



April 30, 2025

PLUS: Permit & Land Use Services LLC
Attn: Marianne Stover
11553 Palatine Ave N,
Seattle, WA 98133
Via: Email

RE: **CAO25-005** Review Letter 1; 7615 East Mercer Way, Mercer Island, WA 98040

Dear Ms. Stover,

The City of Mercer Island Community Planning and Development Department has completed a review for compliance with the zoning code, Title 19 of the Mercer Island City Code (MICC) for the above critical area review 2 application. The following issues need to be addressed in your resubmission:

Planning:

1. The proposed development is encroaching into the wetland buffer and associated setback as established by SUB20-002. It appears that the retaining wall is outside of the approved building pad. Please provide documentation that would allow this to occur.
2. Show all the setbacks on the plan set for this permit and building permit.

Geotechnical Review:

It is the opinion of the reviewer that the submitted geotechnical report (Earth Solutions NW, LLC, November 1, 2024) has not comprehensively assessed or provided design recommendations to effectively mitigate the risks of the geologic hazards at the site. The entire site should be assessed, including the steep slope to the west of the proposed residential structure.

Specific comments to be addressed include:

1. The statement of risk on page 5 of the report indicates: "The development is so minor as not to pose a threat to the public health, safety and welfare." The reviewer does not agree with this statement of risk when the potential impact of failure of the steep slope to the west and potential post-seismic impacts to the property and structure are considered. Please consider an alternate statement of risk available in MICC 19.07.160.B.3.
2. Please provide a scaled site plan with elevation contours showing the boring locations.
3. Please provide surface and subsurface information for the slope located to the west of the proposed structure.
4. Please provide a slope stability assessment of the entire site (including the

slope west of the residence) under static and seismic loading conditions.

Please include the computer printout of all the results of the slope stability analyses. Appendix B of the geotechnical report was not included in the submitted report.

5. A maximum design earthquake acceleration of 0.35g was used in stability analyses as noted on page 6 of the geotechnical report. Please revise all analyses and design recommendations to include a peak ground acceleration associated with a 2% probability of exceedance in 50 years earthquake as required by IBC. Please clearly show what seismic coefficient was used in the stability analyses.
6. Please show on the slope stability cross-sections the locations and subsurface information (SPT, soil type and groundwater condition) of the borings used to generate the stratigraphy shown on the sections. Please provide discussion on the stratigraphic changes from one section to another and how the groundwater level was determined across the sections.
7. Please review the soil strength values assigned under seismic loading conditions and provide supporting information for their use. An increase in cohesion while maintaining the same effective friction angle would result in a higher factor of safety against slope instability under seismic loading which would not be expected. Please revise soil strengths and slope stability analyses.
8. Unless otherwise determined, it should be assumed that the residence may be impacted by a future landslide since a landslide reached the garage in 1997. Please provide mitigation recommendations. Please consider all types of landslide failures.
9. Please assess the potential for liquefaction at the site and estimate post-liquefaction settlement, lateral spreading or flow failures as required by IBC using a peak ground acceleration associated with a 2% probability of exceedance in 50 years earthquake. Please include liquefaction assessment calculations, any post-liquefaction settlement calculations, residual strength determinations and associated stability analyses and/or lateral deformation calculations for review.
10. On page 14 of the report, an interceptor drain was recommended by Earth Solutions NW to "improve site conditions related to stability...". Please indicate where the interceptor drain is located along with specific design details such as depth, pipe diameter, construction recommendations, etc.
11. The proposed foundation design as discussed on page 7 of the report, involves the use of shallow foundations "bearing on undisturbed competent native soil, recompacted native soil, or new structural fill." The recommendation goes on to indicate "Based on conditions observed during the fieldwork, we recommend new foundations be supported on a structural fill mat consisting of at least two feet of crushed rock structural fill placed on a woven geotextile (Mirafi 500X or approved alternative) that is underlain by a firm subgrade." It is the opinion of the reviewer that the reported site conditions do not warrant the use of shallow foundations for support of the proposed structure. On page 3 of the report, "Native soils observed at the exploration sites chiefly consisted of loose to medium dense colluvial and

ancient landslide deposits that were characterized as sand (USCS: SM, SP-SM and SP) and silt (USCS: ML)... The upper soils were described as colluvium due to chaotic texture and the presence of organic debris.”

Reviewing logs for borings B-6 and B7, the thickness of what would be considered unsuitable soils for support of shallow foundations extends at least 25 feet below existing grade. Floating shallow foundations on landslide debris is not considered in conformance with the local geotechnical engineering standard of practice. Due to the “chaotic texture and presence of organic debris” it is unrealistic to accurately estimate foundation settlements over the lifespan of the structure. In addition, the presence of potentially liquefiable soils could result in post-earthquake differential ground surface settlement and/or lateral spreading or debris flow failure. These post-earthquake effects could significantly impact the structural integrity of the proposed structure. The associated life safety issue would require mitigation recommendations before a building permit could be approved.

Since the reviewer’s opinion on the appropriate foundation design for the structure differs significantly from the geotechnical engineer of record, an independent third-party review can be requested by the applicant. Please contact the Mercer Island Building Official (gareth.reece@mercergov.org).

The City’s processing of the critical area review 2 application has been put on hold until these issues are resolved. Pursuant to MICC 19.15.110, all requested information must be submitted within 60 days or a request for extension requested. The deadline for a complete response or request for extension is June 30, 2025. If a complete response is not received or an extension response has not been received prior to that date, the application will expire and be canceled for inactivity. No additional notification regarding this deadline or expiration of the application will be provided.

Best regards,

Ryan Harriman

Ryan Harriman, EMPA, AICP – Planning Manager
City of Mercer Island Community Planning and Development
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Phone: (206) 275-7717

Responding and Resubmitting: [Click for More Detailed Instructions](#)

1. Reply to all review comments within the review letter.
2. Update your drawings, and any necessary supplemental documents or forms.
3. Upload updated drawings to the [Mercer Island Permit Submittal Portal](#).

Having Trouble? Please Review the Following:

[Accessing, Reviewing, and Responding to MlePlan Comments](#)

[Troubleshooting MlePlan](#)

[MlePlan Overview](#)

Thank you for your participation in the MlePlan review process.