

**Paula Smith**

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**From:** Chris Merritt <chris@olyeng.com>  
**Sent:** Friday, January 11, 2019 1:24 PM  
**To:** Paula Smith  
**Cc:** 'Alex Vo'; Jeff Fant; Luke McCann; Tim Smith; 'Thomas Westbrook'; Steve Thompson  
**Subject:** RE: Wellington Heights- Comments from Bruce Titus

Paula,

I'm on my way out of town through Tuesday but wanted to send a quick response to the Skillings-Connolly evaluation. Luke with Materials & Testing will be responding to the seepage and groundwater mounding portion.

There still seems to be a big hang up on the northern section of Mr. Titus' ditch. As you know we are completely relocating the pass-through discharge point and then improving the north-south ditch as needed to accommodate the flows. We are also proposing to install filter fabric and armor the slope adjacent to Mr. Titus dumpster pad with rock to prevent scouring/undermining in this area. Additionally, we are proposing to re-grade the area where the east-west ditch meets the north-south ditch to provide for positive drainage out of the east-west ditch (currently does not have this). Whether or not the east-west was constructed per plan or not is irrelevant.

Based on WWHM, the runoff from the site will be less after the project is developed (mainly because the majority of runoff from hard surfaces is being infiltrated).

Based on current calculations, the 36" pipe will have a velocity of 15 ft/s at full flow (Mr. Skillings mentioned possibly in excess of 40 ft/s) and can accommodate up to 107 cfs of flow. The design of this pipe will include capacity for emergency overflow of the Wellington Heights infiltration facility.

The City's SEPA conditions clearly state that the project has to mitigate off-site stormwater impacts and protect downstream properties. In my opinion, this covers it and I see no need to re-evaluate or re-issue the MDNS.

Before the city makes any decisions on whether or not to revise and re-issue the MDNS, we would like to have the opportunity to discuss these items with you when I return on Wednesday.

Thanks,

Chris

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**From:** Paula Smith <psmith@ci.olympia.wa.us>  
**Sent:** Friday, January 11, 2019 10:11 AM  
**To:** Alex Vo <AlexV@triwayenterprises.com>  
**Cc:** 'chris@olyeng.com' <chris@olyeng.com>  
**Subject:** Wellington Heights- Comments from Bruce Titus  
**Importance:** High

Alex- We received comments from Bruce Titus who also provided a Drainage Evaluation he had done by Skillings Connolly. See attached.

Paula

Paula Smith, Associate Planner

*City of Olympia / Community Planning & Development*

601 4th Avenue East | PO Box 1967, Olympia WA 98507-1967

360.753.8596 | [olympiawa.gov](http://olympiawa.gov)

[psmith@ci.olympia.wa.us](mailto:psmith@ci.olympia.wa.us)

*Note: Emails are public records and are potentially eligible for release.*

## Paula Smith

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**From:** Alex Vo <AlexV@triwayenterprises.com>  
**Sent:** Friday, January 11, 2019 3:35 PM  
**To:** Paula Smith; Jeff Fant; Steve Thompson; Tim Smith  
**Cc:** Chris Merritt; Luke McCann  
**Subject:** Fwd: Wellington Heights- Comments from Bruce Titus  
**Attachments:** Mulinax boring (downhill).pdf; GTL boring, uphill.pdf

Paula/Tim -

Please see MTC's response to Skillings Connolly's letter.

Thank you,  
Alex Vo

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**From:** Luke McCann <luke.mccann@mtc-inc.net>  
**Sent:** Friday, January 11, 2019 3:26 PM  
**To:** Alex Vo  
**Cc:** Chris Merritt; Medhanie Teclé  
**Subject:** Re: Wellington Heights- Comments from Bruce Titus

Hi Alex,

I looked over the infiltration, mounding, and seepage concerns, and discussed with my engineer. Regarding the groundwater elevation, our supplementary test pit was conducted in February and found no evidence of groundwater down to 30 feet. I have attached some other winter-time well & boring logs from other local surrounding projects. A boring slightly uphill near the NE corner of the site conducted in March 2006 indicated no evidence of ground water down to 35 feet in the rainy season, and another boring at the Mulinax Ford downhill found no groundwater as far down as 50 feet. Other deep well logs in the area seem to suggest that the regional groundwater table topography remains fairly consistent, at least 35 feet below grade, even in the rainy season. Short of a regional hydrogeologic study, some fluctuation is likely, but not evidenced to such an extent as is speculated by Skillings' response.

Regarding the potential for seepage from the new infiltration gallery, this is not expected to occur as it penetrates beneath the overriding confining layer to vertically infiltrate, so no additional water from the gallery is expected to migrate laterally along this unit. Additionally, the mound height near the slope and its toe at the edge of the property also remains well below any point where water might be expected to daylight, even with seasonal fluctuations. It sounds like the currently planned stormwater controls will generally decrease the amount of water transmitted toward the slope. Unless they have specific areas with documented ongoing seepage and scouring problems during the rainy season, I don't currently see the need for further stormwater controls beyond those currently planned.

Regards,

**Luke Preston McCann, G.I.T.**

SW Region Geotechnical Project Manager

**Materials Testing & Consulting, Inc.**

**2118 Black Lake Boulevard SW, Olympia, WA 98512**

**Direct: 360-755-6072 | Office: 360-534-9777 | Fax: 360-534-9779**

**Email: [luke.mccann@mtc-inc.net](mailto:luke.mccann@mtc-inc.net) | Website: <http://www.mtc-inc.net>**

On Fri, Jan 11, 2019 at 1:24 PM Chris Merritt <[chris@olyeng.com](mailto:chris@olyeng.com)> wrote:

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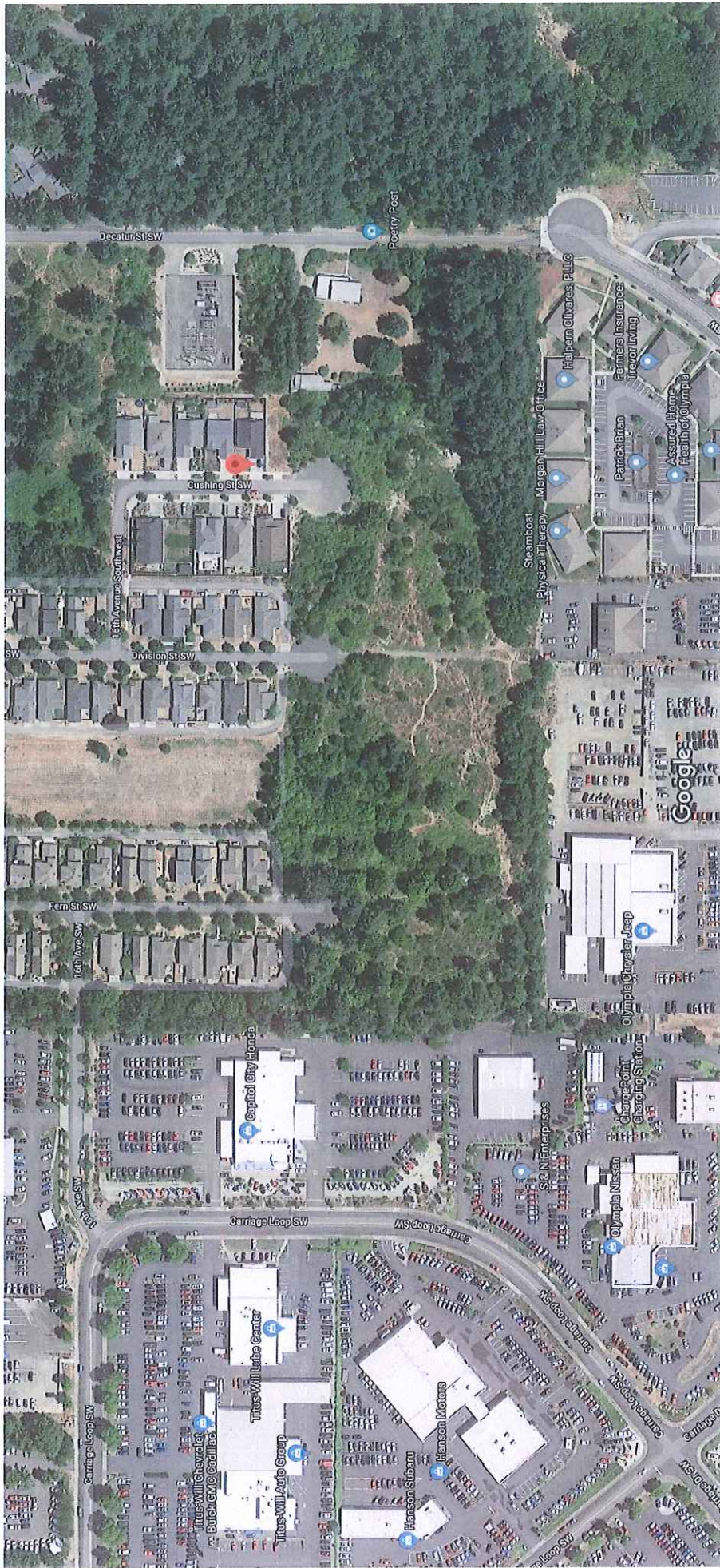
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# GEOTECHNICAL TESTING LABORATORY

## BORING LOG B-1

| Date: 3/7/2006                               |                           |                    | Northstar Homes           |   |                | File #: 06-2406-03      |   |    |    |    |               |       |      |                                   |
|--|---------------------------|--------------------|---------------------------|---|----------------|-------------------------|---|----|----|----|---------------|-------|------|-----------------------------------|
| Boring Log #: B-1                            |                           |                    | N47° 01.965 W122° 55.497' |   |                | Client: Northstar Homes |   |    |    |    |               |       |      |                                   |
| Boring Type: B-40                            |                           |                    | Depth Drilled: 35 feet    |   |                |                         |   |    |    |    |               |       |      |                                   |
| Depth<br>(feet)                              | Laboratory<br>Description | Change<br>in Soils | % M                       | N | Q <sub>u</sub> | Q <sub>v</sub>          | V | LL | PL | PI | Percent Minus |       |      | Field Observation and<br>Comments |
|  |                           |                    |                           |   |                |                         |   |    |    |    | 3/4"          | #4    | #200 |                                   |
| 1.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      | Forest Duff                       |
| 2.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 3.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      | Glacial Till                      |
| 4.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 5.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 6.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 7.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 8.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 9.0  |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 10.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 11.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 12.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 13.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 14.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 15.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 16.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 17.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 18.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 19.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 20.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 21.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 22.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 23.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 24.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 25.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 26.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 27.0   | SP, Poorly graded Sand    |                    |                           |   |                |                         |   |    |    |    | 100.0%        | 85.6% | 3.4% | Advance Outwash                   |
| 28.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 29.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      | Moist fine grained sand           |
| 30.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      | with fines, few gravels           |
| 31.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 32.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 33.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 34.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| 35.0   |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |
| end of boring -- Groundwater NOT Encountered |                           |                    |                           |   |                |                         |   |    |    |    |               |       |      |                                   |





Imagery ©2019 DigitalGlobe, U.S. Geological Survey, Map data ©2019 Google 100 ft



47°01'57.9"N 122°55'29.8"W  
47.032750, -122.924944

The Department of Ecology does NOT Warranty the Data and/or the information on this Web Report.



**Type of Well:** Geotech Soil Boring  
**Number of Wells:** 2  
**Type of Work:** New  
**Method:** Auger  
**Drilling Start Date:** 3/19/2018  
**Drilling Completion Date:** 3/19/2018  
**Received by Ecology:** 9/27/2018 3:18 PM

Borehole Diameter: 8 in  
Depth of completed well: 50 ft 0 in

| From Depth | To Depth | Type | Diameter | Stickup |
|------------|----------|------|----------|---------|
| N/A        |          |      |          |         |

| Type | Size | Total Perforations | From Depth | To Depth |
|------|------|--------------------|------------|----------|
| N/A  |      |                    |            |          |

| Manufacturer | Type | Dia-<br>meter | Slot<br>Size | From<br>Depth | To<br>Depth |
|--------------|------|---------------|--------------|---------------|-------------|
| N/A          |      |               |              |               |             |

| Material | From<br>Depth | To<br>Depth |
|----------|---------------|-------------|
| N/A      |               |             |

| Well | Driller's Identifier | Water Level |
|------|----------------------|-------------|
| 1    | 1                    | Dry Hole    |
| 2    | 2                    | Dry Hole    |

## None

| From      | To         | Material   |
|-----------|------------|------------|
| 0 ft 0 in | 1 ft 0 in  | top soil   |
| 1 ft 0 in | 50 ft 0 in | sandy silt |

City, State, Zip: VALLEYFORD, WA, 99036