

June 20, 2022

JN 21151

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via email: [dkoneru@gmail.com](mailto:dkoneru@gmail.com)

Subject: **Review of Plans and Reponses to April 12, 2022 Review by  
Kolke Consulting Group**  
Proposed Koneru Residence  
6610 East Mercer Way  
Mercer Island, Washington

Greetings:

This letter is intended to respond to the geotechnical-related comments in the April 12, 2022 review letter from Kolke Consulting Group. For our review, we were provided with the civil drawings (PACE; May 11, 2022), architectural plans (McCullough Architects; June 12, 2022), and structural drawings (Malsam Tsang; May 5, 2022).

*1. Submit a letter from the geotechnical engineer that indicates that the final plans have been reviewed and that the plans are consistent with the recommendations of the geotechnical report. This letter should specifically address the grade elevations of the footings of the proposed residence and pool to remain above the groundwater table to verify design soil pressures and requirements for temporary excavations.*

**Response:** We have reviewed the geotechnical aspects of the provided plans. Based on our review, they conform to the recommendations of our *Geotechnical Engineering Study*. The residence, swimming pool, and other settlement-sensitive elements will all be structurally supported on 4-inch diameter pipe piles. Underdrainage is indicated for both the house and swimming pool, which have been kept shallow to avoid the water table encountered at 5 to 7 feet in our test borings. This is consistent with our recommendations. There does not appear to be any changes necessary to the plans to deal with the expected groundwater conditions.

Other than the below-discussed response regarding the two foundations supported on single pipe piles, we have the following items for consideration:

- 1) The slabs for the front porch and service patio are shown as 4-inch slabs-on-grade. It is important to note that these slabs will likely settle noticeably relative to the pile-supported residence. While this is not a structural issue, it may result in undesirable settlement and cracking over time. Changing these to pile-supported structural slabs would avoid this.
- 2) The swimming pool itself is indicated to be a deferred submittal item. It would be appropriate to include a pressure relief valve in the bottom of the pool, just as added protection against excessive hydrostatic pressure on the outside of the pool when it is drained for maintenance.

**Statement of Risk:** In order to satisfy the City of Mercer Island's requirements, a statement of risk is needed. As such, we make the following statement:

It is our professional opinion that the recommendations presented in our report and contained in the reviewed plans for the planned alterations will render the development as safe as if it were not

located in a geologically hazardous area, and will not adversely impact critical areas on adjacent properties.

*2. If intending to perform land clearing, grading, filling, and foundation work during the wet season (October 1 – April 1), a waiver to this seasonal development limitation may be granted if compelling justification is demonstrated and supported by a geotechnical evaluation of the site and proposed construction activities. Please see the [Seasonal Development Limitation Waiver](#) on the City website and submit the required information.*

**Response:** Pages 6 and 7 of our June 8, 2021 Geotechnical Engineering Study provide extensive recommendations and considerations for temporary erosion control measures, including appropriate measures for wet weather earthwork. These measures have been used previously on numerous waterfront sites in both Mercer Island and nearby communities to avoid negative erosion control impacts in wet weather.

If ground disturbing work is planned for October 1 to April 1, a Seasonal Development Limitation Waiver will be applied for.

*3. Page 8 of the geotechnical report notes that isolated pile caps should include a minimum of two piles to reduce the potential for eccentric loads being applied to the piles. It appears there are three locations, Sheet A2, where spread footings are supported by a single pile. These conditions should be reviewed for potential eccentricities or revised. Please coordinate with the structural engineer as well.*

**Response:** There are two isolated column foundations located in the Service Area immediately to the east of the Service Patio. These foundations are shown on Sheet A2 to have one pile each. It would be appropriate to connect these two isolated foundations with a grade beam, in order to prevent eccentric loading on the single piles.

Please contact us if you have any questions regarding this letter, or if we can be of further assistance.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.



06/20/2022

Marc R. McGinnis, P.E.  
Principal

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