

March 29, 2023
File No. 19-062

Mr. Benjamin C. Altman, Exe.,
Estate of James Altman, Sr.
Attn: George Steirer, Plan to Permit, LLC.
10365 El Honcho Place
San Diego, CA 92124-1219

**Subject: Response to Plan Review Comments
West Lot -Parcel 302405 9213
9167 SE 64th Street
Mercer Island, WA**

Dear Mr. Altman,

As requested, PanGEO prepared the following comments and discussions to address the geotechnical review comments from the City of Mercer Island. Our responses are as follows:

Sheet SP-1 – One comment requires us to revise the report dated April 16, 2019, to current (IBC 2018) building code. To date, site specific report modifications for pin pile foundations and soldier pile wall shoring have been handled with addendums, but this comment and the second on this page basically require a full revision. The second comment refers to MICC 19.07.110 and directs us to conduct a quantitative stability analysis to demonstrate site stability under static and seismic conditions. This will require computer modeling of the slope to evaluate factors of safety for the post construction condition. If we need to do global stability analysis under static and seismic conditions, the modeling effort will require approval of an initial budget of \$3,000.

The second comment also brings into question the usability of the AMEC soils report data, as it points out inconsistencies in the report. Upon reviewing the report, Table 1 on page 3 of the report indicates that the borings B-3 and B-4 are located on this lot (Lot 7). However, the site map (Figure 2) shows the borings on Lot 7 as B-4 and B-5. Moreover, the map shows the locations of B-4 and B-5 toward the center of Lot 7, not in the southwest and northwest corner of the lot, as stated in Table 1. The logs themselves indicate the B-1 through B-4 are all located in the northwest corner of Lot 7, with B-5 and B-6 located in Lot 6 (according to the logs). In short, the discrepancies cannot be resolved, and if they are not resolved, the City disallows our using that data in our slope stability analysis. The borings have piezometer installations, and as such should have monument covers. If the monuments can be found, the locations may be resolved and the data can be used. However, with 20 years of forest duff on top of the monuments, they may be very difficult to locate. If they can't be located, we will have to do new borings.

I don't see the elevation discrepancy in the profile that was called out, and tentatively disagree with this comment.

Sheet 1a – No permanent fill slopes may be graded steeper than 2H:1V, and this site may require flatter slopes or not be feasible at all, depending on our slope stability analysis.

Sheet 1b – Two comments. One extraneous dashed line to be removed. Permanent cut slope comment, please revise to a 2H:1V configuration.

Sheet 4c – Sheet appears to show a temporary construction cut slope. However, ROW, property boundary and steep stability constraints essentially preclude open cuts and require full height shored excavations. Therefore, remove reference to temporary construction open cut excavations.

Sheet S1.0 – Update plan reference to IBC 2018, per City instruction. Add notation that a minimum of 3 percent of installed piles to be load tested to an ultimate load of 200 percent of the design load, per ASTM 1143/D1143M – 07.

Sheet S2.2 – Revise backfill symbol as needed, detail 9. Clarify whether foam or soil is required for backfill, detail 1. Clarify if detail 9 is for the upslope side of the house foundation, as it appears from the maximum 20-foot height. Clarify if this detail also

applies to the driveway walls shown on the civil sheets, especially on Sheet 3 of 5. General wall design parameters for retaining walls are given in our geotechnical report dated April 16, 2019. Site specific parameters, especially foundation requirements, can be addressed in the revised report when we know the final configuration.

As I recall having commented some time ago, architecture, civil, structural and shoring drawings are not coordinated, and there are serious conflicts and inconsistencies between sheets that must be resolved. For example, reconcile the conflict between foundation wall (structural sheet S2.2) and the soldier pile wall (shoring sheet S1.2) on the upslope side of the house, as well as the soldier pile wall and the retaining wall located on the upslope side of the driveway. The wall as shown on the downslope side of the driveway may also require a soldier pile wall. The apparent walls surrounding the driveway are not reflected on the architectural or structural sheets and need to be added. In short, plans need to get coordinated and consistent. Sheet S2.0 (or equivalent) of the plan set shows the locations of new pin pile foundations, but should also show the connections to the pile caps. We can further review the plans for inconsistencies if desired.

Sheet 3 of 5, LE Drawings – Provide grading information as required by the City to clarify if the corner of the driveway requires a retained fill and provide wall details on the structural and architectural drawings.

Sheet S1.0 Shoring – We have revised our soil pressure recommendations and now recommend 200 pcf for passive pressure. Please revise calculations accordingly. We will send a revised pressure diagram with our revised report. Also re-number shoring sheets as follow, Sheet 1.X, to avoid confusion with the structural sheets.

Sheet S1.1 Shoring – The shoring drawing is incomplete and should include a grading and excavation plans per City comment. There should be a detailed shoring plan, per City comment. Other comments similarly request detailed plans for shoring and grading. We will review these plans when they are available. Please review our Addendum dated May 7, 2020, for recommendations for shoring design firms.

Sheet S1.2 Shoring - In our opinion, Manta Ray anchors are likely not suitable for this site. That is, the anchors may be incapable of achieving the required minimum embedment lengths,

Plan Comments Review, West Lot
6423 East Mercer Way, Parcel 302405 9213
Mercer Island, Washington
March 29, 2023

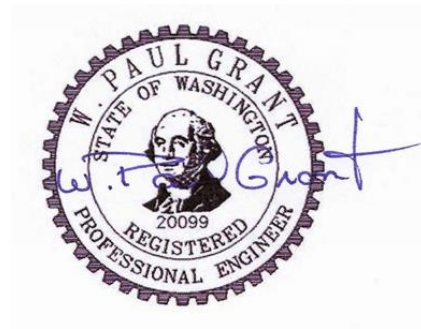
We trust that the information outlined in this letter meets your needs. Please call if you have any questions.

Sincerely,



Stephen H. Evans

Stephen H. Evans, L.E.
Senior Engineering Geologist



W. Paul Grant, P.E.
Principal Geotechnical Engineer