

October 18, 2021

Mr. Ken Kolbe
7001 82nd Avenue SE
Mercer Island, WA

Re: **Geotechnical Recommendations**
Proposed Residence Addition
7001 82nd Avenue SE
Mercer Island, WA

Dear Mr. Kolbe,

This report summarizes the results of our site assessment and geologic research of your property located on the SW corner of 82nd Ave and SE 70th Street. It is understood that the new addition will be constructed on the north end of the existing residence, and will extend down to the existing basement level.

The purpose of this report is to document existing site and subsoil conditions, and to provide recommendations for foundation design. Geologic research was performed in advance of the two shallow test pits that confirmed the presence of the dense glacial soils (Qva) that provide support for the existing and proposed residence addition.

Site Conditions

The property has a gentle slope of 18 feet that extends down from the SE corner to the NW corner of this property. The existing basement floor level was excavated down 2 to 7 feet and this level of the residence is supported directly on the underlying dense glacial soils. Existing foundations showed no evidence of settlement or lateral movement. An existing rockery wall along the eastside of the residence ranges in height from 4 to 6 feet and shows no evidence of instability since it was originally built.

Geotechnical Recommendations

Based on the results of our site investigation and geotechnical assessment we recommend that the new building pad be excavated down to the existing basement level where the dense glacial soils exist. All foundations should be designed for a soil bearing value of 3000 psf and a lateral load value of 450 pcf. Estimated settlement of these foundations will be on the order of 1/4 inch with most of this settlement occurring during construction.

The basement retaining walls should be designed for an active pressure of 30 psf for flexible walls and 50 psf if they are designed to be rigid. Perforated drain pipes should be placed around the exterior foundations for possible collection of drainage that may

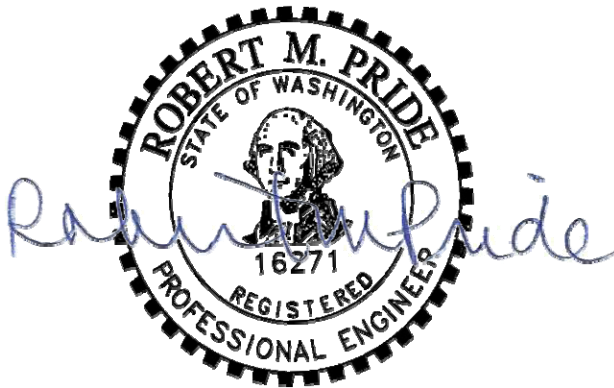
migrate down through the compacted backfill placed behind these concrete retaining walls that are protected with plastic sheeting.

Summary

The proposed plans for this project have been reviewed and they are approved for submittal to the city of Mercer Island for the permit. Field inspections will be performed during excavation for the new building pad to confirm stability of the temporary slope cuts and the glacial soils that will provide foundation support. Field memos will be prepared for these inspections and will be submitted to the city for their files.

Please call if there are any questions or need for additional information.

Respectfully,



Robert M. Pride, P. E.
Principal Geotechnical Engineer

dist: (1) Addressee

rmp: Kolbe82ndRes1