

October 4, 2024
File No. 23-223

Rahul Pathak and Severine Kelley
8541 Southeast 82nd Street
Mercer Island, Washington 98040

**Subject: Geotechnical Plan Review and Statement of Risk
Proposed Remodel and Alterations
8541 Southeast 82nd Street, Mercer Island, Washington**

Dear Rahul and Severine,

This letter responds to Mercer Island Geotechnical review comments dated September 23, 2024 for permit #2406-148. Specifically, the following Geotechnical review comments are pertinent to our geotechnical study, and our responses are summarized below.

Overexcavation for New Footings

In lieu of overexcavations below the new garage footings, we understand that the footings will be supported on 2-inch diameter pin piles, as shown on Sheet S2.1 of the current structural plans, with revisions dated October 1, 2024. Our recommendations for 2-inch pin piles are provided in our geotechnical report, with revisions dated June 5, 2024. We anticipate that the construction excavations for the new footing construction will be limited to no more than about 2 to 3 feet below existing grades. In our opinion, the excavations will not negatively impact the tree root zones site. As such, no mitigation measures are required.

Seismic Surcharge

The structural design of the retaining wall has been revised to include a seismic surcharge load of 10H, per the recommendations in our geotechnical report, with revisions dated June 5, 2024.

Geotechnical Plan Review and Statement of Risk

We reviewed the geotechnical engineering aspects of the current plans for the above-referenced project. Our review includes the following:

- Structural plan sheets S1.1 through S5.1 and supplemental structural calculations by SSF Structural Engineering, last revised on October 1, 2024.

The Mercer Island Municipal Code Section 19.07.160(B)(2) states:

Alteration of landslide hazard areas and seismic hazard areas and associated buffers may occur if the critical area study documents find that the proposed alteration:

- a. Will not adversely impact other critical areas;*
- b. Will not adversely impact the subject property or adjacent properties;*
- c. Will mitigate impacts to the geologically hazardous area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and*
- d. Includes the landscaping of all disturbed areas outside of building footprints and installation of hardscape prior to final inspection.*

Based on our understanding of the geologic hazards mapped at the site, as discussed in our geotechnical report, and review of the current plans, it is opinion that criteria *a*, *b*, and *c* are met for this project. PanGEO should be retained for construction support services to verify that criterion *d* is met once earthworks have been completed for the project.

Additionally, the Mercer Island Municipal Code Section 19.07.160(B)(3) states:

Alteration of landslide hazard areas, seismic hazard areas and associated buffers may occur if the conditions listed in subsection (B)(2) of this section are satisfied and the geotechnical professional provides a statement of risk matching one of the following:

- a. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area;*

b. The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe;

c. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; or


d. The development is so minor as not to pose a threat to the public health, safety and welfare.

As currently planned, the site grading will involve cuts and fills of only a few feet below existing site grades. As such, in our opinion, it is our opinion that criteria *d* is applicable to the project. In our opinion, the development is so minor as not to pose a threat to public health, safety and welfare, provided that the project is constructed per the reviewed project plans.

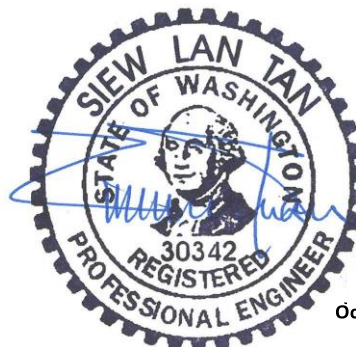
Furthermore, it is our opinion that the proposed development will not increase the potential for soil movement; and the risk of damage to the proposed development and to the adjacent properties will be minimal. However, it should be noted that the use of the word “minimal” does not imply “no risk”. Any development near or in a geologically hazardous area always involves some level of risk.

We trust that the information outlined in this letter meets your needs at this time. Please call if you have any questions.

Sincerely,



Shawn M. Harrington, G.I.T.
Project Geologist



October 4, 2024

Siew L. Tan, P.E.
Principal Geotechnical Engineer