ECTYPOS
ARCHITECTURE

April 15, 2024

Community Planning and Development Department
City of Mercer Island

Memo: Critical Area Review 2 for a remodel and addition to 8265 SE 61st St.

To: Reviewers for the above referenced project:

The following is a narrative addressing the critical areas impacting this single-family residential site and development proposal and is intended to introduce the project and professional studies for the Critical Area Review

The proposed project is for a remodel and small addition to the existing legally non-conforming structures. No drainage study or detention is required as redevelopment has been kept within the minimum requirements for such.

The Critical Areas impacting this site are:

- Geologically Hazardous Area with steep slopes
- Np Watercourse on the southerly neighbor's property whose buffer extends onto the subject property

Due to the limited area for the necessary functionality of site use we are utilizing **MICC 19.07.180.C.5** Buffer Reduction to 45'.

The request for a Building Permit will run concurrently with the CAR2. In addition to the required professional reports for each Critical Area is a full set of documents describing the project in detail for the building permit.

Thank you for your attention to this project,

Lucia Pirzio-Biroli, AIA, Ectypos Architecture

Site Ownership: Laura Nestler and Jonathan Spare are the 3rd owners having purchased the home in 2017. They have not made any improvements to the house or site other than basic maintenance, appliance replacement and clearing of some blackberries and other invasive species.

Attached Documents specific to Critical Areas: In addition to all documentation required for a standard building permit attached are the following studies by appropriate professionals:

- **Geotechnical Report:** By Marc McGinnis of Geotchech Consultants, Inc. Dated 12/21/23. Structural Design conforms to report recommendations.
- **Ecologist Report:** By John Altmann of Altmann Oliver and Associates. Dated 4/15/24. Report addresses watercourse designation, OWHM delineation, buffer and setbacks, lack of project impact and restoration area and design.
- **Topographic site survey** that includes the Ordinary High Water Mark of the watercourse on the neighbor's property.
- **Sheet A1.3** is the CAR 2 site plan. Sheets A1.4 and A1.5 are extracted from the Ecologist's report

Site Critical Area overlays and potential impacts:

- Construction within a geologically hazardous Area. See Geotechnical Report and Structural Design in Drawing Set
- Delineation of watercourse buffer whose buffer extends onto the subject property: See Ecology Report; Survey and Sht. A1.3 in Drawing Set
- **Reduction** of a watercourse buffer: See Ecology Report and Shts.A1.1 and A1.3 in Drawing Set

Site Description:
The lot is a 14,817 SF (+/-) somewhat regular 5-sided rectangle. It is accessed from the east side (top) of the parcel. The western property line is a private access road for the neighborhood below coming off West Mercer Way.

The house was permitted and built in 1970 under the Mercer Island Land Use Code of the same year. Except for the small bay that extends into the north side yard setback, the house conforms to the code of that period, including the detached garage that was built 10'-7" from the front yard property line. *(Attached are a copy of the approved building permit and sections of the 1970 code pertinent to the house.)*
The south half of the house, much of the existing deck and much of the existing detached garage are now in the 60' watercourse buffer.

The site is steep with a shelf in the middle on which the house was built with a limited flat back yard. The existing garage/driveway is approximately 6.5' above the house. Access to the house from the detached garage and driveway is by an irregular walkway/stair that is built around a large, big-leaf maple. It is risky in good weather and dangerous for anyone with mobility issues or carrying cumbersome items. *Photos 1 &2*

Throughout the site, the previous owners built stacked stone retaining walls that are beginning to fail but have managed the topography making the south portion of the site accessible primarily for maintenance. In the large south side yard are blackberries, bamboo, and other invasive species. The westerly area of the rear yard is extremely steep and overgrown with blackberries, holly and other non-native species. *Photos 4 & 6*

There is an NP watercourse on the southerly neighbor's property which has been classified by the Ecologist and mapped on the attached survey. *Photo 4* It collects up-land storm water from developed streets and residential properties where no hard City Storm Infrastructure exists and comingles that water with a seep on the property. At the west end of the neighbor's lot, the watercourse enters a culvert at the end of which storm water from adjacent downhill properties is connected to it via City infrastructure. This then becomes part of a greater Storm Water System which runs to Lake Washington. *See attached IGS Map "Storm Infrastructure".*
On the project site there is an existing corrugated plastic pipe, at times buried and other times exposed, that carries water from the downspouts of the project house to the area just east of where the watercourse enters the culvert. This pipe is not currently connected to any infrastructure, although the City Engineer has told us we can use this pipe, or its replacement as the storm collection for the project *(email from Ruji Ding February 13, 2024)*.

Project Description: Refer to project drawing set for depiction of intended work.
One of the original motives for the project was to connect the garage and house with a safe protected way of getting between both and the driveway.

The existence of the watercourse on the neighboring property forced the decision to reuse the existing garage and build a minimized connection between it and the house as well as a raised courtyard and formal entrance to the house, level with the garage. The new addition is outside the buffer but overlaps the 45' buffer setback by approximately 43sf.

To achieve programmatic functionality, it was necessary to reduce the watercourse buffer to 45' (MICC 19.07.180.C.5). The design has been developed to minimize any impact to the buffer. Nevertheless, some work will occur beyond the 10' setback and 45' buffer. *Photo collage 3*
It is described as follows:

- 43sf of the addition extends into the 10' setback but well back of the closest part of the existing buildings.
- Work for the addition required the removal of existing retaining walls and a walking surface between the garage and house. The retaining walls served to ease the +/- 6' elevational disparity between the house and garage. They will be replaced by concrete retaining walls/planters.
- Failing decks and stairs will be replaced like for like.
- Part of the project consists of removing the roof and reconfiguring it into a butterfly so that it can both accommodate the new loft over the bedroom area and connect the garage in a graceful way. The new roof has a 6' eave over the west deck which includes 68.3 sf that extend beyond the 60' buffer, 17sf of which is beyond the 45' buffer setback. This roof is over an existing deck and patio below. This has NO ecological impact.

Another important programmatic aspect was an expansion of the primary suite and the addition of a work loft above. The portion of the main floor overhanging the foundation to the north will be demolished removing the illegal non-conforming bay and simplifying the relationship to the variable sideyard setback height limit. This necessitates expanding the primary bedroom, work loft and roof deck west. To remain consistent with geotechnical requirements of no foundations westward of the existing structure this expansion is cantilevered westward over the basement.

The roof over the entire house is being raised to accommodate the loft and create a gracious living space. Although it is within the existing envelope, the west wall of the living room requires a full height moment frame from the basement to the roof and its requisite foundation. The simplest solution would have been to apply the frame to the exterior of the building, but due to the watercourse buffer and geotechnical concerns, we have opted to pull it in-board of the existing wall. This creates a complex foundation system but will ultimately create no impact on the ecological function of the watercourse.

The existing storm drain will be replaced in situ with a more robust pipe and dispersion system that distributes water into the watercourse without creating erosion. *See Sheet A1.3 for location and description.* The proposed project reduces Hard (Impervious) Surfaces by approximately 300 sf. *See sheets A1.2a and A1.2b*

The project will include site restoration between the 45' buffer and southerly property line. The area of restoration will be a minimum of 100sf. All affected areas adjacent to construction within the buffer will be restored after construction to a native habitat.

Mitigation Sequencing:

- **A. Avoiding impact altogether:** Tearing down the existing garage and rebuilding it to the north was considered but discarded because it completely compromised the remaining existing portion of the house and grading for the driveway was impossible.
- **B. Minimizing impacts:** Reduced Buffer
    - **i.** Maintaining the 54-year-old garage and modifying it with a connection to the house with a minimized program
    - **ii.** Rebuilding like for like existing decks and stairs
    - **iii.** Keeping all new foundations east of existing: constructing the required moment frame and foundations in board of the existing walls and cantilevering the main and upper floor additions over the west wall of the basement.
    - **iv.** Reducing overall site impervious surfaces and consequential storm water and replacing the existing storm system with one that mitigates erosion through a gabion "mattress".
- **C. Rectifying the Impact:** A restoration plan for existing areas currently overwhelmed by invasive species between the house and the southerly property line in the buffer will be implemented. This will at a minimum be commensurate with the area that is within the setback and buffer and will include removal of invasive species, supplementation of soil and replanting with native species.
- **D. Eliminating the impact over time**:
    - **i.** Erosion control and limits of disturbance will be implemented during construction to minimize impact to existing habitat.
    - **ii.** After completion of work the restored area will be maintained for a minimum of 5 years ensuring the survival of native species and elimination of potential invasive species.
- **E. Compensating for impact by replacing, enhancing or providing substitute resources:** See C&D above.
- **F. Monitoring impact and taking appropriate corrective measures…**See D.ii above.

Site Photos:

Photo 1: Existing garage/driveway in relationship to house

Photo sequence 2: Access from garage/driveway to house

Photo collage 3: East wall of existing house and concrete slab/wood deck rockery/planters/retaining walls between main house level and garage level south stairs up to garage level. Rebuild deck/stairs like for like. Replace planters/retaining walls with concrete system between addition and existing/new stair.

Photo 4: Watercourse on neighboring property (left rock bed), green chain-link fence demarks more or less property line, example of dry stone laid retaining walls throughout the site partially cleared by Owner.

Photo 5: West (rear) yard south. Deck repaired/replaced like for like in situ.

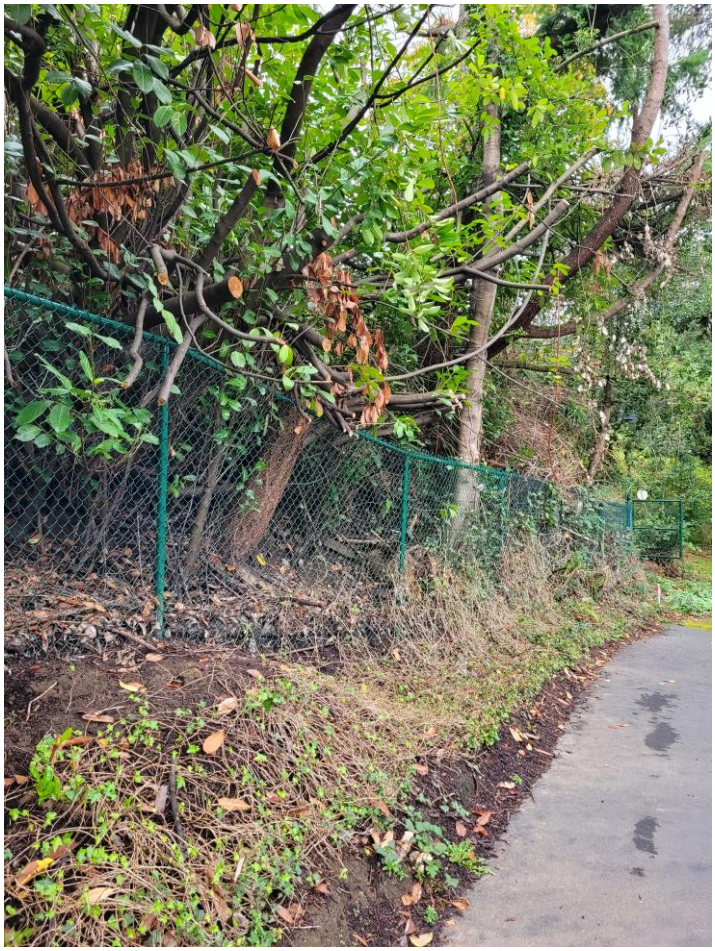

Photo 6: Westerly property line from private road access to neighbors below

From: Ruji Ding <ruji.ding@mercerisland.gov>
Sent: Tuesday, February 13, 2024 8:49 PM
To: Lucia Pirzio-Biroli <lucia@ectypos.com>
Cc: Michele Marquardi <michele@ectypos.com>; Jonathan Spare <jdspare@gmail.com>
Subject: RE: PRE23-057

Hi Lucia,

Thank you for sending over the calculation. It is very helpful. Based on the calculation and plan sheets you provided in the email, your project will not trig the full drainage report, so a drainage report and an onsite detention system will not be required with your building permit submittal.

Yes, you do not to collect the runoffs and connect to the storm pipe as shown on Sheet A-1. The storm system is a private system, and the street is a private street. For the drainage plan, please show the pipe size, material, invert elevations and how to connect the existing system. Also a recorded private storm drainage system from the property owners that the new pipe will be located.

Hope this helps!

Ruji

From: Lucia Pirzio-Biroli <lucia@ectypos.com>
Sent: Monday, February 5, 2024 2:30 PM
To: Ruji Ding <ruji.ding@mercerisland.gov>
Cc: Michele Marquardi <michele@ectypos.com>; Jonathan Spare <jdspare@gmail.com>
Subject: PRE23-057

Hi Ruji,

Attached are our rigorous calculations of hard / impervious surfaces for this project. Please take a look at them.

On sheet A1.2b at the bottom of the tabulation schedule you will see that we have a net -304.75sf of hard / impervious surfaces.

Based on our Pre-App we shouldn't be required to submit a drainage report or put in a detention tank.

We assume, however, that we will be required to collect roof run-off and footing drain water and get it to a storm water system. On the general site plan (A1.1) we are showing a connection from the back yard (lowest part of development) to a location where the water course on the neighboring property enters a pipe. On the City maps this is part of a larger stormwater catchment area.

What do we need to show on the drawings and what documentation, if any, needs to be submitted with the permit?

Thank you!

Lucia

ECTYPOS ARCHITECTURE

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8265 SE 61st Storm Infrastructure

Information & Geographic Services

Legend

- Storm Catch Basin
  - CB, City Owned
  - CB, Private
  - CB, Unknown
  - Type 2, City Owned
  - Type 2, Private
  - Type 2, Unknown
- Storm Main
  - Pipe
  - Open Watercourse
  - Piped Watercourse
  - Ditch
  - Culvert
  - Other
- Storm Main - Private
- Storm Discharge Poir
- Unpiped Watercourse
  - Type "F" = Fish
  - Type "Np" = Non-Fish
  - Type "Ns" = Non-Fish
  - Type "Np" (Unverified)
  - Type "Ns" (Unverifed)
- Piped Watercourse
- Address
- Building
- Property Line
- Docks
- Freeway
- Major Street
- Street
- Paved Driveway
- Paved Road
- Paved Parking Area
- Parks
- Lake Washington

1: 2,500

318.7 0 159.37 318.7 Feet

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Map Printed: May 5, 2023

Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.

Notes

Properties uphill from adjacent site have no formal storm sewer infrastructure