

June 28, 2016

Snohomish County PUD No. 1
Facilities Department
2320 California Street
Everett, Washington 98201

Attention: Ben Davis, PE

Subject: Response Letter
Wetlands/Streams
Proposed Arlington Local Office Replacement and Substation
Arlington, Washington
File No. 0482-051-03

GeoEngineers, Inc. (GeoEngineers) understands that the project site (Figure 1) located near 180th Street NE and 59th Avenue NE in Arlington, Washington is being developed for a new local office building, access roadways, solar arrays, substation, and a pole and transformer storage area for the Snohomish County PUD No. 1 (SnoPUD). The site is located immediately east of the Arlington Municipal Airport. Development of the pole and transformer storage area will include constructing gravel laydown areas, asphalt paved roadways, and installation of a waterline. GeoEngineers further understands that design of the local office building, other roadways, solar arrays, and the substation will occur at a later date.

SnoPUD requested that GeoEngineers complete a wetland reconnaissance of the site to provide our opinion related to wetlands that may be located on the project site.

Following your request, GeoEngineers' Professional Wetland Scientist (PWS), performed a reconnaissance of the site on March 16, 2016. The PWS accessed the site via the man-gate along the southern property line and conducted a pedestrian survey of the property. General site observations of the approximate 26-acre parcel verified that the project site is



Photo 1. Representative condition of the site, May 10, 2016.

undeveloped and relatively flat uplands with no structures except for an abandoned barn located near the north-central portion of the project site (Photo 1). The parcel is predominantly vegetated with mowed grasses, forbs and Scotch broom (*Cytisus scoparius*); as well as, trees including big leaf maple (*Acer macrophyllum*), Douglas fir (*Pseudotsuga menziesii*) and ornamental apple (*Malus spp.*) which are indicative of uplands. While on site, GeoEngineers' PWS looked for wetland indicators such as changes in vegetation type, depressional areas and the presence of surface water. However, no wetlands were observed on the site during the pedestrian survey.

Precipitation data collected at the Arlington Airport (Weather Underground, 2016) indicates 0.77 inches of rain near the site in the week preceding our March site visit. There was no surface water observed on site; however, a ditch was observed immediately east of the site and adjacent to the Burlington Northern–Santa Fe (BNSF) railroad line. Presumably this ditch is owned and maintained by BNSF. The average wetted width of the ditch was approximately 4 to 5 feet wide and appeared to be flowing slowly south at approximately 0.5 foot per second. Average depth of the wetted channel was approximately 12 inches. The east bank of the ditch has no vegetation and is covered in rail ballast extending into the ditch (Photo 2). The west bank of the channel is fully vegetated and covered with willows (*Salix spp.*), Himalayan blackberry (*Rubus armeniacus*), red alder (*Alnus rubra*) and cottonwood (*Populus balsamifera*) trees. No fish were observed in the ditch by the PWS.

Following the March 16 site visit, the GeoEngineers PWS reviewed available public data regarding the ditch observed along the eastern boundary of the site. The Washington State Department of Fish and Wildlife (WDFW, 2016a), the Washington State Department of Natural Resources (WDNR, 2016) and Snohomish County (2016) do not map streams or waterways within the project boundary. WDFW (2016b) maps an “intermittent/ephemeral” water course traversing the site from the northeast corner to the south-central portion of the site prior to leaving the property. We did not observe features at the site as mapped by WDFW (2016b). Based on our observations and data obtained from other sources, we believe that there are substantial errors in the WDFW (2016b) mapping data.

The City of Arlington Stormwater Infrastructure Map (2016a) indicates the ditch along the eastern edge of the site conveys flows from a series of stormwater ponds located approximately 2,500 feet north of the site, near the intersection of 67th Ave NE and Woodlands Way. These stormwater ponds collect runoff from a larger residential development located southeast of the ponds. According to the City of Arlington (2016), the ditch flows south along the BNSF railway, past the eastern edge of the site and is eventually collected within the closed stormwater system of the developed area located south of the site.

The GeoEngineers PWS returned to the site on May 10, 2016 to verify public data and investigate the hydrology of the ditch. Precipitation data collected at the Arlington Airport (Weather Underground, 2016) indicates very little rain (0.02 inches) in the week prior to the May site visit. The ditch (Photo 2) was completely dry with vegetation establishing in the bed of the channel. We observed indications of recent inundation but it appears that this ditch experiences intermittent flow. This ditch is likely inundated during the winter when shallow groundwater is elevated and surface runoff is high. However, the ditch is not expected to flow perennially.



Photo 2. Ditch adjacent to site, May 10, 2016.

As mapped by the City of Arlington (2016a), we observed less than 0.5 cubic feet per second (cfs) of flow from the stormwater ponds located 2,500 feet north of the site into a closed conveyance in the 67th Avenue NE right-of-way. Because of private property access issues, the PWS was not able to observe the mapped outfall of this stormwater system into the ditch adjacent to the BNSF railway. Most likely, the ditch adjacent to the BNSF railway conveys flow from the stormwater system located north of the site. According to Marc Hayes, City of Arlington Manager of Community and Economic Development (2016), smaller volumes, such as the 0.5 cfs observed entering the stormwater system on May 10, 2016, likely infiltrate into the sandy substrate of the nearly level ditch prior to flowing past the site.

We expect the ditch to be inundated only after periods of rain and runoff from the developed areas east of the site. It is our opinion that this ditch primarily functions as a stormwater conveyance and infiltration feature. We observed inundation in the ditch approximately 450 feet south of the site. At this location we observed water flowing into the ditch from a 24-inch round concrete pipe culvert that conveys flow under the BNSF railway from the area east of the railway. The City of Arlington (2016a) identifies the area east of the BNSF railway as constructed stormwater feature.

Based on our observations, available map data and professional experience on similar sites, it is GeoEngineers' opinion that wetlands and stream features, regulated under City of Arlington Code Chapter 20.88.700 and 28.88.800 are not located within or adjacent to the site.

REFERENCES

City of Arlington. 2016a. Stormwater Inventory Map, dated April 15, 2015. <http://www.arlingtonwa.gov/modules/showdocument.aspx?documentid=6637> Accessed May 2016.

City of Arlington. 2016b. Personal communication between Marc Hayes (City of Arlington Manager of Community and Economic Development) and Ben Davis (SnoPUD). May 13, 2016.

Snohomish County Planning and Development Services. 2016a. Planning, Permitting and Zoning Map.
<http://gis.snoco.org/maps/permits/index.htm> Accessed May 2016.

Snohomish County Planning and Development Services. 2016b. Drainage Inventory Map.
<http://www.snohomishcountywa.gov/1129/Drainage-GIS> Accessed May 2016.

Washington Department of Fish and Wildlife. 2016a - Priority Habitat and Species (PHS) Map.
<http://wdfw.wa.gov/mapping/phs/>. Accessed May 2016.

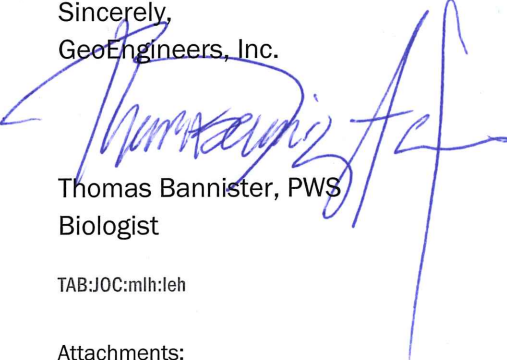
Washington Department of Fish and Wildlife. 2016b. SalmonScape Mapping System.
<http://apps.wdfw.wa.gov/salmonscape/> Accessed May 2016.

Washington Department of Natural Resources. Forest Practices Application Mapping Tool.
<https://fortress.wa.gov/dnr/protectiongis/fpamt/index.html#> Accessed May 2016.

Weather Underground. 2016. https://www.wunderground.com/history/airport/KAWO/2016/5/10/WeeklyHistory.html?req_city=Arlington&req_state=WA&reqdb.zip=98223&reqdb.magic=1&reqdb.wmo=99999. Accessed May 2016.

GeoEngineers appreciates the opportunity to assist Snohomish County PUD No. 1 with the wetlands/streams review for the proposed project site. If you have any questions or concerns related to the information provided in this letter, please contact our office.

Sincerely,
GeoEngineers, Inc.



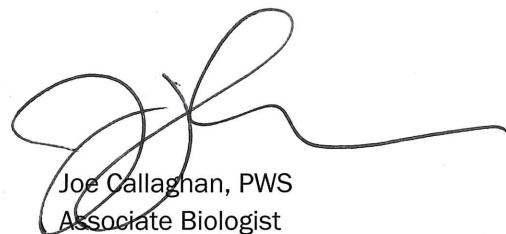
Thomas Bannister, PWS
Biologist

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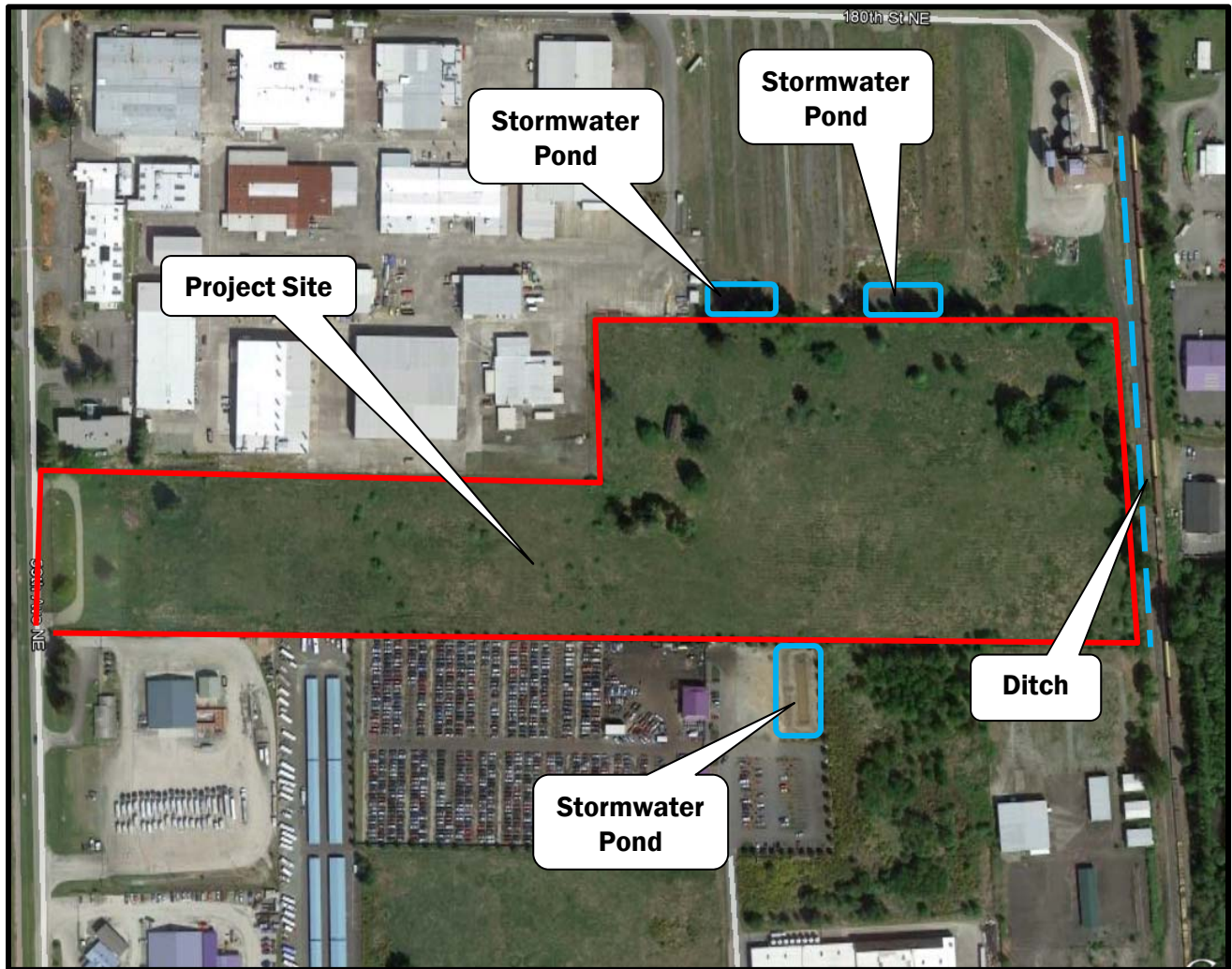
Attachments:
Figure1. Site Plan

One copy submitted electronically

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.



Joe Callaghan, PWS
Associate Biologist



Legend

— Approximate Site Boundary



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: U.S. Fish and Wildlife Service National Wetland Inventory Map

Site Map

Arlington Office Replacement/Substation
Arlington, Washington



Figure 1