PanGEO INCORPORATED
Geotechnical & Earthquake Engineering Consultants

October 25, 2020
File No. 20-174.300

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

Subject: **Seasonal Development Limitation Waiver**
Proposed SFR
4006 E Mercer Way, Mercer Island, WA

Dear Mr. Mounger,

As requested, PanGEO prepared this letter to assist you to apply for a seasonal development limitation wavier such that earthwork and foundation construction of the proposed single-family residence can be conducted in the wet season (October 1 through April 1).

Based on the current schedule provided to us, it is anticipated that earthwork activities in the wet season at the site will mainly include the following:

1. Demolition – February 15, 2022 (1 week);
2. Site clearing and excavations – February 22, 2022 (2 weeks);
3. Foundation and wall construction – March 8, 2022 (5 week); and
4. Foundation wall backfill – April 19, 2022 (2 weeks);

We understand that these earthwork and foundation activities will be completed from February to April 2022. The planned excavations will be sloped and benched. Based on review of the excavation plans, the soil conditions at the site, the construction schedule, and anticipated earthwork activities, in our opinion, the proposed site grading may be accomplished during wet season without adversely affecting the site stability at the

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subject and surrounding properties. In our opinion, the potential for erosion at the site can be adequately mitigated by employing best management practices (BMPs). During construction, erosion control should include measures for reducing concentrated surface runoff and for reducing the potential of off-site sediment transport by protecting disturbed or exposed surfaces. As a minimum, the following temporary erosion and sediment control measures for the wet season construction should be implemented:

- Where practical, maintain vegetation buffers around construction areas;
- Site stripping, excavation and subgrade preparation should be followed promptly by the placement and compaction of clean structural fill or CDF;
- The size and type of construction equipment used may have to be limited to prevent soil disturbance;
- The ground surface within the construction area should be graded to prevent surface water run-off of away from the site and the ponding of water;
- Double geotextile silt fences should be installed downslope sides (i.e. east side of the east house between the lake and the house) to control erosion and the movement of soil;
- Strew bales may need to be placed between the silt fences to retain the fines;
- Adequately cover soil stockpiles and temporary cut slopes with plastic sheeting;
- Hydroseed or place straw in areas where grading is completed;
- Construct shallow, upgrade perimeter ditches or low earthen berms to divert water away from the top of slopes;
- Phased/stage excavations/construction should be implemented, such as basement and site walls, so that the amount of exposed soil and exposure time is minimized;
- No off-site soil tracking and run-off should occur at any time; and

- Structural fill should consist of less than 7% fines.

The erosion control measures at the site during the wet season should also follow applicable state and city regulations. In addition, PanGEO should conduct site visits to monitor the site stability and erosion control measures during wet season grading, and provide other recommendations for erosion control or site stabilization measures as needed throughout the west season. In summary, provided that above recommendations are followed, it is our opinion that earthwork for the above project can be accomplished in the wet season and we recommend that a seasonal development limitation waiver be granted between February 15 and April 30, 2022.

The stability of the site slopes and temporary excavations should be closely monitored during construction. In the event that signs of slope instability for the site and temporary excavations are observed, measures such as buttressing the slopes, backfilling the excavations, and installing temporary shoring, etc. should be immediately implemented to repair/maintain the slope stability. PanGEO should be notified immediately if such sings are observed during construction.

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

Sincerely,

10/25/2021

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