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# memorandum

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| date | August 5, 2019 |
| to | Lauren Anderson, Planner |
| from | Jessica Redman, Ecologist |
| subject | Paek Residence – 2215 80th Avenue SE Critical Areas Review |

Environmental Science Associates (ESA) has prepared this memorandum on the behalf of the City of Mercer Island (City). The purpose of this memo is to verify the accuracy of the critical areas study submitted with the development application and to confirm whether the proposed project complies with Mercer Island City Code (MICC) Chapter 19.07 – *Environment*.

The site is located at 42215 80th Avenue SE (King County Tax Parcel 5452302145) and currently contains a two-story house. The entire parcel is generally flat with a slight slope to the northwest. The City critical area maps show a stream as occurring offsite, which flows north through a culvert on the adjacent parcel to the west. Based on online topographic mapping, land outside of the parcel continues to slope to the southwest at a much higher gradient and into a deep ravine. The City critical area maps depict this watercourse as a Type 2 stream, which would be allotted a 50-foot standard buffer per MIMC 19.07.070.B. The proposed project is a single-family residential development that involves removing the existing structure down to the foundation. A new two-story residential structure will be built on the existing foundation and in the current footprint of the existing house.

At the request of the City, ESA reviewed the *Critical Areas Study – Watercourse Delineation and Buffer Averaging for: Paek Residence* (prepared by Altmann Oliver Associates [AOA] and dated April 30, 2019). Our scope of work included review of regulations for wetlands, streams, and their buffers; ESA did not review steep slopes or geological hazard regulations. ESA also conducted a site visit on August 5, 2019, meeting onsite with the applicant and City planner Lauren Anderson.

**Report Summary**

According to the *Critical Areas Study – Watercourse Delineation and Buffer Averaging for: Paek Residence* (hereinafter referred to as the AOA Report) the buffer of the offsite stream to the west is the only regulated critical area located within the project area. Additionally, the AOA Report disagrees with the City's watercourse typing and instead believes the watercourse should be classified as a Type 3 watercourse. Per MIMC 19.07.070.A, Type 3 watercourses are those with intermittent or seasonal flow, and not used by fish. The AOA Reports states that no flow or fish habitat was observed during their site visit and therefore meets the

requirements for a Type 3 watercourse. Type 3 watercourses are allotted a 35-foot standard buffer per MIMC 19.07.070.B.

The majority of the buffer which occurs on the proposed project parcel contains lawn, unvegetated soils, a deck and stairs, and a concrete patio. Under the proposed new development, portions of the second-floor deck and stairs will encroach into the buffer. To offset these indirect buffer impacts, the AOA Report proposes a watercourse buffer averaging plan that will reduce 141 square feet of the watercourse's buffer. The proposed area of buffer reduction is currently developed and contains portions of the existing deck, stairs, and concrete patio. To compensate for the reduced stream buffer, the applicant proposes to add 141 square feet of additional buffer to the northern extent of the buffer. This area will subsequently be planted with native shrub species. Additionally, the applicant also proposes installing 187 square feet native vegetation as stream buffer enhancements, along the eastern side of the fence.

Per MICC 19.07.07(B)(3), the City allows buffer averaging if the following conditions are met:

- The proposal will result in a net improvement of critical area function;
- The proposal will include replanting of the average buffer using native vegetation;
- The total area contained in the averaged buffers on the development proposal site is not decreased below the total area that would be provided if the maximum width were not averaged;
- The standard buffer width is not reduced to a width that is less than the minimum buffer width (25 feet) at any location; and
- That portion of the buffer that has been reduced in width shall not contain a steep slope.

Due to the small size of the project, the AOA Report states that a long-term monitoring plan should not be required. However, if the City disagrees, the report presents goals, objectives, and performance standards that the project should meet.

**Review and Site Findings**

ESA and City staff observed the watercourse from the project parcel during the August 5, 2019 site visit. The watercourse appeared to be a ditched channel that was dug to primarily convey stormwater. No flow was observed during the August site visit. Stream substrate was primarily soil and no fish habitat was observed. Based on the stream characteristics and the location of the parcel near the start of a deep ravine, we also agree that the stream would not support fish and therefore, is a Type 3 watercourse, which would be allotted a 35-foot buffer. ESA did not view the ordinary high water mark (OHWM) of the stream, and therefore, could not locate the exact edge of the buffer in the field. However, the majority of the residence's yard was considered to be in the 35-foot buffer as shown in design drawings provided by the applicant.

During the August 5, 2019 site visit, ESA observed the area of proposed buffer reduction and addition, as well as the proposed area of buffer enhancement. The area of buffer reduction was confirmed to be largely developed. The area of proposed buffer addition as well as the area of buffer enhancement were covered with either grass or bare soil with little native vegetation. No other critical areas were observed on site.

Based on our review of the AOA Report and MICC, as well as the site visit, ESA concludes the proposed buffer addition and enhancement with native plantings will improve buffer conditions at the site and result in an ecological lift in functions. We also agree that due to the small size of the project, annual monitoring of the site should not necessarily be required. However, we recommend that the plants be monitored twice, approximately one year after plant installation (to determine survival and replacement) and five years after plant installation to ensure the mitigation actions of the project are a success.

Therefore, we believe the proposed project has met all requirements for buffer averaging under MICC 19.07.07(B)(3) and is compliant with MICC Chapter 19.07 – *Environment.*

If you have any questions, please call us at (206) 789-9658.