

May 14, 2025  
File No. 21-552.200

David and Karen Zimmer  
4611 Forest Avenue SE  
Mercer Island, WA 98040

**Subject: Comment Responses and Geotechnical Plan Review  
Proposed Zimmer Residence  
4661 Forest Avenue SE, Mercer Island, Washington 98040  
King County Parcel # 404500-0065**

Dear David and Karen,

As requested, we prepared this letter to respond to city review comments, to provide our geotechnical opinions pertinent to the Critical Areas Mitigation Sequence, landscape, and Landslide Hazard Area Buffers, and to perform a plan review for the above project. The following sections present our responses to the city review comments.

**1. CRITICAL AREAS MITIGATION SEQUENCE (MICC 19.07.110B)**

- a. The project is designed to limit the ground disturbance to the maximum extent possible.
- b. Soldier piles are used in the eastern portion of the site to limit the excavation limits and backfilling, and therefore it reduces the impact on the critical areas at this site and adjacent properties.
- c. Pin piles are used to limit the over-excavation depth and backfilling in the building areas. As a result, it reduces the impact on the critical areas at this site.
- d. The temporary excavations will be backfilled to restore the grade outside of the proposed reduce to limit the impact on the critical areas.

In summary, in our opinion, proper mitigations have been implemented in the current design such that the potential risk of mapped geologic hazards is eliminated or mitigated such that the site is determined to be safe.

## **2. GEOTECHNICAL PLAN REVIEW**

As requested, PanGEO reviewed the geotechnical engineering aspects of the current plans for the above-referenced project. Our review includes the following:

- Architectural plan sheets A1.0 through A4.1 last revised May 9, 2025 by Ripple Design Studio,
- Civil plan sheets C1.0 through C3.5 last revised May 8, 2025 by Civil Engineering Solutions; and
- Structural plan sheets S1.0 through S5.2, and shoring plans sheets SH1 through SH5 last revised May 7, 2025 by Burke Engineering LLC.

In general, it is our opinion that the plans reviewed had incorporated all substantial geotechnical recommendations presented in our u[dated geotechnical report dated October 28, 2024.

## **3. LANDSCAPE PLANS**

Based on review of the latest site mitigation/landscape plans (A1.2 and A1.3), the disturbed areas during construction will be restored with hardscapes and landscape, and the landscape design had generally incorporated our geotechnical recommendations.

## **4. STATEMENT OF MINIMUM RISKS**

We understand that the site is mapped as a geologic hazard area. Per Mercer Island City Code Section 19.07.160.B.2, development within geologic hazard areas and critical slopes may occur if the geotechnical engineer provides a statement of risk with supporting documentation indicating that one of the following conditions can be met:

- a. The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe;
- b. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologic hazard area;

- c. The alteration is so minor as not to pose a threat to the public health, safety, and welfare;
- d. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a geologic hazard area.

Based on our engineering analyses and our review of the current plans, it is our opinion that Criterion (a) and (b) can be met, provided that the project is properly constructed per the approved plans. We recommend that best management practices be implemented during construction, including the proper use of silt fence, to minimize earthwork activities during periods heavy precipitations, and to minimize exposed areas in wet season, etc. Permanent erosion control measures including landscape and hardscape installations will effectively mitigate the risk of erosion in the long term.

#### **5. LANDSLIDE HAZARD AREA BUFFERS**

The subject site is mapped within a potential landslide hazard area according to the City of Mercer Island's Geologic Hazards Map. Based on the results of our geotechnical study and analysis, the current design includes permanent soldier pile wall and catchment wall. In our opinion, the potential landslide hazard has been effectively mitigated and buffers associated with landslide hazard is not needed.

#### **CLOSURE**

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

Sincerely,



*5/14/2025*

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