

July 29, 2022
File No. 20-174.300

Mr. Mitch Mounger
4006 East Mercer Way
Mercer Island, WA 98040

**Subject: Response to Geotechnical Review Comments
Proposed SFR
4006 E Mercer Way, Mercer Island, WA
#2010-070-SUB1**

Dear Mr. Mounger,

As requested, PanGEO prepared this letter to respond to review comments by City of Mercer Island for the above-referenced project. The following are our responses to the review comments pertinent to the geotechnical aspect of the project. Other review comments not related to the geotechnical aspect of the project should be addressed by others.

Comment: Geotechnical engineer to indicate where the stability concerns are on the west side of the structure that prohibit moving the structure westward as cited in the Watershed Company Critical Areas Report on page ix. If there are no stability concerns indicate what geotechnical reasons, if any, exist that would preclude moving the structure to the west. Include recommendations for options such as temporary or permanent shoring walls to facilitate this westward shift in the structure.

Response: The geotechnical engineer has no concerns moving the structure westward.

Comment: After revising the extent of excavation, geotechnical engineer to verify that the excavation does not undermine what appears to be a structural feature along the south property line.

If potential conflicts along the south property line are anticipated, provide potential solutions or recommendations for temporary shoring, etc. Provide these recommendations in a letter report.

Response: Based on the design, there is sufficient space for 1H:1V open cuts, and the temporary excavations will not undermine the footings of the adjacent south building.

Comments: Geotechnical engineer to provide discussion of the anticipated stability of temporary 1H:1V and proposed vertical cuts in a letter report. Current report indicates anticipated cuts of 5 feet. This excavation plan shows cuts significantly greater than that. It also indicates use of a vertical cut section as shown in section 3/A1.2.

Response: Based on the dense glacial till encountered at the surface in PG-3 at this location, it is our opinion that the temporary excavations using 1H:1V combined with a 4-foot vertical cut is feasible in this small section.

In a letter report, geotechnical engineer to provide recommendations for lateral earth pressures for wall with sloping ground conditions such as at Section 9/S3.2 location and along Gridline 1. (West side of the structure). Structural engineer to revise design accordingly.

Response: Cantilever walls with a maximum 2H:1V backslope should be designed for an equivalent fluid pressure of 50 pcf assuming the walls are free to rotate. PanGEO can provide additional design earth pressures for walls with a specific backslope angle.

CLOSURE

We trust that the information presented herein meets your need at this time. Please call if you have any questions.

Sincerely,



7/29/2022

Michael H. Xue, P.E.
Principal Geotechnical Engineer