

August 9, 2023

JN 23265

Level Capital, LLC
11250 Kirkland Way, Suite 100
Kirkland, Washington 98033

Attention: Terry Van Nostrand and Todd Everest
via email: terry@levelcapital.com and todd@levelcapital.com

Subject: **Geotechnical Assessment for Site Stabilization**
5236 West Mercer Way
Mercer Island, Washington

Reference: *Geotechnical Engineering Site Assessment, Site Construction Suspended, 5236 West Mercer Way, Mercer Island, Washington; WSP; June 8, 2023.*

Geotechnical Engineering Report, Proposed Residence, 5236 West Mercer Way, Mercer Island, Washington; PanGEO; October 5, 2017.

Greetings:

This letter presents our geotechnical conclusions regarding the stabilization of the partially-completed excavation for the originally-proposed residence to be constructed on this site. At the time of this letter, the previous developer has stopped all work on the project, and Level Capital is retaining a design and construction team to complete development of the lot. The previous building permit has lapsed, so a new permit will need to be obtained. In the meantime, the partially-completed excavation is to be stabilized against soil erosion in anticipation of the upcoming wet season.

In order to prepare this letter, we have reviewed the above-referenced documents, made a visit to the site on July 31, 2023 to assess the current conditions, and met with you and N5 Architecture to discuss the work necessary at this point.

As discussed in WSP's June 5, 2023 letter, the cantilever soldier piles planned for temporary support of the excavation have been installed, and the timber lagging is in place for most of the piles. An exception to this is the lagging that has not yet been installed between a few of the shorter soldier piles along the southwestern corner of the excavation. These areas are currently covered by stockpiles of loose soil that remain from the previous excavation work.

We have the following responses to the specific recommendations presented by WSP in their June 8, 2023 letter:

1. Gabion basket walls were supposed to be constructed before the soldier pile walls, but were not. Instead, there is a 2H:1V cut slope of bare soil behind the east wall. The cut slope should be protected with a staked biodegradable erosion control mat and hydroseeding according to WSDOT Standard Plan I-60.10-01.

Response: Covering the cut slope with a coir erosion control mat is appropriate. If such a material is staked directly against the soil, then hydroseeding should not be necessary. Due to irregularities in the face of the existing slope, it may be necessary to accomplish limited removal of the "humps" of disturbed soil to create a smoother, more uniform surface on which to lay and stake the erosion control mat.

2.The shoring walls seems to be well constructed and according to plan; however, there are some voids behind the lagging in some locations. The wall should be backfilled with free-draining material (such as pea gravel) to within 1 to 2 feet of the top of the wall. One foot of freeboard should be maintained for catchment of any erosion from the slope above the wall.

Response: We concur with this recommendation. The small amounts of leaves and debris that have accumulated on top of the pea gravel that has been placed thus far must first be removed before completing the backfilling of the lagging.

As discussed above, there are a few soldier piles in the southwestern corner that have not yet been lagged. The stockpiled soil covering these piles should be excavated and removed from the site so that the piles can be lagged and backfilled with free-draining gravel.

3.The basement excavation appears to be near the design elevation. A drainage swale should be constructed along the base of the walls to collect any seepage through the wall. The swale could direct water to the two sediment traps at northwest and southwest ends of the walls (see Photos).

Response: A drainage collection swale along the face of the eastern soldier piles is appropriate. Based on the project plans, it appears that the excavation along the soldier piles was accomplished to the elevation of the perimeter foundation. Excavation below this level to create must be avoided. As a result, any swale will have to be created by building a small berm of soil across the face of the soldier piles, instead of excavating. This small swale would probably best be created with sand bags and then be lined with plastic.

4.The perimeter silt fencing needs to be replaced, improved, and/or maintained to meet the standard details for high visibility silt fence, as shown on C1.1 TESC Details and WSDOT Standard Plan I-30.16-00.

Response: This is appropriate.

5.Add silt fencing between the north side of the paved driveway and the cut slope to prevent sediment transport on the paved driveway.

Response: Unfortunately, in this application a silt fence would not be the most practical solution, as a silt fence is not effective at filtering silt out of runoff or protecting bare soil from erosion. We recommend instead that the existing short cut the north side of the driveway be cleaned and shaped to properly carry runoff, and then the soil be covered with a coir erosion control mat. This will protect the exposed soil from erosion.

6.Remove all construction waste/debris and plastic tarps that no longer function. If not done, the debris could impact the wetland and/or buffer.

Response: This is appropriate. All stockpiles of loose soil that are currently scattered around the site should also be removed.

7.Install the interceptor swale with check dams along the south side of the driveway as shown on the TESC Plan.

Response: Establishing a swale along the low side of the driveway is appropriate.

8.Construct a check dam or two on the driveway that slows and diverts surface runoff to the interceptor swale.

Response: This is appropriate.

9.Regrade the area at the top of the driveway (house footprint) to control surface runoff. Regrade the two small ponds (see photos) for safety (not too deep or steep) and to function as sediment traps. Regrade stockpiles as needed to smooth slopes.

Response: This is appropriate.

10.Hydroseed the bare ground surface, including cut slopes, and cover stockpiles with tarps.

Response: Depending on the time of year when the stabilization work is completed, hydroseed may not germinate and grow sufficiently to effectively cover areas of bare soil remaining outside of

the excavation. If this is the case, the bare areas could be covered with mulch and a coir erosion control mat.

As discussed above, all existing stockpiles of loose soil should be removed from the site. Any soil generated by installation of the erosion control measures should also be trucked off the site.

11. Monitor and maintain on a routine scheduled basis. The site should be monitored once a month and after significant storm events (Note 10 on the TESC Plan).

Response: This is appropriate, and could be accomplished either by the geotechnical engineer of record, or by the City of Mercer Island grading and drainage inspector.

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

Respectfully submitted,

GEOTECH CONSULTANTS, INC.



08/9/2023

Marc R. McGinnis, P.E.
Principal

cc: **N5 Architecture** – Seth Hale
via email: seth@n5architecture.com

Jabooda Construction – Nghia Pham
via email: ki_pham117@yahoo.com