacial till with high strength and low erodibility.

- "Best Management Practices (BMPs) such as silt fencing, quarry spalls, swales, and hydroseeding will mitigate erosion risk during construction."

-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:

- "Site soils are classified as Site Class D (Stiff Soil), and seismic design parameters were provided per 2018 IBC / ASCE 7-16."

- "Liquefaction potential is negligible to low due to dense glacial till and lack of shallow groundwater."

Conclusion:

-The geotechnical engineer has provided design recommendations which will be implemented, including but not limited to foundation design recommendations. Other considerations discussed include temporary excavation, control of surface water, and wet weather construction. Please see full geotechnical report 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.

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.

MICC 19.07.190 - Wetlands:

This is inapplicable. No wetlands are located on the project site.

Conclusion:

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

The proposed project will strictly adhere to all Best Management Practices and Mitigation requirements set forth by the geotechnical engineer. 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, Sturman Architects
Brad Sturman. Sturman Architects