



November 8, 2022

Erin Jacobsen
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RE: Geotechnical Addendum – Response to Comments

Proposed Residence
6922 SE 33rd Street
Mercer Island, Washington

In accordance with your authorization, Cobalt Geosciences, LLC has prepared this letter to discuss responses to City comments. Paraphrased comments with our responses are as follows:

Comment: Include a statement of risk per the updated code.

Response: See below.

We have prepared a statement of risk per Section 19.07.160 of the City of Mercer Island Municipal Code.

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.
3. 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.

The project meets the criteria of b from above. The site soil and topographic conditions are not consistent with the mapped geologic hazards. The risk of erosion and landslide activity is very

low at this site and the site appears to be at least 50 feet from a potential landslide hazard area. This proposed development will not adversely affect geologic hazards near or within the site.

We recommend that temporary erosion control system be in place during construction and that all affected/graded areas are fully surfaced following construction.

Comment: Discuss review of the updated plans dated October 19, 2022.

Response: We have reviewed the updated plans and have no comments at this time.

Comment: Provide input regarding slope surcharges on the below grade wall.

Response: It appears that the eastern portion of the structure will be near existing site elevations with a shallow crawlspace, while the areas further west will have basement areas. It does not appear that there will be a slope surcharge on any walls at the site. If surcharges are anticipated through slopes, the lateral earth pressures should be increased by 0.75 pcf per degree of backslope. Our geotechnical report includes earth pressures with seismic increases for the 1 in 500 (10% probability of exceedance in 50 years), and 1 in 2,500 year (2% probability of exceedance in 50 years) events.

Comment: Discus whether any footings will surcharge walls or footings for the new residence.

Response: To avoid foundation surcharges on other footings or walls, foundation elements should be supported on medium dense native soils and situated at a 1H:1V envelope from any other footings.

Please contact us if you have any questions.

Sincerely,

Cobalt Geosciences, LLC



11/8/2022
Phil Haberman, PE, LG, LEG
Principal