



December 15, 2014
Revised December 17, 2014
ES-3519.01

Earth Solutions NW LLC

- Geotechnical Engineering
- Construction Monitoring
- Environmental Sciences

Terrene at RH 132nd, LLC
520 – 6th Street South, Suite B
Kirkland, Washington 98033

Attention: Mr. Mike Walsh

**Subject: Stormwater Outfall Exhibit Review
Proposed Rosehill Property
11016 – 132nd Avenue Northeast
Redmond, Washington**

Reference: The Blueline Group
Gabion Outfall and Dissipator sheet
Job No. 14-171, dated December 5, 2014

Earth Solutions NW, LLC
Geotechnical Engineering Study
Project No. ES-3519, dated October 7, 2014

Dear Mr. Walsh:

As requested by The Blueline Group, Earth Solutions NW, LLC (ESNW) has prepared this letter providing our evaluation of the proposed stormwater outfall system within the eastern portion of the subject site. The referenced plan sheet outlines the proposed location of the gabion outfall and dissipation system, which will be installed northeast of the stormwater detention vault and will discharge at the base of the existing slope via an above-ground, 12-inch-diameter pipe.

As outlined in the referenced report, the site is generally underlain by Vashon subglacial till, otherwise classified as Alderwood gravelly sandy loam. Alderwood series soils are typically associated with moderate to severe erosion hazard potential when bare soils are exposed to wet weather conditions; however, provided appropriate measures for controlling erosion are incorporated into final designs, the potential for erosion hazard will be successfully mitigated during construction. Permanent landscaping and drainage control measures can successfully mitigate the potential for erosion with respect to the proposed development and associated improvements. The proposed stormwater outfall system will retain existing, native vegetation within the vicinity of the outfall location, which will successfully mitigate the potential for erosion from stormwater discharge.

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Vashon subglacial till deposits vary in depth across the Puget Sound region; however, where encountered, deposits typically range from 10 feet to over 100 feet in thickness. Vashon subglacial till is typically associated with good slope stability; the dense, cemented deposits are typically not susceptible to adverse effects with respect to static and seismic loading conditions. During our September 2014 fieldwork, we did not observe indications of slope instability across the easterly facing slope. In our opinion, site slope stability should be considered good, and the proposed stormwater outfall system will not increase the potential for slope instability.

Based upon our review of the referenced plan sheet, it is our opinion the proposed stormwater outfall system is adequate from a geotechnical standpoint. Provided the system is installed as indicated on the referenced plan sheet and associated design drawings, and provided that existing, native vegetation is retained near the outfall location, the proposed stormwater outfall system will not increase the potential for soil erosion or slope instability. ESNW should be retained to observe earthwork and grading activities at the time of construction to ensure appropriate geotechnical considerations are incorporated as necessary.

Should you have questions regarding the content of this letter, please call.

Sincerely,

EARTH SOLUTIONS NW, LLC



Keven D. Hoffmann, E.I.T.
Staff Engineer



Raymond A. Coglas, P.E.
Principal

cc: The Blueline Group
Attention: Ms. Dené Kuzaro, E.I.T. (Email only)