**CITY OF MERCER ISLAND**
9611 SE 36th Street • Mercer Island, WA 98040-3732
(206) 275-7605 • FAX (206) 275-7726
www.mercergov.org

July 30, 2018

Benny Kim
74145 Lake Ballinger Way
Edmonds, WA 98026
*Via email*

Re: Review Letter for CAO18-003 - Critical areas Determination
Regarding: possible piped watercourse and the type IV wetland located at 8114 West Mercer Way Mercer Island, WA 98040; Parcel ID: 33585-00974

Dear Benny Kim,

The City has completed the first round of review for CAO18-003 Critical Areas Determination. Following review of the application, City staff has determined that additional information is necessary to ensure compliance with the Mercer Island City Code (MICC) and to continue processing of the application. Required information and corrections are detailed below.

**Land Use Review Comments:**

1. Options to proceed. Based upon the following comments, at a high level it appears that there are a few options to proceeding. Please choose to proceed with one of the following options:
    a. Propose to alter (fill) a portion of the type IV wetland and mitigate this fill with wetland and wetland buffer restoration and enhancement, and/or replace the filled wetland area with a wetland area of equal or greater function [MICC 19.07.080(D)].
    b. Modify the house design to be outside the reduced or averaged wetland buffer. Provide wetland and wetland buffer restoration and enhancement for the remaining areas.
    c. Apply for a Reasonable Use Exception.
    d. Pursue another option the City has not considered.

    The City's impression is that it would be simpler procedurally to proceed with option (b). With option (b), the house and stairs would not be allowed to encroach into the minimum allowed 25-foot buffer. The mitigation for all options requires a net improvement of wetland function and replanting the remaining wetland and buffer using native vegetation. Please refer to MICC 19.07.070(3).
2. ESA Review. Below is a summary of the City's peer review consultant's review comments. For the full memo please refer to Attachment A.
    a. Delineate, locate and indicate on the site plan the 200sf wet area.

b. Reconfigure the driveway or plant trees and/or shrubs along the edge of the driveway to protect the wetland to the extent possible.
c. Minimize impacts to the wetland and buffer by designing the house and driveway to be outside of the reduced wetland buffer.

3. Public comment. The City received multiple public comments, please refer to Attachment B. Please consider and prepare a response to the categories of comments:
    a. Landslide hazard: concerns about development with the steep slope and potential landslide hazard.
    b. Water on-site: concerns about erosion and run-off and the potential impacts to neighboring sites.
    c. Provided Documents: proposed plans and potential impacts (off-site) were vague, and a possible wetland was not indicated.

    Please respond to the concerns above in your resubmittal, this can be in letter format.

4. Site Plan. Please revise the site plan to include the following items:
    a. Indicate the original (35 foot) and reduced (25 foot) Type IV wetland buffer.
    b. Indicate the location and classification of the 200 sf wetland and associated buffer.
    c. Please remove the reduced buffer off-site, as this application is for 8114 West Mercer Way only.
    d. Please only show the reduced buffer for the house and driveway. No development is proposed in the upland area and consequently there is no need for a buffer reduction.
    e. Indicate the extent of the steep slope on-site, as the wetland buffer cannot be reduced in a steep slope. This can be illustrated with hatching on the site plan, based on the underlying topographic survey. MICC 19.16 defines steep slope as the following: *"any slope of 40 percent or greater calculated by measuring the vertical rise over any 30-foot horizontal run. Steep slopes do not include artificially created cut slopes or rockeries."*
    f. Indicate the easements on-site and provide the recording numbers.
    g. Clearly label the property line and dimensions.

5. Critical Areas Study.
    a. In the Critical Areas Study please clearly state how the new driveway complies with MICC 19.07.030(6):
    b. Construction is consistent with best management practices;
    c. The facility is designed and located to mitigate impacts to critical areas consistent with best available science;
        i. The current driveway location is within the reduced buffer area – is there a reason why the driveway area was not reduced to avoid impacting the reduced buffer area?
    d. Impacts to critical areas are mitigated to the greatest extent reasonably feasible so there is no net loss in critical area functions.
    e. Please provide a mitigation and restoration plan with the following:
        i. Location of existing trees and vegetation and proposed removal of same;
        ii. Mitigation proposed including location, type, and number of replacement trees and vegetation (planting plan);

iii. Delineation of critical areas; Please locate the 200 square foot wet area that was mentioned in the introduction of the wetland delineation report and please indicate the location on the site plan.
iv. In the case of a wildlife habitat conservation area, identification of any known endangered or threatened species on the site;
v. Proposed grading;
vi. Description of impacts to the functions of critical areas; and
vii. Proposed maintenance and monitoring plan (required for 5 years after the installation date)

f. Please provide a site survey, coversheet, and a site construction plan.

6. Please provide a King County Bond Quantity Worksheet (BQW). A financial surety will be required prior to construction permit issuance, whether it be a bond or assignment of funds, of 150% of the total provided on the BQW. Please refer to Attachment C.

7. Please state how the proposal is SEPA exempt. If SEPA is required, please apply for a SEPA Determination. From looking at the plans the proposed driveway is abutting the wetland. To construct the driveway the wetland will be encroached upon. In addition, the house construction may have an impact on the wetland.

8. If you decide to proceed with altering the Type IV wetland, please clearly state how the proposal complies with MICC 19.07.080(D):
    a. Category III and IV wetlands of less than one acre in size may be altered if the applicant can demonstrate that **the wetland** will be **restored, enhanced, and/or replaced** with a wetland area of equivalent or greater function. In cases where the applicant demonstrates that a suitable on-site solution does not exist to enhance, restore, replace or maintain a wetland in its existing condition, the city may permit the applicant to provide off-site replacement by a wetland with equal or better functions. The off-site location must be in the same drainage sub-basin as the original wetland.

9. Please state why the driveway, stairs, and northeast portion of the house was placed within the reduced buffer.

    Refer to Attachment D for a visual of the area in question.

    Can the above items be located outside of the reduced buffer to reduce impacts? There will be temporary construction impacts from excavation and installation of the house, stairs, and driveway that will encroach further into the reduced buffer. A 4-5-foot setback from the buffer should be provided to mitigate construction impacts and for long-term maintenance. Long-term maintenance includes maintenance of the house long-term such as painting and accessing the backyard.

10. Please refer to this link for examples of past Critical Areas Determinations (CAD): https://mieplan.mercergov.org/public/CAD Examples/.

**Civil Engineering Review Comments:**

11. Provide a Stormwater and Erosion Control Management Plan consistent with recommendations from the Executive Summary (submitted on June 4, 2018) and Wetland Mitigation and Monitoring Plan (submitted on July 2, 2018). If you have questions, please contact Ruji Ding, she can be reached at 206-275-7703 or at ruji.ding@mercergov.org. The stormwater control management plan may be combined with the mitigation and restoration plan.

**Please note:** Review of permit number CAO18-003 can't resume until the above specified information is received and building permit 1401-022 cannot be issued until the required land use applications have been issued.

Please do not hesitate to contact me at 206-275-7704 or via email at lauren.anderson@mercergov.org if you have any questions. If you would like to meet in-person to discuss the above items, please let me know so we can schedule a meeting. Evan Maxim (Interim Director) can be present in the meeting.

Sincerely,

Lauren Anderson, Assistant Planner
City of Mercer Island's Development Services Group
Enclosed:

Attachment A: ESA First Review Memo for CAO18-003

Attachment B: Public Comments

Attachment C: King County Bond Quantity Worksheet

Attachment D: Area within reduced buffer

ESA

5309 Shilshole Avenue, NW
Suite 200
Seattle, WA 98107
206.789.9658 phone
206.789.9684 fax

www.esassoc.com

Attachment A- ESA Memo

# memorandum

| | |
|---|---|
| date | July 26, 2018 |
| to | Lauren Anderson, Assistant Planner |
| from | Jessica Redman, Ecologist |
| subject | Lee Residence (CAO18-003) Critical Areas Review |

Environmental Science Associates (ESA) has prepared this memorandum on behalf of the City of Mercer Island (City). The purpose of this memo is to verify the accuracy of the findings within the critical areas study submitted with the application for CAO18-003 and to confirm whether the proposed project complies with Mercer Island City Code (MICC) Chapter 19.07 – *Environment*. The site is located at 8114 West Mercer Way (Parcel 3358500974). The applicant proposes to construct an approximately 4,000 square foot single family residence on the currently undeveloped parcel. ESA has previously reviewed the presence of watercourses on this parcel. Findings were submitted to the City in the *Lee Residence (1401-022) – Critical Area Determination to Verify a Watercourse* technical memo (dated November 15, 2017). In this earlier review, ESA recommended that the applicant investigate the source of hydrology at the western property boundary and a wetland delineation be performed onsite. Documents reviewed by ESA for the current submittal include the following:

- *Wetland Delineation Report – 8114 West Mercer Way Residential Project, Mercer Island, Washington* (Westech Company, April 2018);
- *Wetland Mitigation and Monitoring Plan – 8114 West Mercer Way Residential Project, Mercer Island, Washington* (Westech Company, June 2018);
- *8114 W Mercer Way, Mercer Island, WA (Lot 3B) – Source of Water Verification at the North and South Property Lines as Shown on the Mercer Island Watercourse Map Technical Memo* (C2MY Engineers, November 27, 2017); and
- *8114 W Mercer Way, Mercer Island, WA (Lot 3B) – Field Verification to Verify the Water Source at the Beginning of Drainage Pipe System at East End of Lake View Lane Draining to Lot 3B North and South Property Lines as Shown on the Mercer Island Watercourse Map Technical Memo* (C2MY Engineers, December 11, 2017)

**Reports and Plan Summary**

One wetland (Wetland A) was delineated on site. Wetland A is a slope wetland occurring along the southeastern edge of the parcel, and continues offsite to the east. The wetland was categorized as a Category IV wetland which is allotted a 35-foot buffer per MICC 19.07.080.C. According to the Wetland Delineation Report a possible wetland area was observed on the west side of the site but was not delineated due to its small size (less than 200 square feet); Category IV wetlands less than 2,500 square feet are exempt from City regulations per MICC 19.07.030.13.

The project proposes to reduce the standard 35-foot wetland buffer to 25 feet. However, the proposed residence would still encroach into the reduced buffer, with the remaining buffer measuring 15 to 20 feet in some area. In addition, the proposed driveway to the residence would also be located within the reduced buffer, immediately adjacent to the southern end of Wetland A. The applicant proposes a total impact of 1,100 square feet within the reduced buffer. To mitigate for buffer impacts, the applicant proposes to designate an 1,100 square foot area as additional buffer as shown in the mitigation plan.

Additionally, C2MY Engineers investigated the sources of hydrology to the site and concluded that the area upstream of the mapped, piped water course does not receive naturally occurring surface water or groundwater and would not be regulated under the City's critical areas ordinance (MICC 19.16 – definition of a watercourse).

**Review of Site Conditions**

ESA scientist Jessica Redman conducted a field visit on June 18, 2017, meeting on-site with Lauren Anderson (City of Mercer Island) and Benny Kim (architect).

*Watercourse* – During the June site visit, as well as a previous site visit in November 2017 for the watercourse review, no watercourses were observed on site. While there is a stormwater vault/catch basin at the downslope location of the wetland, no defined channel with bed or bank was observed leading to this vault.

*Wetlands* – We generally agree with the wetland documentation provided by Westech including the location of the wetland delineation flags and the characterization of existing vegetation and hydrology. We also agree that Wetland A is correctly rated as a Category IV slope wetland.

**Conclusion and Recommendations**

*Watercourse* – ESA did not observe a watercourse and believes the applicant has submitted sufficient documentation (C2MY Engineers, 2017) showing that the source of hydrology to the pipes onsite is stormwater collected in a catch basin on a road upslope. No channels with a bed, banks, or sides were observed upstream of the catch basin and therefore no watercourses (as defined by MICC 19.16.010) occur onsite.

*Wetlands* –

- According to the Wetland Delineation Report (Page 1, Paragraph 4), "a small area (less than 200 square feet) was also found on the west side of the Site which had a dominance of upland vegetation but was somewhat wet and had wetland soil characteristics in a very small area along a short swale." This area was not delineated or included in the critical area analysis because it is much smaller than the 2,500

square foot regulatory threshold. According to MICC 19.07.030.13, "alterations to Category III and IV wetlands of low value under 2,500 square feet" are allowed and the applicant is not required to comply with the other regulations of MICC 19.07. However, according to MICC 19.07.050 the delineation of critical areas must be included in the critical areas report. We recommend that additional information be provided that would determine whether or not this area meets wetland criteria according to the federal methods. If determined to be wetland, this area should be documented in the critical areas report and categorized to ensure that it meets the size limits and wetland category requirements of exemption under MICC 19.07.030.13.

- The Wetland Delineation Report does not follow the requirements of MICC 19.07.050.C. The Report is missing the following items:
    - The location of trees and vegetation onsite and the proposed removal of vegetation;
    - A detailed mitigation plan including a detailed planting plan;
    - A grading plan, and
    - A description of impacts to wetland functions.

  We recommend the Report be revised to include all necessary documents required by MICC 19.07.050.C.

- According to MICC 19.07.030.6, new driveways are an allowed use within wetland buffers if mitigation occurs to the greatest extent practicable to ensure a no net loss in ecological functions. We agree that the proposed buffer mitigation is sufficient to offset the allowed buffer impacts caused by the driveway. However, the proposed driveway is currently located immediately adjacent to the southern end of Wetland A. Daily use of pollution generating surfaces, such as driveways, in close proximity to a wetland could result in a loss of the wetland's water quality and habitat functions. We recommend the driveway be reconfigured to minimize impacts to the wetland. If not practical to reconfigure the driveway, we recommend that trees and/or shrubs be planted along the northern edge of the driveway to protect the wetland to the extent possible.

- The applicant is proposing to reduce the buffer from 35 feet to the minimum allowed buffer of 25 feet. However, the proposed residence will encroach into the reduced buffer so that in some areas the remaining buffer will measure 15 to 20 feet wide. According to MICC 19.07.080, the buffer may be reduced to not less than the minimum buffer width if it is determined that a smaller buffer would still protect wetland functions. Because new residential structures are not considered to be an allowed use per 19.07.030, the proposed house may not encroach into the reduced buffer. We recommend that the house be designed or reconfigured to avoid the impacts to the reduced buffer.

- If the footprint of the house cannot practically avoid impacts to the reduced buffer, the City has offered the applicant a "paper fill" option whereby wetland mitigation may be used to offset buffer impacts According to MICC 19.07.080.D, "Category III and IV wetlands of less than one acre in size may be altered if the applicant can demonstrate that the wetland will be restored, enhanced and/or replaced with a wetland area of equivalent or greater function." If the impacts to the reduced buffer are mitigated as impacts to the wetland itself, we recommend additional wetland enhancement occur to ensure a no net

loss of function. In addition to the proposed buffer addition and buffer enhancement, we recommend wetland enhancement in the southern portion of the wetland where reed canarygrass is dominant. The hand removal of invasive vegetation (i.e. Himalayan blackberry and reed canarygrass) and the subsequent installation of native plants within this area would offset the impacts to the reduced buffer as well as reduce the impacts of the proposed driveway. We recommend the Wetland Mitigation and Monitoring Plan be revised to include wetland enhancement in the southern portion of Wetland A.

- If the applicant chooses not to avoid the buffer or cannot provide the mitigation suggested above, the applicant may apply for a reasonable use exception per MICC 19.07.030.B.

# Attachment B - Public Comments

**From:** Christa Friedrich
**To:** Lauren Anderson
**Subject:** File No. CAO18-003, Property located at 8114 West Mercer Way
**Date:** Wednesday, July 11, 2018 3:37:23 PM

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Dear Ms. Anderson:

Re: File No.: CAO18-003

My name is Christa Friedrich and I am the owner of the house at 8126 West Mercer Way. My property is located southeast of the subject property. The application is for a reduction in the wetland buffer from 35 feet to 25 feet to construct a driveway and single family residence. I am one of the current three parties sharing the driveway starting at West Mercer Way to the houses at 8118, 8122 and 8126. The property owner at 8114 will be the fourth party sharing this driveway.

I would like to be considered a party of interest and would appreciate being kept advised of any developments . I am especially concerned about water drainage. Is this reduction of the wetland buffer really necessary? Wouldn't it be more appropriate and have less of an environmental impact to work around the wetland area? It appears there is plenty of room to do so.

I look forward to hearing from you.

Christa Friedrich
8126 West Mercer Way
Mercer Island, WA 98040
christafr@comcast.net
Phone: 206-232-4357

**From:** Fred Howard
**To:** Lauren Anderson
**Subject:** CAO13-03 Comment and Conerns
**Date:** Wednesday, July 11, 2018 2:11:38 PM
**Attachments:** image001.png

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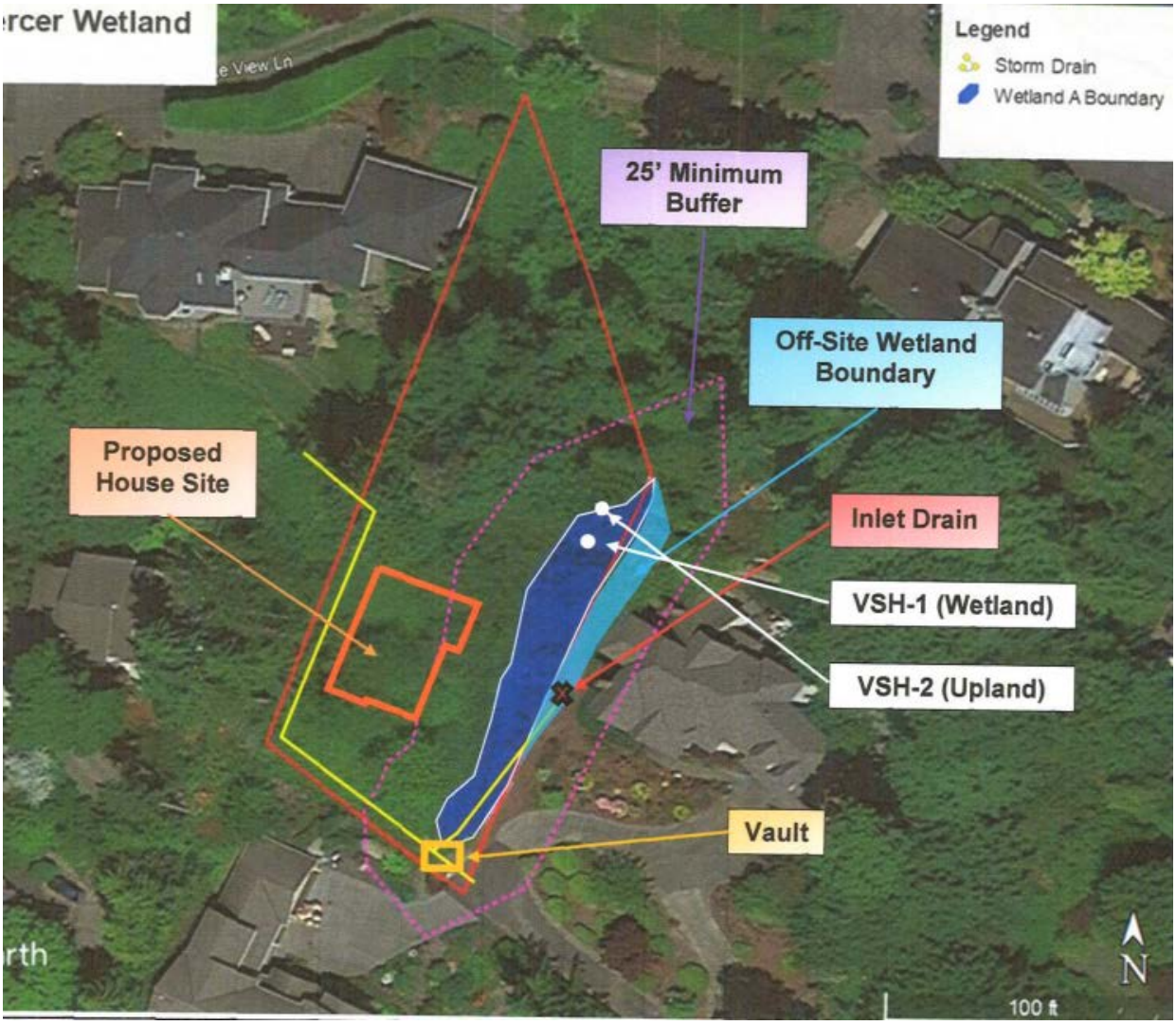
Lauren, I wanted to reach out regarding the proposal CAO13-03. I am the owner of 8122 W. Mercer Way, the property directly below the proposed changes to the minimum buffer. I have some significant concerns regarding the proposal and the vague nature of both the proposal and the impact. If they are proposing a reduction of the minimum buffer in some areas, where is the impact analysis to overall erosion and potential damage down-hill to our property? Also, what is the proposed plan to compensate for the reduction of the wetlands in the proposal?

In addition, we consulted with another consultant who informed us that the outline below is missing another wetland on the property. I would like to request an additional survey to ensure that all wetland impacts and potential damage to both the environment and to our property are understood, taken into account and mitigation plans developed.

I would appreciate you looking into this and replying so that I understand how this initiative may move forward and potential impact to both the environment and to our property.

Thank you,
Fred Howard
8122 W. Mercer Way
Mercer Island, WA 98040
310-266-3347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Off-Site Wetland Boundary
Proposed House Site
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VSH-2 (Upland)
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**From:** Lisa Chow
**To:** Lauren Anderson
**Cc:** Tuanhai Hoang
**Subject:** Fwd: CAO13-03 Comment and Concerns pt 2
**Date:** Wednesday, July 11, 2018 4:54:51 PM

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Hi Lauren,

I would like to add to my husband's email some additional feedback after talking to a Wetland Consultant.

Should the small wetland mentioned in the report on the west side of the property be shown on the maps and evaluated to identify its size, rating and low function as required by the Mercer Island Municipal Code (MIMC) 19.07.030.A (13)? With this information the City can document and share with interested parties adjacent to the parcel to evaluate.

The applicant seems to be proposing to reduce or average the buffer below the minimum buffer which does not meet the MIMC 19.07. Page 1 indicates the residence is proposed to be within 15 to 20 feet of the wetland and that the driveway is proposed to be within the 25 foot wetland buffer. The site plan (Figure 4) actually shows that the residence will be within 14 feet 9 inches of the wetland. MIMC 19.07.080.C does not allow the wetland to be reduced or averaged below the minimum buffer of 25 feet. Applicant should be required to meet the code and provide a minimum 25 foot buffer from the residence.

MIMC 19.07.030.A (6) does allow for driveways within a wetland buffer. However, the driveway is directly abutting the wetland (which will indirectly impact the wetland) and there is not discussion of if there is an alternative with less impact to the wetland or wetland buffer. In addition a wetland impact analysis that discusses the projects direct and indirect wetland impacts is not included in the mitigation plan. The driveway runoff, clearing of vegetation up to the edge of the wetland and construction of the residence abutting the reduced wetland buffer will all have direct and indirect impacts to the wetland system. The applicant should be required to identify the types of vegetation and conditions of the impact areas, proposed

restoration areas and provide a full wetland and buffer impact analysis.

Construction of the residence directly adjacent to the wetland buffer will ultimately impact the buffer during construction and a building setback for construction purposes should be provided to allow construction of the residence without further impact to the buffer.

The wetland boundary indicated in the wetland report shows wetland offsite. Since the applicant did not have our permission to access our property or dig holes on our property we are requesting that the offsite wetland not be shown on project maps as a known wetland area. Offsite evaluation should have occurred and the offsite area should be shown as approximate boundary. There is a existing gravel path within the area between the wetland and my residence so we believe that the wetland edge does not extend as far as shown onto our property.

We are looking forward to getting a response that would provide any additional information that may be added to the City record including the City correspondence with the applicant or other agencies.

Thank you,

Lisa Chow and Tuanhai Hoang
8118 West Mercer Way
Mercer Island, WA 98040
206-236-8118

On Jul 11, 2018, at 2:18 PM, Tuanhai Hoang <Tuanhai@qualitel.com> wrote:

Thanks

Best Regards,

Tuanhai

Sent from smartphone so please excuse typos.

-------- Original message --------

From: Lauren Anderson <Lauren.Anderson@mercergov.org>
Date: 7/11/18 1:12 PM (GMT-08:00)
To: Tuanhai Hoang <Tuanhai@qualitel.com>
Cc: Lisa Chow <lisa.chow@qualitel.com>
Subject: RE: CAO13-03 Comment and Conerns

Hello Tuanhai Hoang,

Thank you for your comments, you are now a Party of Record and will receive notice of the decision. The City has shared your comments with the other reviewers and the applicant.

Sincerely,

*Lauren Anderson // Assistant Planner*
City of Mercer Island Development Services Group
9611 SE 36th Street, Mercer Island, WA 98040
206.275.7704
lauren.anderson@mercergov.org

Out of the office: July 20 and August 1-8.

To fill out a Public Records Request go to
https://mercerisland.nextrequest.com/

For more information of the status of permits go to www.mybuildingpermit.com
For information about a geographic area go to http://pubmaps.mercergov.org
To view application forms and other zoning information checkout
http://www.mercergov.org/Page.asp?NavID=361

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**From:** Tuanhai Hoang <Tuanhai@qualitel.com>
**Sent:** Wednesday, July 11, 2018 1:04 PM
**To:** Lauren Anderson <Lauren.Anderson@mercergov.org>
**Cc:** Lisa Chow <lisa.chow@qualitel.com>
**Subject:** CAO13-03 Comment and Conerns
**Importance:** High

Hi Lauren, I am the owner at 8118 West Mercer Way. I am East of this property. I have major concerns regarding reducing the buffer from 35feet to 25 feet.

1. I would like a 2nd survey as I think some of the details are inaccurate. For example it is showing that we have wetland right next to our house when it is not the case. Also, talking to another consultant, there seems to be another small wetland on the property.

2. The plans are vague and would like a more detailed plans as shrinking the buffer from 35 ft to 25 and 15 in some areas are not good for the environment. With their current proposal they will degrade the function and value of the wetlands which will have an environmental impact.

3. I would like to see an averaging plan. The overall sf buffer of the buffer should not change with the ordinance asking for 35ft.
If in some areas they reduce it to 25 or 15 ft they should compensate in areas for an additional 15-20 ft on top of the 35ft.

4. I am also concern about erosion impact onto my property removing the vegetation. My property is already impacted currently and I am afraid it will be worse.

I appreciate your attention. Please acknowledge receipt of this email.

Thank you

Tuanhai Hoang
8118 West Mercer Way
Mercer Island Wa 98040
206-236-8118

Sent from smartphone so please excuse typos.

| | |
|---|---|
| **From:** | Loren-Ann Anderson |
| **To:** | Lauren Anderson; paul.skidmore@mercergov.prg |
| **Cc:** | Peter Mohai |
| **Subject:** | 8114 W Mercer Way File No. CAO18-003 |
| **Date:** | Wednesday, July 4, 2018 12:07:03 PM |

Hi Lauren

I am following up our conversation on July 2, 2018 with this email.

I am against modification of the wetland buffer on 8114 W Mercer Way, and furthermore against ANY type of development of that property , for the following reasons:

1. Property is on a Critical Slope with a history of instability.
2. Property contains springs and water flow from the bank, and has standing pools of water in the winter.
3. Development of the property could affect neighboring properties, and may result in landslides, etc., specifically to the homes above the subject property.
4. There should be no cutting of trees or removal of vegetation, which has stabilized the hillside.

I would like copies of impact studies, geotechnical studies, engineering and architectural plans.

I would like to be designated a "party of record"

If the development of the property results in hillside instability and subsequent damage to homes or property, I will hold the City of Mercer Isld. and the property owner liable for damages.

Loren E. Anderson
8132 W Mercer Way
206 275 3663

| | |
|---|---|
| **From:** | Tuanhai Hoang |
| **To:** | Lauren Anderson |
| **Cc:** | Lisa Chow |
| **Subject:** | CAO13-03 Comment and Conerns |
| **Date:** | Wednesday, July 11, 2018 1:03:55 PM |
| **Importance:** | High |

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Hi Lauren, I am the owner at 8118 West Mercer Way. I am East of this property. I have major concerns regarding reducing the buffer from 35feet to 25 feet.

1. I would like a 2nd survey as I think some of the details are inaccurate. For example it is showing that we have wetland right next to our house when it is not the case. Also, talking to another consultant, there seems to be another small wetland on the property.

2. The plans are vague and would like a more detailed plans as shrinking the buffer from 35 ft to 25 and 15 in some areas are not good for the environment. With their current proposal they will degrade the function and value of the wetlands which will have an environmental impact.

3. I would like to see an averaging plan. The overall sf buffer of the buffer should not change with the ordinance asking for 35ft.
If in some areas they reduce it to 25 or 15 ft they should compensate in areas for an additional 15-20 ft on top of the 35ft.

4. I am also concern about erosion impact onto my property removing the vegetation. My property is already impacted currently and I am afraid it will be worse.

I appreciate your attention. Please acknowledge receipt of this email.

Thank you

Tuanhai Hoang
8118 West Mercer Way
Mercer Island Wa 98040
206-236-8118

Sent from smartphone so please excuse typos.

King County

Department of Permitting
Environmental Review
35030 SE Douglas Str, Suite 210
Snoqualmie, WA 98065-9266
206-296-6600 TTY Relay: 711

# Critical Areas Mitigation
## Bond Quantity Worksheet

C24 09/09/2015
ls-wks-sensareaBQ.xls
ls-wks-sensareaBQ.pdf

**Project Name:** **Date:** **Prepared by:**

**Project Number:** **Project Description:**

**Location:** **Applicant:** **Phone:**

### PLANT MATERIALS (includes labor cost for plant installation)

| Type | Unit Price | Unit | Quantity | Description | Cost |
|---|---|---|---|---|---|
| PLANTS: Potted, 4" diameter, medium | $5.00 | Each | | | $ - |
| PLANTS: Container, 1 gallon, medium soil | $11.50 | Each | | | $ - |
| PLANTS: Container, 2 gallon, medium soil | $20.00 | Each | | | $ - |
| PLANTS: Container, 5 gallon, medium soil | $36.00 | Each | | | $ - |
| PLANTS: Seeding, by hand | $0.50 | SY | | | $ - |
| PLANTS: Slips (willow, red-osier) | $2.00 | Each | | | $ - |
| PLANTS: Stakes (willow) | $2.00 | Each | | | $ - |
| PLANTS: Stakes (willow) | $2.00 | Each | | | $ - |
| PLANTS: Flats/plugs | $2.00 | Each | | | $ - |
| | | | | TOTAL | **$ -** |

### INSTALLATION COSTS ( LABOR, EQUIPMENT, & OVERHEAD)

| Type | Unit Price | Unit | | | Cost |
|---|---|---|---|---|---|
| Compost, vegetable, delivered and spread | $37.88 | CY | | | $ - |
| Decompacting till/hardpan, medium, to 6" depth | $1.57 | CY | | | $ - |
| Decompacting till/hardpan, medium, to 12" depth | $1.57 | CY | | | $ - |
| Hydroseeding | $0.51 | SY | | | $ - |
| Labor, general (landscaping other than plant installation) | $40.00 | HR | | | $ - |
| Labor, general (construction) | $40.00 | HR | | | $ - |
| Labor: Consultant, supervising | $55.00 | HR | | | $ - |
| Labor: Consultant, on-site re-design | $95.00 | HR | | | $ - |
| Rental of decompacting machinery & operator | $70.00 | HR | | | $ - |
| Sand, coarse builder's, delivered and spread | $42.00 | CY | | | $ - |
| Staking material (set per tree) | $7.00 | Each | | | $ - |
| Surveying, line & grade | $250.00 | HR | | | $ - |
| Surveying, topographical | $250.00 | HR | | | $ - |
| Watering, 1" of water, 50' soaker hose | $3.62 | MSF | | | $ - |
| Irrigation - temporary | $3,000.00 | Acre | | | $ - |
| Irrigation - buried | $4,500.00 | Acre | | | $ - |
| Tilling topsoil, disk harrow, 20hp tractor, 4"-6" deep | $1.02 | SY | | | $ - |
| | | | | TOTAL | **$ -** |

### HABITAT STRUCTURES*

| ITEMS | Unit Cost | Unit | | | Cost |
|---|---|---|---|---|---|
| Fascines (willow) | $ 2.00 | Each | | | $ - |
| Logs, (cedar), w/ root wads, 16"-24" diam., 30' long | $1,000.00 | Each | | | $ - |
| Logs (cedar) w/o root wads, 16"-24" diam., 30' | $400.00 | Each | | | $ - |
| Logs, w/o root wads, 16"-24" diam., 30' long | $245.00 | Each | | | $ - |
| Logs w/ root wads, 16"-24" diam., 30' long | $460.00 | Each | | | $ - |
| Rocks, one-man | $60.00 | Each | | | $ - |
| Rocks, two-man | $120.00 | Each | | | $ - |
| Root wads | $163.00 | Each | | | $ - |
| Spawning gravel, type A | $22.00 | CY | | | $ - |
| Weir - log | $1,500.00 | Each | | | $ - |
| Weir - adjustable | $2,000.00 | Each | | | $ - |
| Woody debris, large | $163.00 | Each | | | $ - |
| Snags - anchored | $400.00 | Each | | | $ - |
| Snags - on site | $50.00 | Each | | | $ - |
| Snags - imported | $800.00 | Each | | | $ - |
| * All costs include delivery and installation | | | | TOTAL | **$ -** |

### EROSION CONTROL

| ITEMS | Unit Cost | Unit | | | Cost |
|---|---|---|---|---|---|
| Backfill and Compaction-embankment | $ 4.89 | CY | | | $ - |
| Crushed surfacing, 1 1/4" minus | $30.00 | CY | | | $ - |
| Ditching | $7.03 | CY | | | $ - |
| Excavation, bulk | $4.00 | CY | | | $ - |
| Fence, silt | $1.60 | LF | | | $ - |
| Jute Mesh | $1.26 | SY | | | $ - |
| Mulch, by hand, straw, 2" deep | $1.27 | SY | | | $ - |
| Mulch, by hand, wood chips, 2" deep | $3.25 | SY | | | $ - |
| Mulch, by machine, straw, 1" deep | $0.32 | SY | | | $ - |
| Piping, temporary, CPP, 6" | $9.30 | LF | | | $ - |
| Piping, temporary, CPP, 8" | $14.00 | LF | | | $ - |
| Piping, temporary, CPP, 12" | $18.00 | LF | | | $ - |
| Plastic covering, 6mm thick, sandbagged | $2.00 | SY | | | $ - |
| Rip Rap, machine placed, slopes | $33.98 | CY | | | $ - |
| Rock Constr. Entrance 100'x15'x1' | $3,000.00 | Each | | | $ - |
| Rock Constr. Entrance 50'x15'x1' | $1,500.00 | Each | | | $ - |
| Sediment pond riser assembly | $1,695.11 | Each | | | $ - |
| Sediment trap, 5' high berm | $15.57 | LF | | | $ - |
| Sediment trap, 5' high berm w/spillway incl. riprap | $59.60 | LF | | | $ - |
| Sodding, 1" deep, level ground | $5.24 | SY | | | $ - |
| Sodding, 1" deep, sloped ground | $6.48 | SY | | | $ - |
| Straw bales, place and remove | $600.00 | TON | | | $ - |
| Hauling and disposal | $20.00 | CY | | | $ - |
| Topsoil, delivered and spread | $35.73 | CY | | | $ - |
| | | | | TOTAL | **$ -** |

## GENERAL ITEMS

| ITEMS | Unit Cost | Unit | | | Cost |
|---|---|---|---|---|---|
| Fencing, chain link, 6' high | $18.89 | LF | | | $ - |
| Fencing, chain link, corner posts | $111.17 | Each | | | $ - |
| Fencing, chain link, gate | $277.63 | Each | | | $ - |
| Fencing, split rail, 3' high (2-rail) | $10.54 | LF | | | $ - |
| Fencing, temporary (NGPE) | $1.20 | LF | | | $ - |
| Signs, sensitive area boundary (inc. backing, post, install) | $28.50 | Each | | | $ - |
| | | | | *TOTAL* | **$ -** |

## OTHER

| | | | | | |
|---|---|---|---|---|---|
| | | | | *(Construction Cost Subtotal)* | **$ -** |
| ITEMS | Percentage of Construction | Unit | | | Cost |
| Mobilization | 10% | 1 | | | $ - |
| Contingency | 30% | 1 | | | $ - |
| | | | | *TOTAL* | **$ -** |

## MAINTENANCE AND MONITORING

NOTE: Projects with multiple permit requirements may be required to have longer monitoring and maintenance terms. This will be evaluated on a case-by-case basis for development applications. Monitoring and maintance ranges may be assessed anywhere from 5 to 10 years.

| | | | | | |
|---|---|---|---|---|---|
| **Maintenance, annual (by owner or consultant)** | | | | | |
| Less than 1,000 sq.ft. and buffer mitigation only | $ 1.08 | SF | | (3 X SF total for 3 annual events; Includes monitoring) | $ - |
| Less than 1,000 sq.ft. with wetland or aquatic area mitigation | $ 1.35 | SF | | (3 X SF total for 3 annual events; Includes monitoring) | $ - |
| Larger than 1,000 sq. ft. but less than 5,000 sq.ft. of buffer mitigation | $ 180.00 | EACH | | (4hr @$45/hr) | $ - |
| Larger than 1,000 sq. ft. but less than 5,000 sq.ft. of wetland or aquatic area mitigation | $ 270.00 | EACH | | (6hr @$45/hr) | $ - |
| Larger than 5,000 sq.ft. but < 1 acre -buffer mitigation only | $ 360.00 | EACH | | (8 hrs @ 45/hr) | $ - |
| Larger than 5,000 sq.ft. but < 1 acre with wetland or aquatic area mitigation | $ 450.00 | EACH | | (10 hrs @ $45/hr) | $ - |
| Larger than 1 acre but < 5 acres - buffer and / or wetland or aquatic area mitigation | $ 1,600.00 | DAY | | (WEC crew) | $ - |
| Larger than 5 acres - buffer and / or wetland or aquatic area mitigation | $ 2,000.00 | DAY | | (1.25 X WEC crew) | $ - |
| **Monitoring, annual (by owner or consultant)** | | | | | |
| Larger than 1,000 sq.ft. but less than 5,000 wetland or buffer mitigation | $ 720.00 | EACH | | (8 hrs @ 90/hr) | $ - |
| Larger than 5,000 sq.ft. but < 1 acre with wetland or aquatic area impacts | $ 900.00 | EACH | | (10 hrs @ $90/hr) | $ - |
| Larger than 1 acre but < 5 acres - buffer and / or wetland or aquatic area impacts | $ 1,440.00 | DAY | | (16 hrs @ $90/hr) | $ - |
| Larger than5 acres - buffer and / or wetland or aquatic area impacts | $ 2,160.00 | DAY | | (24 hrs @ $90/hr) | $ - |
| | | | | *TOTAL* | **$ -** |

| | |
|---|---|
| **Total** | **$0.00** |

# Attachment D - Area in Question