

Ages Engineering, LLC

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October 10, 2017
Project No. A-1363

Vinh Vuong
TP Homes
5936 NE 3rd Court
Renton, WA. 98059

RECEIVED
06/27/2018
CITY OF MONROE

Subject: Storm Water Infiltration
W. Main Street Residential
17510 W. Main Street
Monroe, Washington
Parcel Number: 00517300200400 and 27060200408100

Reference: Preliminary Geotechnical Report, West Main Street Residential, prepared by Ages Engineering, LLC, dated August 9, 2017

Dear Mr. Vuong,

As requested, we reviewed our files and are providing geotechnical design and construction recommendations for the storm water infiltration system planned on the subject site.

The project will consist of a residential development. We discussed the planned development with the site owner, and were provided with a Preliminary Site Plan showing the planned development on the site. Based on these discussions and the plans provided to us, we understand the site will be developed with nine new multi-family residential structures. Access to the site will remain from West Main Street located along the north side of the site. We expect the new structures will consist of a two- to three-story wood framed buildings with slab-on-grade main floors. The storm water collected on the site will discharge to an infiltration system located on the site.

SITE AND SOIL CONDITIONS

The subject site is an assemblage of two parcels with a combined area of approximately 1.86-acres. The combined site is roughly rectangular-shaped and located at 17510 West Main Street in Monroe, Washington. The subject site is currently unoccupied. The site is bordered with existing residential structures to the east and west, by a federal property to the south, and by W. Main Street to the north. The location of the site is shown on the Site Vicinity Map provided in Figure 1.

Surface grades in the vicinity of the site slope down to the north. The south end of the site slopes down to the north at surface inclinations ranging from 30 to 40 percent. The center and north end of the site are relatively flat to sloping down to the north at a surface inclination of 2 percent.

The soils we observed in the test holes generally consist of 12 inches of organic-laced soils overlying native silty sand with varying amounts of gravel consistent with Alluvium along the central and

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northern end of the site, and silty sand with gravel consistent with glacial till along the sloping southern end of the site.

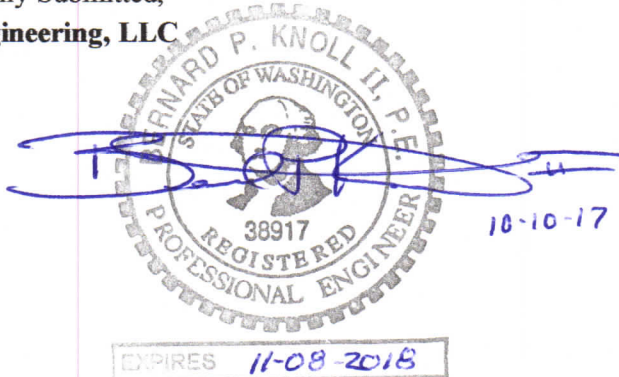
CONCLUSIONS AND RECOMMENDATIONS

Based on our study, in our opinion, soil and groundwater conditions along the flat northern portion of the site are suitable for the proposed storm water infiltration system.

The City of Monroe uses the 2012 Department of Ecology Stormwater Management manual for Western Washington as their stormwater code. According to Section 3.3.6 in the Manual, there are three methods for determining the design infiltration rate for the site. Method 1 and 2 involve on site infiltration testing. Method 3 utilizes the grain-size distribution of the site soils to determine the rate. Method 3 can be used if the infiltration soils are not glacially consolidated. Due to the underlying site soils consisting of non-glacially consolidated Alluvium, we utilized Method 3 to determine the design infiltration rate for the site.

Based on our evaluation, we recommend using a design infiltration rate of 2.75 inches per hour for the design of the onsite infiltration system(s).

Respectfully Submitted,
Ages Engineering, LLC



Bernard P. Knoll II, PE
Principal