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memorandum

date	July 30, 2020
to	Lauren Anderson, City of Mercer Island, Planner
from	Jessica Redman, Wetland Ecologist
subject	7511 92nd Avenue Patio Extension – Critical Areas Review

At the request of the City of Mercer Island (City), ESA reviewed the *Revised Critical Areas Study and Mitigation Plan* (hereinafter referred to as the Revised Plan), prepared by Confluence Environmental Company (dated July 8, 2020) for the property located at 7511 92nd Avenue SE in the City of Mercer Island (King County Parcel Number 2579500190). The property currently contains a single residential development. The applicant has submitted a formal application for development of a patio and a staircase on the south side of the existing single-family house. The purpose of this review is to determine if the proposed project complies with Mercer Island City Code (MICC) Chapter 19.07 – *Environment*. The City recently updated its critical areas ordinance (CAO), which was approved and took effect on July 29, 2019. However, this project was vested under a previous version of the City's CAO, and referenced throughout this memorandum.

In addition to the Revised Plan, ESA reviewed the Civil Plans (Sheet A1.0) prepared by JOSH Artisan + Architect (revised July 13, 2020). A site visit was also conducted by ESA biologist Jessica Redman and City planner Lauren Anderson on June 17, 2020.

Report Summary

According to the Revised Plan, one wetland (Wetland A) and one stream are located onsite and were delineated by Confluence Environmental on March 1st and March 15th, 2019. Wetland A is a palustrine scrub-shrub (PSS) slope wetland. Wetland A is dominated by Himalayan blackberry and extends partially offsite to the adjacent parcels located to the south, southwest, and west. Wetland A is a Category IV wetland, which requires a standard 35-foot buffer (MICC 19.07.080.C).

The onsite watercourse, is an unnamed stream that is defined as a Type 2 watercourse by the City's Information and Geographic Services (IGS). Per MICC 19.07.070, Type 2 watercourses are defined as watercourses with year-round flow that are not used by fish and are allotted a standard buffer of 50 feet. However, according to the Revised Plan, this watercourse has been mistyped by the City, and instead is a Type 3 watercourse. Per MICC 19.07.070, Type 3 watercourses are defined as watercourses with intermittent, or seasonal, flow and are allotted a standard buffer of 35 feet. According to the Revised Plan,

low streamflow was present during the March 1, 2019 site visit. However, the Revised Plan states that the stream runs dry during the summer based on anecdotal evidence provided by the property owner. Additionally, based on photographs provided by the project surveyors and included in the Revised Plan, the stream was dry during a March 4, 2019 visit to the site. Furthermore, the Revised Plan states that rainfall in the area was higher than normal during February 2019, the month before the delineation and the survey visits; and therefore, because the stream exhibited low to no flows in March, the stream is likely highly dependent on precipitation and not groundwater.

To accommodate development of the project, the applicant proposes to reduce the buffer of Wetland A by 60 SF on its northern side, near the proposed patio extension. To compensate for the reduced buffer, an additional 60 SF of buffer will be added to the northern side of the stream buffer in the eastern portion of the parcel. According to the Revised Plan, the proposed buffer averaging meets all the required criteria for stream and wetland buffer averaging per MICC 19.07.070 and MICC 19.07.080, respectively. Additionally, the Revised Plan includes the enhancement of 2,800 SF of the buffer upslope of the wetland and stream through the planting of fourteen 5-gallon Douglas fir and fourteen 5-gallon western red cedar. The slope is currently dominated by a dense Himalayan blackberry thicket. However, the blackberry thicket is currently providing slope stability and therefore, cannot be removed before installing the proposed buffer enhancement plantings. Instead, the project proposes to plant the trees within the blackberry, with the goal of the trees growing above the blackberry and shading it. The installed trees will also provide slope stability as their roots grow. The Revised Plan also includes a 5-year monitoring plan that ensures 100 percent plant survival for the first five years after installation. The proposed buffer averaging, along with the proposed buffer enhancement, would result in an overall net increase of wetland and watercourse ecological function.

Review Findings

Based on the site visit and the document review, we have the following comments and recommendations:

- ESA generally agrees with the boundary of Wetland A and the unnamed stream. The majority of the wetland and OHWM flags were observed in the field. The wetland occurs in the northwest corner of the parcel and is a sloped feature that exhibits PSS vegetative cover, dominated by Himalayan blackberry. The unnamed stream was observed originating at the toe of the slope of Wetland A, within the project parcel, and flowed northwest to southeast through the parcel to the south. The stream was then observed to flow under a driveway on the parcel to the south, through a vegetated area, and into a ditch to the east of the parcel.

- ESA agrees that Wetland A is a Category IV wetland, warranting a 35-foot buffer per MICC 19.07.080.C

- ESA agrees that the unnamed stream has been mistyped by the City's IGIS, and is in fact a Type 3 (seasonal) watercourse. During the June 17, 2020 site visit, some stream flow (approximately 1 to 2 inches) was visible. However, according to the National Weather Service, rainfall in the region during the month of June, 2020 was recorded as being 0.71 inch higher than normal with a total rainfall of 2.28 inches (NOAA. 2020). Furthermore, the applicant has provided photos in the Revised CAR showing a dry streambed, taken in March 2020, three months prior to ESA's site visit. This evidence leads us to agree that the observed flow during the June 17, 2020 site visit

was the result of unusually high precipitation and not groundwater. Therefore, ESA agrees that the onsite portion of the stream is a Type 3 watercourse, warranting a 35-foot buffer per MICC 19.07.070.B.

- As mentioned above, during the June 17, 2020 site visit, the unnamed stream was observed to flow through a vegetated area on the parcel to the south of the project parcel. This vegetated area was dominated by small-fruited bulrush (a common obligate wetland plant) and visibly saturated soils. This portion of the stream was at a much lower gradient than the upstream reach and could possibly be influenced by groundwater. If groundwater is the primary hydrologic source to the downstream portion of the stream, this area may be a Type 2 (perennial) watercourse. ESA recommends that flow conditions are investigated during the review of any future development applications occurring downstream.

- ESA agrees that the proposed Project has met all the requirements for buffer averaging per MICC 19.07.070.3 and MICC 19.07.080.3. The applicant has proposed a combination of wetland and stream buffer averaging by reducing the wetland buffer and increasing the adjacent stream buffer. However, due to the large area of the onsite buffer proposed for enhancement post-construction, ESA agrees the project will result in an ecological lift through the reduction of invasive species and installation of native trees. Therefore, the proposed buffer averaging will not result in a net loss of buffer function or area.

In conclusion, ESA believed the proposed project, enhancement plan, and monitoring plan, has met all the requirements of MICC Chapter 19.07 – *Environment*.

References:

NOAA (National Oceanic and Atmospheric Administration). 2020. National Weather Service Forecast Office, Seattle, WA. Available at: https://w2.weather.gov/climate/index.php?wfo=sew. Accessed July 2020.