Subject:5303 46th Ave SW - Preliminary Geotechnical Findings [22-238]Date:Tuesday, May 30, 2023 at 4:50:58 PM Pacific Daylight TimeFrom:Bryan BentrottTo:Larissa WilsonAttachments:image001.png, 22-238 Fig 2 - Site and Exploration Plan DRAFT.pdf

Here is the soils work we had completed for 5303.

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From: Jon Rehkopf <jrehkopf@pangeoinc.com>
Sent: Friday, June 24, 2022 8:54 AM
To: Bryan Bentrott <bryan@sumdevco.com>; Jeff Knudson <jeffknudson@comcast.net>
Cc: Mary Ann Bentrott <bbentrott@aol.com>; Lisa Dunham <LDunham@pangeoinc.com>
Subject: 5303 46th Ave SW - Preliminary Geotechnical Findings [22-238]

Hi Bryan and Jeff,

## Soil Conditions:

In summary, we found from about 10 to 17 feet of loose sandy soils at the locations of our four test borings around the site. The loose soils were underlain by medium dense to dense sand to the termination depth of the borings. No groundwater was encountered.

See attached draft site plan for boring locations. The depth to bearing soils at each test boring was the following:

PG-1: 17 feet below existing ground surface;PG-2: 15 feet below existing ground surface;PG-3: 15 feet below existing ground surface;PG-4: 10 feet below existing ground surface;

This is quite a bit of loose soils. We interpreted the upper portion of the loose soils to be fill that was placed to create the existing building pad, and the lower portion to be loose native soil.

## Foundation Considerations:

Based on my understanding of the proposed residence, I don't believe the foundation will reach the bearing soils. Based on our experience, in this situation driven small-diameter pipe piles, often referred to as pin piles, would represent a cost-effective foundation system. Jeff, this would be similar to what we used at Steve's house. The size of the piles are typically 3-inch, 4-inch or 6-inch in diameter, with the larger piles having a larger compressive capacity. I would think 3-inch or 4-inch would be adequate for the proposed house. If the

DADU is just one-story, the foundation loading might be low enough that we can get by without piles, and use a mat foundation bearing on several feet of compacted structural fill.

## **Temporary Shoring:**

Depending on how deep of an excavation you are planning for the lowest daylight basement level, temporary shoring may be needed along the south property line to support the adjacent property to the south. Due to the loose soils, we would recommend a cantilevered soldier pile wall for temporary shoring instead of a gravity block wall.

## **Steep Slope ECA:**

As far as the ECA, because the survey shows the mapped steep slope area through the middle of the site has a vertical relief of less than 20 feet, you should qualify for the *Relief from Prohibition on Steep Slope Development*.

Please let me know if you have any questions while we prepare our geotechnical report. Also, please send along any updated conceptual design plans, so we can be sure that our report is specific to the proposed development. Based on our current backlog, it will still be several weeks before we can get the report out, but I'm happy to provide geotechnical information in the meantime to help keep your design moving along so we don't hold anything up.

Best Regards, -Jon

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Subject: RE: 5303 46th Ave SW - Geotechnical Test Borings [22-238]

Thanks Jon. We appreciate you staying on track with the borings and helping us get to our next phase of planning.

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