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memorandum

date	February 18, 2021
to	Robin Proebsting, Senior Planner, City of Mercer Island
from	Scott Olmsted, Senior Ecologist Rachelle Tews, Ecologist
subject	7025 North Mercer Way (Parcel #735570-0191) Critical Areas Evaluation (CAO20-004); Third Party Review

Environmental Science Associates (ESA) prepared this memorandum on behalf of the City of Mercer Island (City) to provide third-party review of the *Mayo Property Watercourse Assessment Memorandum* (Memo) prepared by PBS Engineering and Environment (PBS), dated December 28, 2020. The Memo addresses site conditions west of 7025 North Mercer Way (Parcel #735570-0191). The property owner intends to sell the parcel and was informed the watercourse buffer may constrain future development and the property's value.

The purpose of this review memorandum is to verify the accuracy of the findings within the Memo and determine whether the Memo is consistent with the Mercer Island City Code's (MICC) environmental regulations for critical areas, specifically watercourses in MICC 19.07.180.

Document Review

In addition to the Memo, ESA reviewed information available in the public domain including:

- Washington Department of Fish and Wildlife web-mapping tools (Priority Habitats and Species mapping and Salmonscape)
- King County GIS mapping website (iMap)
- City of Mercer Island Information and Geographic Services online Mapping Portal (IGS)

Salmonscape and iMap do not depict a stream adjacent to the subject property. However, a 1936 aerial image on iMap shows a vegetated corridor along the entire reach of the watercourse alignment, and hill shade and topographic maps indicates the presence of a linear depression in the same footprint. This imagery indicates the likely presence of an aboveground stream before the area was redeveloped. The City's IGS indicates the presence of a Type Ns (Non-Fish Seasonal) watercourse that originates on Parcel #735570-0235. From here, the watercourse flows north through Parcels #735570-0220, 735570-0210, and 7355700200 before discharging to an 18-inch concrete pipe located under North Mercer Way. The watercourse then continues to flow north in the pipe until it discharges into Lake Washington. The

City's IGS both the Type Ns section and piped watercourse section on the Environmental and Stormwater Utilities data layers.

According to the Memo submitted by PBS, the portion of watercourse (referred to as Feature A) located south of North Mercer Way exhibits all three primary indicators of an "active channel," as termed in the Memo, and is consistent with the ordinary high water mark (OHWM) of a non-perennial stream in the region. The Memo states that while the open channel of Feature A satisfies the flow requirements of a Type Ns watercourse as described in MICC 19.16.010, the piped portion of the drainage feature beneath North Mercer Way and continuing to the north does not constitute an aboveground channel system that connects it to Lake Washington, and as a result, the Memo concludes that the watercourse does not satisfy the City of Mercer Island's definition of a Type Ns watercourse.

Review of Site Conditions

ESA ecologist Rachelle Tews conducted a site visit on January 8, 2021. The visit included a visual observation of existing site conditions from the public right-of-way specifically focused on Feature A.

At the time of the site visit, Feature A was visible on Parcel #735570-0210 (1818 70th Avenue SE) and continued north across Parcel #735570-0200 (1804 70th Avenue SE). From here, Feature A flows north into the 18-inch concrete pipe located under North Mercer Way. This pipe continues north for approximately 400 feet to its outfall at Lake Washington. While the discharge point into Lake Washington was not visually confirmed due to lack of access, its location coincides with the mapped feature shown on the City's IGS Stormwater Utilities data layer. About one inch of water was present in Feature A at the time of the site visit. There were also overland flow and stormwater pipes directing residential runoff into Feature A south of the roadway.

All three primary indicators of an "active channel" described in the memo were observed: a break in slope south of North Mercer way, changes in sediment character, and changes in vegetation. In the channel, there was evidence of scour and silt deposits.

Mercer Island Watercourses

Definition of Watercourse

Section 19.16.010 of MICC defines a watercourse as:

"*A course or route, formed by nature and generally consisting of a channel with a bed, banks, or sides throughout substantially all its length, along which surface waters, with some regularity (annually in the rainy season), naturally and normally flow in draining from higher to lower lands. This definition does not include irrigation and drainage ditches, grass-lined swales, canals, storm water runoff devices, or other courses unless they are used by fish or to convey waters that were naturally occurring prior to construction.*"

By this definition, Feature A meets the criteria for a watercourse: it has a channel with a defined bed and bank, intermittent to seasonal surface water, and flows from higher to lower elevation.

Definition of Type Ns Watercourse

MICC 19.16.010 defines a Type Ns water as follows:

"Type Ns, which include all segments of natural waters within the bankfull width of the defined channels that are not Type S, F, or Np waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np water. Ns waters must be physically connected by an aboveground channel system to Type S, F, or Np waters."

Feature A conveys natural waters and does not meet the definition of Type S, F, or Np waters. The watercourse flows seasonally, likely does not provide fish habitat, and is not located downstream of a Type Np water. Mercer Island City Code states a Type Ns water must also be physically connected to another water by an "aboveground channel system." ESA understands this section of code to mean that Type Ns watercourses do not drain naturally into subsurface soils. This understanding has been further supported by a separate communication with Larry Fisher, WDFW Area Habitat Biologist (personal communication February 4, 2021). Mr. Fisher confirmed that WDFW would still regulate the watercourse as a stream because the pipe is an approved conveyance system and the stream flow does not naturally infiltrate subsurface. Therefore, a piped segment of watercourse would still be considered an aboveground channel system and the open channel segment of Feature A would be regulated as a Type Ns watercourse.

Separately, MICC defines a piped watercourse under MICC 19.16.010 as:

"*Piped watercourses, which are pipes or other conveyances through which surface waters, with some regularity (annually in the rainy season), naturally and normally flow in draining from higher to lower lands. This definition does not include irrigation and drainage ditches, grass-lined swales, canals, storm water runoff devices, or other courses unless they are used by fish or to convey waters that were naturally occurring prior to construction.*"

The City regulates piped watercourses under this definition and development near them under MICC 19.07.180.C.6. The regulation supports ESA's understanding that City code does not exclude channels upgradient of pipes from regulation as a particular type of watercourse if those segments meet the applicable definition of the applicable type of watercourse consistent with the direction from WDFW.

Recommendation

Due to the presence of an open channel segment of watercourse upgradient of a piped watercourse and our understanding of Type Ns watercourses as defined in MICC 19.16.010 and supporting communication with WDFW, ESA recommends the open water segment of Feature A be regulated as a Type Ns watercourse.