Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

Submitted by *Protect Mud Bay Cliffs* (PMBC) Coordination Committee

April 24, 2024

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

TRANSMITTAL MEMO

Submitted by
Protect Mud Bay Cliffs
Coordination Committee
April 24, 2024

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

TRANSMITTAL MEMORANDUM

DATE: April 24, 2024
FROM: ***Protect Mud Bay Cliffs*** (PMBC) Coordination Committee
TO: Blake Lyon, Kurt Nabbefeld, Kathy Bell, Steve Sundin
RE: **Public Comment Submittal for *The Woods at Viewcrest* Administrative Record**

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin:

Protect Mud Bay Cliffs (PMBC) is a community group sponsored by *Responsible Development*. PMBC was formed in 2021 out of the public's concern regarding the significant adverse environmental impacts *The Woods at Viewcrest* subdivision proposal is likely to impose. PMBC appreciates the opportunity to provide public comment for the administrative record.

PMBC's comprehensive public comment submittal for *The Woods at Viewcrest* administrative record can be accessed via Dropbox at https://bit.ly/PMBC-DROPBOX. A *Table of Contents* listing PMBC's Public Comment Submittal Exhibits, along with Bitly links, is presented on page 2 of this Transmittal Memorandum.

PMBC's public comments apply to these *Woods at Viewcrest* applications:

- Type I: Critical Areas Permit: CAP202-0005
- Type II: Shoreline Substantial Development Permit: SHR2022-0008
- Type IIIA: Shoreline Conditional Use Permit: SHR2022-0007
- Type IIIB: Preliminary Plat and Subdivision Variance: SUB2022-0011 & VAR2022-0002
- Street Vacation Petition: VAC2022-0001
- SEPA Environmental Checklist: SEP2022-0013

Thank you for your timely consideration of these materials.

Sincerely,
Paul Brock · Ava Ferguson · Larry Horowitz · Wendy Larson
Janet Migaki · Gary Ranz · Brent Woodland
Protect Mud Bay Cliffs Coordination Committee Members
Info@MudBayCliffs.org

Click on Exhibit Description to navigate to each Exhibit

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT A

Protect Mud Bay Cliffs Organizing Committee
Public Comment Letter re:
SEPA Determination of Significance
Environmental Impact Statement (EIS)

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 22, 2024

Blake Lyon, Planning & Community Development Department Director
Kurt Nabbefeld, Development Services Manager & SEPA Responsible Official
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
City of Bellingham
210 Lottie Street
Bellingham, WA 98225
Via Email

Copy Via Email:
Mayor Kim Lund
Renee LaCroix, Assistant Director, Public Works Natural Resources
Bellingham City Council

Re: ***The Woods at Viewcrest***

- Determination of Significance / Environmental Impact Statement
- Key Elements of Project Site
- Application Deficiencies
- Unsubstantiated & False Claims
- Significant Adverse Environmental Impacts
- Noncompliance with City, State & Federal Regulations

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin:

Protect Mud Bay Cliffs (PMBC) is a community group sponsored by *Responsible Development*. PMBC was formed in 2021 out of the public's concern regarding the significant adverse environmental impacts *The Woods at Viewcrest* subdivision proposal is likely to impose. PMBC appreciates the opportunity to provide public comment for the administrative record.

A. INTRODUCTION

Members of *Protect Mud Bay Cliffs*, and experts PMBC has retained, have spent countless hours reviewing *The Woods at Viewcrest* application materials, including the applicant's responses to three separate requests for information by city staff. After careful review, PMBC and our experts have determined that:

1. The application materials:
    a. Are fundamentally flawed as they contain significant deficiencies, including errors, omissions and unsubstantiated and/or false claims.
    b. Do not provide sufficient information necessary to identify and evaluate all significant adverse environmental impacts this project is likely to impose, as is required by state law under WAC 197-11-080.
    c. Do not fully comply with Bellingham Municipal Code (BMC) regulations.
    d. Do not fully comply with state and federal guidelines and regulations.
    e. Do not fully comply with Best Available Science and Best Management Practice (BMP) standards, especially as they apply to protecting the functions of shoreline ecological values and critical areas and the preservation of anadromous fisheries.

2. Although the application materials do not provide sufficient information to fully identify and evaluate all potential significant adverse environmental impacts, it is clear from these materials that the proposal is likely to impose significant adverse environmental impacts that cannot be adequately mitigated. Consequently, the city must issue a SEPA threshold ***Determination of Significance*** (DS) and prepare an ***Environmental Impact Statement*** (EIS).

3. Because of the likely significant adverse impacts, the flawed application materials, and the failure to fully comply with city, state and federal laws and regulations:
    a. The proposal does not qualify for a *Mitigated Determination of Nonsignificance* (MDNS); and
    b. The city should not approve - or recommend approval of - the applications for the:
        i. Preliminary Plat
        ii. Subdivision Variance
        iii. Critical Areas Permit
        iv. Shoreline Substantial Development Permit
        v. Shoreline Conditional Use Permit
        vi. Street Vacation Petition

The Woods at Viewcrest proposal is certain to adversely impact:

- Slope stability, both on the project site and within existing adjacent subdivisions
- Ecology of the Mud Bay shoreline, estuary and estuarine wetland habitats
- Ecology of the Chuckanut Village Marsh
- Critical areas, including onsite wetlands and geologically hazardous areas
- Drainage & hydrology, including surface water, ground water and water runoff
- Probability, frequency & magnitude of erosion, landslides, and rockslides
- Fish & Wildlife Habitat Conservation Areas, including fishery resources
- Urban forest & dense vegetation
- Transportation & traffic
- Public safety of the community, including pedestrians, cyclists, motorists and pets
- Cumulative impacts of all of the above

B. KEY ELEMENTS OF PROJECT SITE

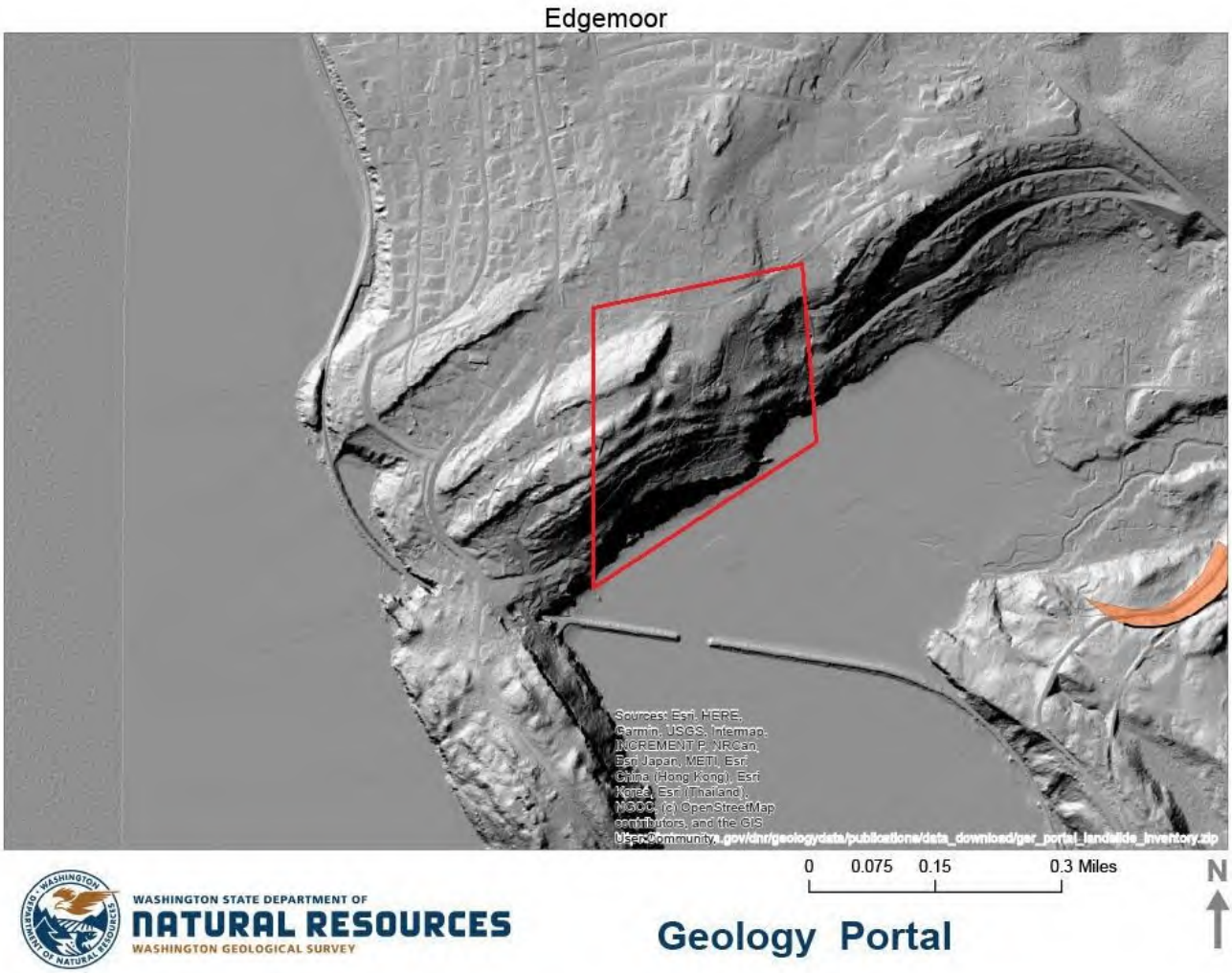
1) SUMMARY

The project site presents many challenges due to its steep topography, presence of numerous geological hazard areas, and the potential adverse impacts to:

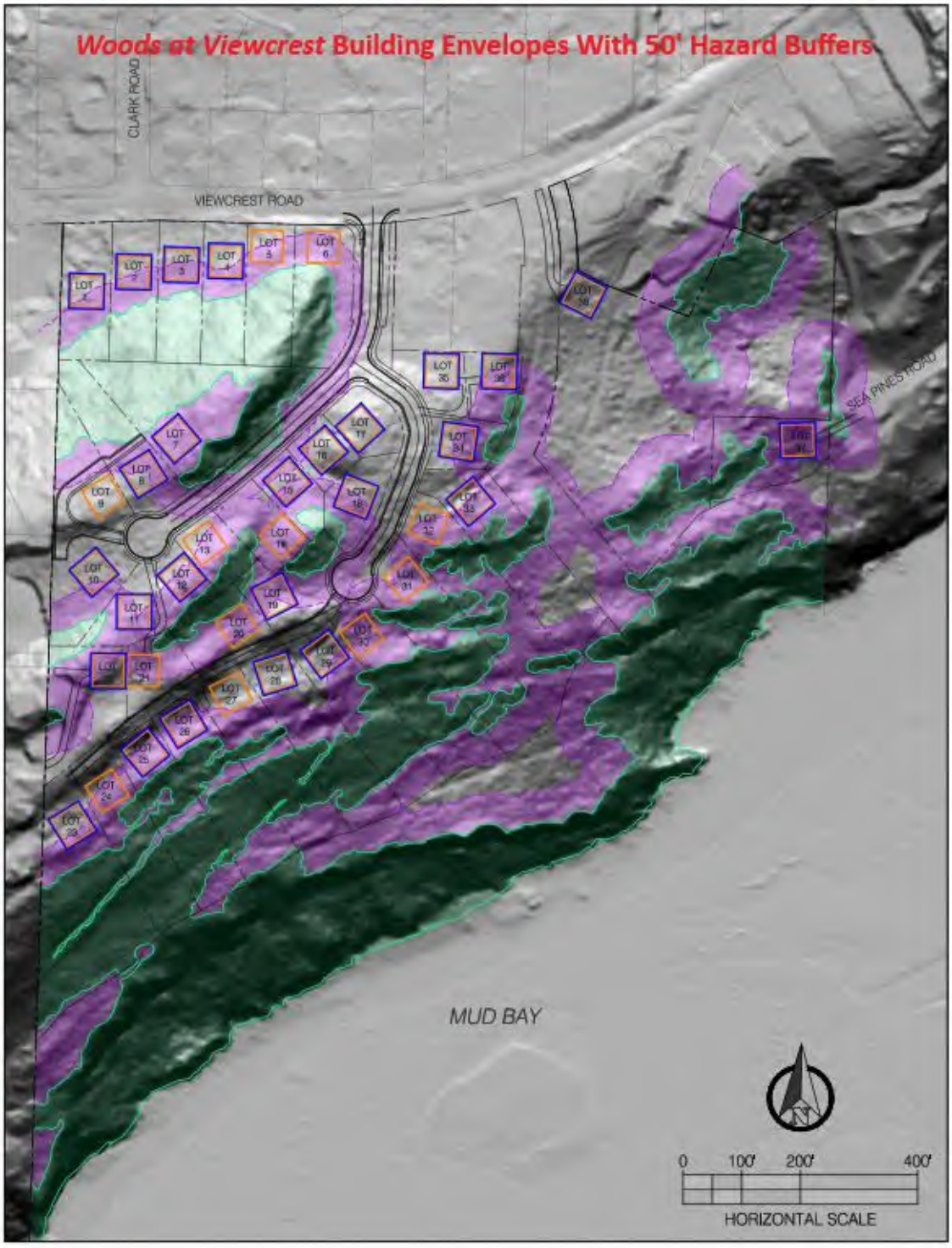
a) The adjacent Mud Bay shoreline, estuary and salt marsh;
b) Mud Bay's Category I estuarine wetlands;
c) Listed, priority & protected species, and
d) Habitat conservation areas (HCAs), including the site's Bald Eagle Management Zone.

2) GEOHAZARDS & UNSTABLE SLOPES

As illustrated by the following LIDAR image of the area, the project site itself is located on the segment of the cliffs overlooking the northern boundary of Mud Bay that contain the highest peaks and steepest slopes.



The following LIDAR image provides an overlay of the site plan's building envelopes and geologically hazardous areas (green polygons) with the 50' Minimum Buffers for Erosion and Landslide Hazard Areas required by BMC 16.55.460.A.1.a (purple polygons). Except for lots 9, 17, 28, 35, and 38, none of the other 33 lots comply with BMC regulations for 60' x 60' building envelopes outside of the hazard areas and their 50' minimum buffers. The lack of land not encumbered by landslide and erosion hazard areas explains why the project site remains undeveloped, while adjacent parcels were developed decades ago.



Additionally, there is clear evidence that the steep slopes of the project site are already unstable, even before any development activity occurs. The following image from page 15 of the December 2009 Geologic Feasibility Investigation prepared by Pacific Surveying & Engineering for the Jones family provides evidence of toppling of blocks that failed along jointing planes.

Photo of a bedrock cliff showing evidence of "toppling" of blocks that failed along jointing planes. The blocks did not travel beyond 20 feet down-slope from the outcrop from which they originated.

Although these particular blocks did not reach the shoreline, hundreds of others have, as illustrated by the following images of the shoreline beneath the project site. New toppled blocks have appeared on the shoreline as recently as the 1990s.


Google


Google

Further evidence of slope instability and landslide creep is provided by the following images of pistol-butted and S-shaped tree stems along the cliffs of the project site.

3) DECEMBER 2009 GEOLOGIC FEASIBILITY INVESTIGATION

The December 2009 Geologic Feasibility Investigation emphasizes the project site's geohazards and likely and probable adverse environmental impacts that development would cause, including the increase in erosion, landslide and rockfall activity. Much of the report addresses concerns about changes in hydrology, including surface and groundwater flow on the slopes.

According to the December 2009 Geologic Feasibility Investigation (with emphasis added):

a) "Future development of the site could impact the current hydrologic condition… Changes in hydrology can alter the probability, frequency and magnitude of mass wasting (landslide) activity." (p. 1)

b) "Possible evidence of historic mass wasting (landslide) activity was also observed at the eastern portion of the property." (p. 1)

c) "Portions of the site have been identified as having High Landslide Potential in that they have slopes greater than 30%, slopes exceeding 80%, and slopes greater than 15% that may be potentially unstable because of other factors." (p. 3)

d) "Geotechnical investigations will need to assess erosion, landslide potential, and seismic hazards and subsurface conditions. Future development may potentially impact slope stability and surface erosion." (p. 1)

e) "Field observations suggest that the soils on the project site have a relatively low susceptibility to erosion in an undisturbed state because of dense vegetation, but that alteration of these conditions could significantly increase the erosion potential." (p. 4)

f) "Development on or above steep slopes could impact slope stability by changing surface or groundwater flow on the slopes. In addition, the risk of landslides could be impacted by construction near or on steep slopes because of grading disturbance or additional load application from structures such as buildings, road fill embankments, topographic alterations or retaining walls." (p. 5)

g) "Because of the steep slopes and existing groundwater conditions, modifications of groundwater or surface water flow may impact the potential size and frequency of mass wasting (landslide) events. The fine-grained soils found on site are susceptible to soil erosion resulting from the movement of heavy equipment or site grading." (p. 6)

h) "Additionally, interception, changes in soil permeability (compaction) or development that interrupts or causes the surfacing of groundwater can alter the site hydrology that may increase erosion and landslide potential." (p. 6)

4) 10/6/22 GEOTECHNICAL INVESTIGATION & GEOHAZARD REPORT

The 10/6/22 Geotechnical Investigation & Geohazard Report further emphasizes the potential for increased erosion, landslide and rockslide activity and includes a recommendation to avoid blasting when grading the site due to the potential for blasting impacts on slope stability. (§5.8.2, p. 35)

According to PMBC's Licensed Engineering Geologist Dan McShane, "*I concur with this recommendation as blasting in alternating sandstone layers with joints can have bedrock stability impacts over long distances*." (Exhibit C p. 4) Mr. McShane's conclusion confirms the potential that adverse impacts of the proposed subdivision will be felt by homeowners in multiple directions, impairing the safety of adjacent communities.

The 10/6/22 Geotechnical Investigation & Geohazard Report provides little comfort when it asserts:

> "*We anticipate conventional design and construction practices will be suitable for this project, assuming a typical level of risk is acceptable*." (§5.1 p. 24) (Emphasis added)

Given the acknowledged potential for severe adverse impacts, a typical level of risk is unequivocally unacceptable. The fact that the applicant's engineers "anticipate" all will go as planned is no guarantee that public safety will be protected.

As detailed in Larry Horowitz's 1/12/24 letter to Mayor Lund regarding a subdivision development on Draper Utah's steep slopes in landslide hazard areas. The engineers for *Canyon Estates* also "anticipated" their design and construction practices would be suitable. However, after two homes collapsed in a landslide and slid down the hillside in April 2023, the homebuilder, Edge Homes, released a statement following the slide that "despite all the engineering and quality control efforts," the retaining wall and hillside slope "experienced a complete failure." (Exhibit O, p.1)

It is instructive to note that The City of Draper claimed that they had to rely on the developer's technical reports and either failed to - or chose not to - require an independent, objective environmental impact statement. Bellingham must learn from Draper's tragic experience that relying on biased, misleading and inaccurate information only leads to disaster. Let's not commit the same, potentially deadly, mistake.

Because the stakes are so high, the city and the community must refuse to accept the proposed level of risk. Even the 10/6/22 Geotechnical Investigation recommends that:

> "*[A]ll lots containing or bordering LHAs [landslide hazard areas] … be required to conduct lot-specific final critical area reviews at the time of building permitting. For the project area with slopes throughout, this will include most lots… If further detailed lot review is required for plat approval or requested by the client, Element Solutions will be pleased to provide the additional assessment on a per-lot basis*."
> (§4.4.3 p. 23) (Emphasis added)

The probability of severe adverse impacts compels the city to **require lot-specific reviews for every lot prior to plat approval**. Failure to require lot-specific reviews will likely result in granting development rights to lots that are undevelopable, leading to future *takings* claims and lawsuits. These taking claims and lawsuits can - and should - be avoided by requiring lot-specific reviews prior to plat approval, not after.

In addition to lot-specific reviews for every lot, **the city must also require a hydrogeologic study be conducted prior to plat approval**, especially given the likelihood that development of the project site will impact the current hydrologic condition and "alter the probability, frequency and magnitude of mass wasting (landslide) activity."

Note that the 10/6/22 Geotechnical Investigation & Geohazard Report confirms that, "*A hydrogeologic study has not been conducted at this site. The information and commentary provided is intended only for planning purposes*…" (§5.8.4 p. 36) (Emphasis added)

According to Lyndon Lee, Ph.D., ecologist and wetland science & ecosystem expert:

> "*As Dr. Horner emphasizes in his March 18, 2024 letter report, without hydrologic modeling and comparisons of pre and post development conditions at the Woods at Viewcrest site, we remain ignorant of how the proposed development will impact the timing, volumes, and quality of stormwater flows that will occur*."

The failure to include lot-specific geotechnical reviews and a hydrogeologic study is a major deficiency of the application materials, which causes the application materials to be insufficient for evaluating likely significant environmental impacts. The city must require an environmental impact statement be prepared.

5) MUD BAY ESTUARY & CATEGORY I ESTUARINE WETLANDS

In addition to the unique and hazardous onsite physical elements of the project site, its location adjacent to the Mud Bay estuary and Category I estuarine wetlands, consisting of mudflats, salt marsh, and eelgrass beds creates additional development challenges. Mud Bay, also known as Northeast Chuckanut Bay and the Chuckanut Creek Estuary, is Bellingham's richest and most biologically diverse estuary and provides habitat for heron, eagles, osprey, kingfisher, chum, steelhead, cutthroat, duck and clams, among other species. The Mud Bay estuary provides the highest level of function out of the seven pocket estuaries in Bellingham Bay.

Several experts have confirmed that Mud Bay consists almost entirely of Cateogy I estuarine wetlands:

- **John Rybczyk, Ph.D.** is an estuarine ecologist and professor at Western Washington University whose work focuses on coastal wetlands. In his 12/14/23 expert opinion letter, Dr. Rybczyk wrote, "*I am very familiar with Mud Bay, I have been taking my Wetlands Ecology students there for the past 23 years. According to the U.S. Fisheries and Wildlife Service's* National Wetland Inventory*, the entirety of Mud Bay is designated as the following kinds of estuarine wetlands... In my expert opinion, I concur with the National Wetland Inventory designations*." (Exhibit E) (Emphasis added)

- **Lyndon Lee, Ph.D.** is a wetland science expert and Director of the National Wetland Science Training Cooperative. In his 4/18/24 Technical Memorandum, Dr. Lee wrote:

  - "*At a map scale of 1:58,000, NWI classifies Mud Bay as "estuarine, intertidal, unconsolidated shore, regularly flooded" (E2USN). My field observations confirm the NWI mapping at the 1:58,000 scale*."

  - "*Based on its large size and current condition and using the "Special Characteristics" rating criteria in the Washington State Wetlands Rating System (Hruby, 2014), Mud Bay is a Category I estuarine wetland*."

  - "*Mud Bay is a rare, large, and important Category I aquatic resource of special importance to the City of Bellingham and to all residents and visitors to the Salish Sea*."

  - "*The Mud Bay estuarine complex is a Type 1 "Water of the United States" (WOTUS) and a so-called "Traditional Navigable Water" (TNW)(Table 1). It is also designated as a "Special Aquatic Site" which are -*

    '…geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.'" (Exhibit D)

- **Richard Horner, Ph.D.** Civil & Environmental Engineering is a stormwater management and wetland mitigation expert. In his 3/18/24 expert opinion letter, Dr. Horner wrote:
  "*Washington Department of Ecology (Ecology) classifies marine and freshwater wetlands in four categories in relation to their resource values. Mud Bay is in Category I, the highest level*." (Exhibit B, p. 3) (Emphasis added)

Potential erosion, sedimentation, landslides and rockslides from *The Woods at Viewcrest* subdivision proposal – all of which become more likely with this risky development - will have disastrous and severe consequences to the ecologically sensitive Mud Bay shoreline, estuary and estuarine wetlands. These adverse environmental impacts cannot be adequately mitigated and must be further analyzed and evaluated by preparing an environmental impact statement.

6) CONCLUSION

The unique physical elements of the project site, along with potential adverse impacts to the adjacent Mud Bay shoreline, estuary, estuarine wetlands and salt marsh, present many development challenges. Without a doubt, *The Woods at Viewcrest* proposal is likely to impose significant adverse environmental impacts that cannot be mitigated. An independent, objective and comprehensive EIS is necessary to fully evaluate the significant environmental impacts.

C. APPLICATION DEFICIENCIES

Exhibit N (*The Woods at Viewcrest Summary of Application Deficiencies*) provides an extensive, detailed analysis of deficiencies contained in the application materials, including significant errors, omissions, and fundamental flaws.

Because of these deficiencies, the application materials do not provide sufficient information necessary to fully identify and evaluate significant adverse environmental impacts this project is likely to impose, as required by WAC 197-11-180, nor do they satisfy the requirements for approval.

Key application deficiencies detailed in Exhibit N include: (Emphasis added)

WETLAND DELINEATION & CRITICAL AREAS SUMMARY: The 2/24/22 Wetland Delineation Update & Critical Areas Summary (Delineation) contains several deficiencies and is unreliable.

1) **Mud Bay is a Category I estuarine wetland**: The Delineation fails to recognize Mud Bay as an impacted Category I estuarine wetland and to incorporate Department of Ecology wetland mitigations for stormwater runoff, including:
   a) Placement of the stormwater outlet structures outside the wetland and buffer;
   b) Providing wetland hydroperiod protection; and

c) Incorporating flow control BMPs.

See Exhibit E for expert opinion by John Rybczyk, Ph.D., and see Exhibit M for additional information regarding wetland mitigations.

2) **Wetland A is a Category III wetland**: The Delineation misclassifies Wetland A as a Category IV wetland rather than a Category III wetland. As a Category III wetland, the buffer size is 150 feet rather than 50 feet, and development of lot 37 would significantly impact the wetland buffer.

3) **Timing of site visits**: The three site visits for the 2022 Wetland Delineation Update were all conducted during the dry season on 6/22/20, 6/26/20 and 8/31/21, during which time seasonal seeps, seasonal ponding, seasonal inundations, seasonal flooding, seasonal outlet flow, seasonal water inflow, and seasonal vegetation would not likely be detected.

DRAINAGE, STORMWATER MANAGEMENT & HYDROLOGY: The 12/4/23 Preliminary Stormwater Management Report (SMR) is not consistent with BMC 15.42, the 2019 Department of Ecology Stormwater Management Manual for Western Washington (Ecology Manual) and/or *Minimum Requirements* (MR) of BMC 15.42.060.F and Ecology Manual §I-3.4. See Exhibit J for additional details.

4) **MR #8 (*Wetlands Protection*)** (BMC 15.42.060.F): The SMR does not comply with MR #8 in terms of runoff discharged into the Mud Bay Category I wetlands.

5) **MR #7 (*Flow Control*)** (BMC 15.42.060.F): The SMR plans to discharge uncontrolled stormwater runoff from TDA 2 directly into Mud Bay in violation of MR #7 requirements.

6) **MR #4 (*Preservation of Natural Drainage Systems and Outfalls*)** (BMC 15.42.060.F: The SMR does not comply with MR #4 because MR #4 requires that natural drainage be maintained to the maximum extent possible.

7) **MR #5 (On-Site Stormwater Management**) BMC 15.42.060.F: The SMR does not satisfy the standard requirement to address stormwater management requirements for the entire plat, including the individual lots.

8) **MR #6 (Stormwater Treatment**) BMC 15.42.060.F: The SMR does not meet the requirement for utilizing Modular Wetland System (MWS) devices.

9) **Soils**: The SMR erroneously identifies the primary soil as Everett-Urban loam (Unit 52) with a hydrologic soil group rating B. However, when an accurate polygon is applied, the soils consist mainly of Nati loam (Unit 110) with a hydrologic soil group rating C, which is inferior to Everett-Urban loam for erosion and infiltration. See Exhibit J for details.

10) **The SMR is *preliminary* in both title and content**: The SMR lacks sufficient detail to assess and address potential significant stormwater impacts on developed areas, shoreline buffer, or Mud Bay. See Exhibit F for details.

11) **Outdated Ecology Manual is still being followed**: Three sections from the 2019 Ecology Manual are missing from the SMR, including *Summary Section*, *Low Impact Development Features*, and *Source Control*.

12) The 12/4/23 SMR contains the outdated 11/3/21 Geotechnical Investigation, which was replaced by the current 10/6/22 Geotechnical Investigation.

GEOHAZARDS: Due to the following deficiencies, the 10/6/22 Geotechnical Investigation & Geohazard Report (Geotech Report) is not sufficient for continued processing of *The Woods at Viewcrest* applications.

13) **Feasibility-Only Analysis**: The Geotech Report is a "feasibility-level geotechnical evaluation and large-scale geologic hazard assessment." The use of a feasibility evaluation implies that further study or examination is expected prior to project commitment/implementation. See Exhibit F for additional details.

14) **Hydrogeologic Study**: The application materials fail to provide a hydrogeologic study that is necessary to evaluate adverse impacts to the hydrologic conditions of surface and ground water.

15) **Individual Lot Examination**: The Geotech Report "is not intended to serve as a detailed examination of the conditions on individual lots," and does not provide sufficient information for the City to continue processing an application to subdivide the 4 existing lots into 38 lots.

16) **Bias**: The Geotech Report is strongly biased in favor of the enormously high-risk Woods at Viewcrest development proposal. Because of this strong bias, the report in unreliable on its face.

17) **Test Pits**: Test pit investigations were conducted during the dry season. The applicant should be required to conduct test pit investigations during the wet season, as recommended by the Department of Ecology Stormwater Management Manual.

18) **Outdated Plans and Maps**: The *Project Area & Lot Layout* and the *Percent Slope Map & Lot Layout* are outdated and do not reflect changes made to the project plan.

19) **LIDAR**: The city should require the applicant to provide a LIDAR image with an overlay of the revised site plan, building envelopes, and geologically hazardous area buffers. This information should be displayed both with and without contour lines.

LANDSLIDE & EROSION HAZARD AREAS AND THEIR BUFFERS

20) The *Proposed Building Envelope & Existing CAO Areas* plan reveals that the City's requirements under BMC 16.55.460.A.1 for Erosion & Landslide Hazard Area buffers have not been met. The site plans fail to indicate either the Minimum Buffer (greater of 50 feet or height of the slope) or the Buffer Reduction (minimum of 10 feet).

CRITICAL AREA PERMIT APPLICATION CHECKLIST

21) The Critical Areas Application Checklist claims that no impacts to critical areas are proposed; however, there will be impacts to onsite and Mud Bay wetlands, geologically hazardous area buffers, and fish & wildlife conservation areas. The boxes on the checklist should not be left blank. The Checklist is missing the mitigation plan that's needed for impacts to all critical areas listed above.

SEPA CHECKLIST DEFICIENCIES See Exhibit K

TRAFFIC See Exhibit G for additional details.

22) The applicant's Traffic Impact Analysis (TIA) is inadequate and flawed due to issues with scope and timing of data collection, and with methodology. These issues are of a magnitude such that they cannot be compensated for by making adjustments to, or extrapolations from, the data provided, while at the same time protecting the public's interests in traffic safety. The TIA data and methodology include these deficiencies:

a) Traffic data collection occurred on just one weekday during the COVID pandemic when Phase 2 "stay-home" orders were in effect and nonessential travel was limited, so traffic was extremely different due to highly unusual conditions;

b) The assumption that traffic data should be collected for just one of the multiple impacted access streets and intersections is profoundly flawed because it is likely subdivision-related traffic would utilize safer alternate streets with similar drive times;

c) It is based on 38 single-family units; however, the project has the capacity for 38 quadplexes totaling 152 multi-family units;

d) It fails to consider the lack of on-street parking coupled with narrow road widths that will create unsafe conditions and not allow for any visitor parking – noting the substandard streets around the proposed subdivision also fail to meet standard Parking requirements, and would be unsafe and inadequate for "spillover" parking; and

e) It fails to analyze the impacts on the substandard Edgemoor streets with known public safety issues that will be used for Access by this subdivision, including the readily

foreseeable unnecessary burdens and safety hazards for Edgemoor residents reliant on substandard streets which generally lack standard Driving Lanes, Parking, and Sidewalks.

WILDLIFE HABITAT ASSESSMENT See Exhibit H for additional details.

23) The Wildlife Habitat Assessment is incomplete, inaccurate, and misleading. Some of the deficiencies include:

a) The wildlife inventory provided is not quantitative, nor qualitatively credible, as a result of flawed assumptions, scope, data collection, and methodology. It is an entirely inadequate analysis of this Important Habitat Hub and Area and Valued Ecosystem Component of the Salish Sea and WRIA 1.

b) It fails to accurately characterize this site as a designated terrestrial Important Habitat Hub and Area, and a critical central part of a documented important, valuable Wildlife Network. It completely fails to consider or to assess the reasonably foreseeable significant negative impacts of the proposed subdivision development to the site as an Important Habitat Hub and Area, and to the surrounding Wildlife Network habitats.

c) It fails to accurately characterize the mature, natural coastal forest habitat of this site as rare and exceptional, and as a Valued Ecosystem Component of the Salish Sea and WRIA 1. It glaringly mischaracterizes the reasonably foreseeable loss and degradation of this coastal forest habitat. It completely fails to consider or to assess the likely significant negative impacts of the proposed subdivision development to the surrounding wetlands, mudflats, and marsh habitats and wildlife, including the adjacent Category I estuarine wetlands.

d) Collectively, these deficiencies plus others covered in Exhibit H are substantial, and include information required (i) in order to make a SEPA threshold determination, and (ii) to determine if the plans could be in compliance with BMC 22.09.090 and BMC 22.08.04.The Wildlife Habitat Assessment appears unreliable as it fails to include a bald eagle nest in a tree on *The Woods at Viewcrest* property that is in plain sight from the shoreline.

PUBLIC TRAIL EASEMENT / 10th STREET VARIANCE

24) According to the 5/31/23 letter from Sea Pines Road residents, the public trail to Sea Pines Road should be completely abandoned because it “would pose an extreme safety hazard that will ultimately result in serious injury or death of a cyclist or runner, due to the location of its entry onto Sea Pines Rd.” (Exhibit P)

DEFICIENCIES IDENTIFIED BY RICHARD HORNER, PH.D. (Exhibit B) (Emphasis added)

25) "*There is no direct consideration of the special needs for protecting Mud Bay, a Category I estuarine wetland with abundant salmonid fish and avian resources, that would receive stormwater runoff from the proposed development*." (p. 2)

26) "*There has been no hydrologic assessment to estimate the quantities of stormwater runoff that will be generated during construction or in the finished development, or hydraulic analysis to estimate the routing of runoff during either phase. There is thus no basis for the sizing or locations of the management practices vaguely prescribed*." (p. 2)

27) "*The stormwater treatment proposed for the finished development would be less effective and pose a greater maintenance burden than a readily available alternative. Under the current plan, the treatment units also would not receive runoff from all of the locations that would generate pollutants*." (p. 2)

28) "*I determined that the Preliminary Stormwater Management Plan's provisions for both construction-phase and post-construction stormwater management are ill-defined and overall inadequate to prevent the introduction of pollutants to stormwater runoff during both periods*." (p. 10)

29) "*Soil properties affecting the K Factor include texture, organic matter content, structure, and saturated hydraulic conductivity. These characteristics must be known for a proper analysis of erosion potential and effective strategizing to defeat it. Since this information is not available in comprehensive form, the K factors around the site cannot be firmly established. Without thorough attention to the exact characteristics of soils that will be disturbed, it is impossible to make a proper assessment of erosiveness and the BMPs that will be necessary to prevent or mitigate it*."

30) "*Producing a truly site-specific SWPPP will require hydrologic modeling of flows to be generated during construction; passed through on-site conveyances; probably held in basins or tanks for flow control, sedimentation and possibly other treatment; and then discharged. This modeling should be performed with the current version of Western Washington Hydrologic Model (WWHM2012). Resource protection demands that flows are estimated as well as possible to avoid erosion of conveyance channels, to size equipment correctly, and to protect the receiving waters from high discharges during construction. It is clear from the project documents that this essential hydrologic modeling has not occurred. Approval of the project should not move further with this project until these construction-phase soils and hydrology assessments occur. They must then be incorporated in a project-specific SWPPP, along with the topographic considerations, for proper judgment of the construction-phase stormwater management plan*." (p. 10)

31) "*The overall construction-phase stormwater management plan presented in the Preliminary Stormwater Management Report is very incomplete. It lacks any site-specific consideration of how the relatively steep and potentially erosive slopes will be protected during clearing and grading exposure. It mentions use of a sediment pond as the method to be employed to interdict eroded material. In my opinion, such a pond will not comply with the Manual's I-3.4.2 MR2 requirements to protect a Category I estuarine wetland. The estuarine ecosystem is sensitive to nutrient inputs; and the nutrients phosphorus and nitrogen, generally present in soil, are transported with the eroded sediments. There is no information on where the sediment pond discharge will go or how it will be conveyed; with that careless presentation Mud Bay must be assumed to be endangered*." (p. 7)

32) "*The general tasks for planning stormwater management for a finished development concern estimation of runoff flow rates and volumes, conveyance of water across and away from the site, and preventing or limiting the transport of pollutants associated with human occupancy and activities to waters downstream. The major tools used by analysts in performing these tasks are hydrologic and hydraulic models, algorithms that predict the rates and volumes of runoff resulting from received precipitation and its routing from the point of generation to ultimate discharge. The categories of variables in these models are precipitation quantities and patterns and the characteristics of the land receiving the rainfall. Within the latter category, key variables are topography, surficial land cover, and soils. Based on the available project documents, none of these modeling exercises have been performed*."

"*Despite the absence of this essential information, the Preliminary Stormwater Management Plan identifies locations and sizes of permanent stormwater treatment units (modular wetland systems [MWS]). Without hydraulic analysis of water flow, it is not certain that all of the water to be treated will reach the designated locations. Without hydrologic analysis of water quantities, treatment units cannot be reliably sized. It may be that the project proponents intend the locations and sizes to be "place holders," but the City and citizens deserve full details to determine if the plan will protect the affected environment*." (p. 7-8

33) "*The Preliminary Stormwater Management Plan is predicated on treating stormwater from 'pollutant generating surfaces' in TDA 1 and TDA 2, plus the area draining to Wetland B, with three MWS units. The report appears to regard only roads as pollutant generating. However, lawns will generate pollutants potentially harmful to the estuary too, particularly nutrients from fertilizing, pesticides, and bacteria from pet waste. Not treating runoff from this source ignores the Manual's emphasis on nutrient control to protect Category I estuarine wetlands. Roofs are also pollutant sources by collecting airborne deposits. The treatment plan should be expanded to incorporate drainage from these sources, especially the lawns*.

34) "*The stormwater management plan gives no attention at all to the directive in the Manual's requirement I-3.4.3 MR3 to provide source control BMPs. Fertilizers, lawn and garden pesticides, pet wastes, and washing vehicles at home are all common and significant sources of pollutants in stormwater flowing from residential communities. If the plan was comprehensive, it would look ahead to how it could establish landscaping avoiding or reducing demands for applying fertilizers and pesticides and encourage future residents to abide by practices to limit these pollutants*." (p. 8)

DEFICIENCIES IDENTIFIED BY DAN MCSHANE L.E.G. (Exhibit C)

35) "*A full geology hazard and risk assessment should be completed for proposed stormwater pipe route across the SE Bluff Slope. The assessment should also include an analysis of the impacts of a break in the stormwater pipe at the SE Bluff Slope*." (p. 3)

36) "*The Preliminary Stormwater Management Plan needs to account for stormwater contribution from lot development including subsurface foundation and access driveway drainage*." (p. 3)

37) "*A complete geology hazard assessment should be required of the SE Bluff slope prior to approval of proposed Lots 23 through 33*." (p. 3)

38) "*A detailed geohydrology analyses of Wetland Area B and a detailed geology hazard assessment that incorporates the geohydrology impacts to the identified landslide area below the wetland area should be completed prior to approval of Lots 34, 35, 36 and 38 and approval of the split flow system in the stormwater plan*." (p. 3)

39) "*A shoreline substantial development permit is required for the proposed stormwater discharge (BMC 22.08.010.B.4.g) as well as a shoreline conditional use permit. These permits will require a critical area report(s)*.

"*It should also be noted that BMC 22.08.010.B.4.g states* 'Public Stormwater Conveyance Facilities. Conveyance structures may be permitted within a required buffer in accordance with an approved critical area report when all of the following are demonstrated: i. No other feasible alternatives with less impact exist;'

"*A feasible alternative that would have less impact would be a different plat that would not require the installation of a new stormwater discharge to the tidal estuary. Given the potential impacts to tide lands and the language in BMC 22.08.010.B.4.g an alternatives analysis appears warranted in order to address what is feasible and what is not*." (p. 4)

DEFICIENCIES IDENTIFIED BY LYNDON LEE, PH.D. (Exhibit D)

40) "*A project put forward for approval to proceed should collect all underlying data pertinent to the required environmental assessments, conduct those assessments with the best available methods and provide all of the information regulators and citizens need to make a full and confident evaluation of the proposal and its potential environmental effects. The Viewcrest project documents do not meet this standard*." (p. 1)

41) "*The existing lack of hydrologic modeling and comparisons of pre and post development conditions for the proposed Woods at Viewcrest development is a glaring omission in the current basis of design/plan set and the narratives that support the proposed development. This is especially true given the steepness of the existing terrain, thin soils, and the significantly changed characteristics of water movements within this terrain that will occur with forest clearing, loss of evapotranspiration processes (e.g. water losses to the atmosphere), and significant increases in impervious surfaces within watershed contributing areas*." (p. 10)

42) "*In the current basis of design documents for the project, there is a lack of innovative and detailed SWPPP plans and a presentation of these plans that requires tight on-site management and adaptability of SWPPP/BMP systems before, during and after construction*." (p. 10)

43) "*As a Category I estuarine waters/wetland complex within the Bellingham City limits, any development with the potential to impact Mud Bay demands that project proponents step up and deliver smart/innovative planning, design, and construction approaches that clearly show adherence to sequencing requirements of (in order) -*

1. *Impact avoidance,*
2. *Impact minimization,*
3. *Mitigation of any unavoidable impacts*." (p. 10)

D. UNSUBSTANTIATED AND FALSE CLAIMS

The applicant's 2/23/24 Project Narrative contains the following unsubstantiated and/or false claims:

1) "*No impacts are proposed to wetlands or their buffers, with the exception of a potential small encroachment along the outer edge of the buffer of Wetland B for the proposed trail*." (p. 5)

   FACT: This claim ignores likely significant adverse environmental impacts to the Mud Bay estuarine wetlands from polluted and uncontrolled stormwater runoff.

2) "*Each lot contains a 60' x 60' building envelope that is outside of critical areas (wetlands, shorelines, geohazards) and their buffers*." (p. 3)

   FACT: Many building envelopes are less than 60' x 60'. The site plans do not illustrate either the minimum 50' buffer or the reduced minimum 10' buffer, which are necessary to determine whether the building envelopes are outside of the hazard area buffer. The city must not approve the multiple proposed LHA & EHA buffer reductions on a site where virtually every lot is encumbered by geohazards. The cumulative effect of doing so increases the public safety risks to an unacceptable level.

3) The narrower roads "*are proposed at a reduced standard to minimize necessary cuts and fills, clearing and grading, impervious surface, and environmental impact*." (p. 3)

   FACT: In reality, the narrower roads are proposed to maximize the number of lots while sacrificing public safety. If the applicant was genuinely interested in reducing the project's environmental impacts, the applicant would propose significantly fewer lots.

4) "*No new water or sewer infrastructure is proposed or necessary along Viewcrest Road*." (p. 4)

   FACT: The application materials provide no basis for asserting that the sewer capacity has adequate capacity.

5) "*After development the project will retain approximately 80% of the existing site vegetation*." (p. 5)

   FACT: The application materials provide no basis for asserting that 80% of the existing site vegetation will be retained, especially considering the nature of view lots and the tendency to remove as many trees as possible to enhance views. It is unrealistic to believe that 80% of the site's existing vegetation will be retained.

6) "*All lots have building areas located outside of critical areas and buffers, meet bulk and dimensional standards, and can be reasonably developed*." (p. 11)

   FACT: This claim is unsubstantiated – and is especially disconcerting - given the failure to conduct lot specific reviews for geohazards.

7) "*The project represents context sensitive infill, with sensitivity to environmental constraints, in an area serviced with infrastructure*." (p. 12)

   FACT: This is especially false given the failure to recognize Mud Bay as a Category I estuarine wetland, the failure to conduct lot specific reviews for geohazards, and the failure to

provide a hydrogeologic study necessary to evaluate adverse impacts to the hydrologic conditions.

8) "*The proposed project will serve the public use and interest and is consistent with public health, safety, and welfare. It is consistent with applicable zoning regulations, Neighborhood Plan standards, relevant Municipal codes and the City's Comprehensive Plan Goals and Policies, all as described in this application. It is designed to be safe for residents and the public and accommodating of environmental features in the vicinity. It provides the opportunity for additional residential housing in a portion of the City that has been long planned by the City and property owner for residential development and is adequately served with utilities and infrastructure*." (p. 13)

FACTS: The proposed development:

i) is unsafe and imposes a level of risk on the community that is unacceptable given the hazardous nature of this poorly designed project;
ii) provides high income housing, not needed affordable housing;
iii) is not at all accommodating of environmental features;
iv) does not comply with the Prerequisite Considerations of the Edgemoor Zoning Table; and
v) requests a variance for an unsafe 8-lot shared driveway on a narrow and steeply sloped area of the site.

E. **SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS**

As documented throughout this public comment letter, *The Woods at Viewcrest* proposal will likely impose the following significant adverse environmental impacts:

- Slope stability, both on the project site and within existing adjacent subdivisions
- Ecology of the Mud Bay shoreline, estuary and estuarine wetland habitats
- Ecology of the Chuckanut Village Marsh
- Critical areas, including onsite wetlands and geologically hazardous areas
- Drainage & hydrology, including surface water, ground water and water runoff
- Probability, frequency & magnitude of erosion, landslides, and rockslides
- Fish & Wildlife Habitat Conservation Areas, including fishery resources
- Urban forest & dense vegetation
- Transportation & traffic
- Public safety of the community, including pedestrians, cyclists, motorists and pets
- Cumulative impacts of all of the above

Likely and potential significant adverse environmental impacts have been identified and confirmed by the following experts in their fields:

❖ **Richard Horner**, Ph.D. Civil & Environmental Engineering and stormwater management expert: (Exhibit B) (Emphasis added)

1) "*The proposed project poses a number of potential threats to the Mud Bay ecosystem during both its construction and post-construction phases… The potential environmental harm associated with the development as proposed warrants a full environmental impact assessment*." (p. 2)

2) "*The steep slopes on and adjacent to the development site risk considerable erosion during construction and sediment transport to Mud Bay without excellent controls. Despite this risk, the project documents give little attention to the challenging construction environment and, to the extent they do, provide only inferior controls*." (p. 2)

3) "*Slope is a leading factor in soil erosion and sediment loss from a construction site. Thus, it is especially crucial to comprehensively address means of avoiding sediment transport from this site or, at the very least, holding it to a de minimis level. Achieving this goal requires careful, detailed analysis and development of a SWPPP incorporating superior BMPs tailored to the site's circumstances*." (p. 5)

4) "*Construction zones cleared of vegetation and not otherwise stabilized yield much more sediment compared to the original area well covered with plants and to the same area restablized with vegetative cover following construction. Measurements and estimates using a mathematical model (Revised Universal Soil Loss Equation Version 2, RUSLE2) indicate 30 to more than 1000 times as much soil loss can occur after vegetation clearing compared to before clearing. Therefore, one year of construction with no or inadequate erosion controls can release into the environment as much sediment loading as occurred over decades or even centuries before the piece of land had been cleared*." (p. 5)

5) "*With the construction of impervious surfaces and lawns in place of native landscapes, urbanization increases runoff volume. Table 2 shows that it generally also increases concentrations. Therefore, we would anticipate seeing substantially elevated pollutant mass loadings in developed versus undeveloped runoff*." (p. 11)

6) "*Loadings from the developed compared to undeveloped land uses are generally about 50-400 percent greater, although ranging much higher for TSS, total phosphorus, and total lead. The ultimate, long-term burden of unmitigated urban stormwater runoff on water quality is thus a function of both hydrologic modification and release of chemical, physical, and biological agents by urban inhabitants and their possessions and activities*." (p. 11)

7) "*Eroded sediments from a construction site deposited in a relatively quiescent location, such as Mud Bay, change the character of its bed. The nutrients phosphorus and nitrogen, generally present in soil and transported by the eroded particles, stimulate increased growths of algae, a process known as eutrophication. A common effect of eutrophication is alteration of the algal community composition toward species with less food value for consumer organisms*." (p. 12)

8) "*I was one of 14 signatories from the scientific community of a 2006 letter to the Puget Sound Partnership giving recommendations for improving water quality and aquatic and human ecosystems through better stormwater runoff management. The letter recommended actions and practices related to land use as necessary to halt the decline of the Puget Sound ecosystem, provide for recovery of anadromous fish, halt the increase in and reduce the load of pollutants carried by stormwater to Puget Sound, and begin the steep climb toward restoration. The recommendations included means of preserving the least disturbed areas, arranging for no net loss of forest cover, and reducing runoff from impervious areas. The proposed form of the Viewcrest development disregards all of these principles. For this reason and because of the potential harm to Mud Bay, and more broadly the adjacent waters, the proposed development should be subjected to a full environmental impact assessment*." (p. 14)

❖ **Dan McShane**, L.E.G., engineering geologist and landslide expert:
(Exhibit C) (Emphasis added)

1) "*While the proposed discharge location is on a bedrock bench, there will still be a flow of water across fine grained sediments of the tideland of Mud Bay. There has been no evaluation of the potential tideland erosion or changes with the introduction of large flow volumes across the tideland during low tide and how that may impact the tidal channels and tidal waters and biology in and down gradient from the discharge point*." (p. 3)

2) "*Impacts of stormwater flow across the tidelands below the stormwater discharge has not been evaluated*." (p. 3)

3) "*Blasting of bedrock should not be allowed and timing of rock chiseling noise impacts should be evaluated*." (p. 4)

❖ **Lyndon Lee**, Ph.D., ecologist, wetland science and ecosystem expert:
(Exhibit D) (Emphasis added)

1) "*The combination of slope steepness and thin soils with slowly permeable or rock contacts results in relatively low soil water storage capacity in the Chuckanut Creek watershed and on the hillslopes that constitute the watershed areas that contribute water flows directly to Mud Bay (e.g. the proposed* Woods at Viewcrest *site*). (p. 6)

2) "*It is important to note that especially when they are cleared of vegetation and developed with large impervious surfaces such as roads, house roofs, parking areas, and lawns, the characteristics of water flows within watershed contributing areas like those in play at Mud Bay will undergo a change of state. Specifically, they will go from (a) sustaining relatively*

high rates of evapotranspiration on forested hillslopes (which pumps a great deal of water to the atmosphere) and delivery of relatively low energy subsurface flows to (b) quickly delivering greatly increased volumes of surface stormwater flows with high (kinetic) energy to the shoreline wetlands, unconsolidated sediments, and open water components of Mud Bay. The larger flows come faster because the evapotranspirational pump has been decommissioned by clearing of vegetation, and impervious surfaces do not allow water in infiltrate soil surfaces and then (slowly) move down into soil layers and down hydrologic gradients. (p. 6)

3) "*In addition to fecal coliform, transformation of the existing, dominantly forested areas on the Woods at Viewcrest site to a suburban landscape will be combined with less than perfect stormwater controls/SWPPP issues and concerns highlighted by Dr. Horner in his March 19, 2024 letter report. Given this combination, one can expect significantly elevated levels of road runoff such as oils, brake pad material, and crumb rubber, fertilizers, herbicides, insecticides, and pharmaceuticals to enter the Mud Bay system. All of these constituents are documented to be harmful to salmon, and to the range of aquatic and semi-aquatic vertebrates and invertebrates that depend on maintenance of the integrity of the Mud Bay ecosystem to complete all or essential portions of their life cycles*." (p. 6-7)

4) "*[Mud Bay] includes relatively intact and functioning open water, mudflats, sandflats, tidal fringing estuarine wetland components and the junction environment of the downstream end of Chuckanut Creek as it flows into the tidal waters the Mud Bay/Chuckanut Bay estuarine complex. This array of estuarine ecosystem components is highly interconnected and fragile in the sense that connections among components of the complex could be easily interrupted or fragmented. For example, fragmentation of the integrity of the structure and functioning of the Mud Bay ecosystem could occur by the direct, indirect, or cumulative impacts of physical processes that are set in motion by development. Uncontrolled sediment inputs could overwhelm the system with too much sediment too fast and associated rapid accretions of Mud Bay bottom elevations, which changes patterns of water flow and circulation in the Mud By ecosystem. The interruption or fragmentation of ecosystem structure and functioning is also possible via more subtle pathways. For example, in urbanizing environments these include inputs of biogeochemical stressors such as uncontrolled or poorly managed discharges of stormwater carrying high concentrations of constituents such as nitrogen, phosphorus, heavy metals, and pharmaceuticals. Singly or grouped together, these constituents can cause significant damage or become lethal to the range of aquatic and semi-aquatic organisms that depend on the Mud Bay ecosystem, including federally listed species*." (p. 7)

5) "*In the vicinity of Mud Bay, maintenance of this transitional area gradient from salt to freshwater is highly dependent on rates of sediment loading and the energy and quality of stormwater that is allowed to enter the system. Specifically, increased/unchecked accretion of sediment in Mud Bay caused by inputs from high-energy, poor-quality stormwater from*

poorly or uncontrolled source areas will stress an already delicate, degraded, but still functioning estuarine waters/wetland complex." (p. 9)

6) "*Considering the lack of hydrologic analyses and fully developed, innovative, and adaptive SWPPP plans discussed in items C 1 and 2 immediately above, it is my opinion that the application materials in their current state do not fully comply with federal, state, and City laws and regulations that require no net loss of ecological structure and functioning of WOTUS and Shorelines*." (p. 10)

7) "*In the instance of the proposed Woods at Viewcrest development, it is my opinion that the project is likely to impose significant adverse impacts on the ecological structure and functions of Mud Bay with a particular focus on sediment and contaminated stormwater inputs. Further, although significant adverse impacts are likely, the application materials do not provide sufficient information to determine the full extent of adverse environmental impacts*." (p. 10)

8) "*Given the potential significant impacts, responsible and required administrative procedure demands rigorous technical peer and public interest reviews that meet or exceed the requirements of the existing regulations. I recommend that the required review processes are most likely best fulfilled using an Environmental Impact Statement vehicle*." (p. 10)

URBAN FOREST & DENSE VEGETATION

Regarding adverse impacts related to the removal of the existing urban forest and dense vegetation, see **Exhibit I**.

TRANSPORTATION & TRAFFIC

Regarding adverse impacts related to transportation and traffic, see **Exhibit G**.

F. **NONCOMPLIANCE WITH BELLINGHAM MUNICIPAL CODE**

The Woods at Viewcrest application materials do not fully comply with the following Bellingham Municipal Code (BMC) regulations.

1) CRITICAL AREAS BMC 16.55

a) Best Available Science BMC 16.55.180

i) "Protect Functions and Values of Critical Areas with Special Consideration to Anadromous Fish. Critical area reports and decisions to alter critical areas shall rely on the best available science to protect the functions and values of critical areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish, such as salmon, steelhead, cutthroat trout and their habitat." (BMC 16.55.180.A)

b) Minimum Report Contents BMC 16.55.210.C: At a minimum, the report shall contain the following:

2. A copy of the site plan for the development proposal including:

a. A map to scale depicting critical areas and required buffers;

b. A map to scale of the development proposal and limits of construction overlaid on the critical areas map; and

4. Identification and characterization of all critical areas including their buffers, adjacent to the subject site and characterization of the ecological relationship of the critical area and buffers with any adjacent noncritical areas such as upland forest patches;

6. An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development;

c) Wetland Delineation Requirements BMC 16.55.290.B.3.i: The following are required components of a wetland delineation report:

3. Wetland Analysis. A wetland delineation report shall provide an analysis of all wetlands and buffers on site and within 150 feet of the lot or parcel boundaries including, at a minimum, the following information:

i. Functional assessment of the wetland and adjacent buffer using a local or state agency-recognized method and including the reference of the method and all data sheets.

d) LHA & EHA Buffers BMC 16.55.460.A.1

Comments: The failure of the wetland delineation to recognize the Mud Bay Category I estuarine wetlands precludes the project from fully complying with BMC 16.55 (items a-c above). The failure of the site plans to identify either the 50' minimum buffer or the reduced 10' buffer for LHAs and EHA's precludes the project from fully complying with BMC 16.55.460.A.1.

2) **EDGEMOOR NEIGHBORHOOD ZONING MAP PREREQUISITE CONSIDERATIONS** BMC 20.00.060

a) The Edgemoor Neighborhood table of zoning regulations under BMC 20.00.060 includes a *Prerequisite Consideration* for Area 7, within which the project site resides, for "Improvement to Fieldston and Willow Rds. As neighborhood collectors." The application materials fail to address this *Prerequisite Consideration*.

Area	Zoning	Use Qualifier	Density	Special Conditions	Prerequisite Considerations
7	Residential Single	Detached	20,000 sq. ft. min. detached lot size, or one lot per 20,000 sq. ft. average overall density	Clearing; view buffering from adjacent residential	Improvement to Fieldston and Willow Rds. as neighborhood collectors.

Comment: The fact that the project fails to even mention or recognize the Prerequisite Consideration preclude the project from fully complying with BMC 20.00.060.

3) **PHASING** BMC 23.16.010.E

"Phasing. A preliminary plat may be developed and recorded in phases provided a phasing plan is reviewed and approved by the city concurrently with the public facilities construction agreement for the first phase. Each phase shall consist of a contiguous group of lots that meets all pertinent development standards on its own and shall not rely on future phases for meeting any city codes. Specific improvements or dedications necessary to demonstrate compliance for the entire development may be required to be completed with the first phase, regardless of phase design or completion schedule of future phases, including but not limited to storm water, open spaces, landscaping, and dedications." (BMC 23.16.010.E)

Comments: As indicated in the Edgemoor Neighborhood Zoning Map presented in 2 above, the Area 7 density requirement is "20,000 sq. ft. min. detached lot size, or one lot per 20,000 sq. ft. average overall density." The applicant has chosen to comply with the "one lot per 20,000 sq. ft. average overall density" requirement; however:

a) **Phase 1** includes two lots (lot 22 and lot 37) that are not contiguous with lots 1 through 6. The average size of lots 1 through 6 is **19,824** sq. ft. and does not comply with the **20,000** sq. ft. average overall density requirement of BMC 23.16.010.E.
b) The average overall density of **Phase 2** lots (lots 10 through 17) is **11,605** sq. ft. and does not comply with the 20,000 sq. ft. average overall density requirement of BMC 23.16.010.E.

4) **PRELIMINARY PLAT DECISION CRITERIA** BMC 23.16.030

"Preliminary plats shall be given approval, including preliminary plat approval subject to conditions, upon finding by the hearing examiner that all of the following have been satisfied:

"1. It is consistent with the applicable provisions of this title, the Bellingham comprehensive plan and the Bellingham Municipal Code;

"4. Each lot in the proposal can reasonably be developed in conformance with applicable provisions of the BMC, including but not limited to critical areas, setbacks, and parking, without requiring a variance that is not processed concurrently with the subdivision application pursuant to Chapter 23.48 BMC;

"6. It will serve the public use and interest and is consistent with the public health, safety, and welfare. The director shall be guided by the policy and standards and may exercise the powers and authority set forth in Chapter 58.17 as amended." (BMC 23.16.030)

Comments: As detailed above and below, the project fails to fully comply with numerous sections of the Bellingham Municipal Code. Because the applicant failed to perform a lot-specific analysis, there is no evidence that each lot can reasonably be developed. The project itself is risky, provides little public benefit, and places the public safety of adjacent community members at risk. The project fails to fully comply with BMC 23.16.030.

5) SHORELINE MASTER PROGRAM BMC TITLE 22

"As provided for in RCW 90.58.900, the Shoreline Management Act is exempted from the rule of strict construction; the Act and this SMP shall therefore be liberally construed to give full effect to the purposes, goals, objectives, and policies for which the Act and this SMP were enacted and adopted, respectively." (BMC 22.01.070 Liberal construction; Emphasis added)

"The natural character of shorelines of statewide significance should be preserved. Where natural resources of statewide importance are being diminished over time, master programs shall include provisions to contribute to the restoration of those resources. Preserving resources for future generations within Bellingham Bay includes:

a. Restoring shorelines and estuaries so that natural processes may be reintroduced;
b. Reintroducing natural processes to improve habitat structure which results in sustainable habitat functions; and
c. Remediation of contaminated sediments."
(BMC 22.04.030.B)

"For Bellingham Bay the resources that are of statewide interest include but are not limited to:
a. Anadromous fisheries, forage fish spawning areas, eelgrass and kelp beds, marine mammal, avian, and other marine biota habitat, and the city's four estuarine systems including pocket estuaries." (BMC 22.04.030.A.1; Emphasis added)

"The COB Shoreline Management Program (SMP) designates this reach of shoreline (Marine 19) with a Natural designation… The COB regulates Chuckanut Bay as an HCA [Fish & Wildlife Habitat Conservation Area]. Chuckanut Bay is mapped by WDFW to contain hardshell clam and shorebird concentrations (Priority Species/ Habitats). The COB 2014 Nearshore Connectivity Study ranks the on-site marine reach (EU 19) as one of the high functioning shoreline reaches in the City of Bellingham: 'This unit includes a relatively undeveloped shoreline and marine

riparian zone with a functional connection to the beach, an unimpeded connection to Chuckanut Creek, and a stream delta… this EU exhibits a high level of connectivity and intact habitat.' As such, it appears the area qualifies as a Washington Department of Fish and Wildlife (WDFW) Priority Area (Biodiversity Area), which is regulated by the COB as an HCA." (2/24/22 Wetland Delineation Update & Critical Areas Summary p. 4; Emphasis added)

Comment: Based on the likely significant adverse environmental impacts *The Woods at Viewcrest* proposal is likely to impose on the Mud Bay shoreline resources and ecological functions, as identified in section D, the application materials do not fully comply with the following Goals, Objectives, Policies and Regulations of the Bellingham SMP:

a) **Shoreline Use Goal**: "Coordinate shoreline uses to insure uses that result in long-term over short-term benefit, protect and restore the shoreline resources and ecological functions, increase public access to the shoreline, and promote economic development and accommodate water-dependent uses." (BMC 220.20.020.A.1; Emphasis added)

b) **Shoreline Use Objective 2.f**: "The Whatcom, Squalicum, Chuckanut and Padden Creek estuary systems as well as those pocket estuaries identified on the Marine maps in Chapter 22.11 BMC should be restored to achieve a net gain in ecological function. Restoration may include, but should not be limited to:
    i. Creation of intertidal zone and bank resloping;
    ii. Landfill, debris and piling removal;
    iii. Remediation of contaminated aquatic and upland sediments;
    iv. Establishment of native riparian and aquatic vegetation;
    v. Identification of appropriate public access opportunities."
    (BMC 22.02.020.A.2.f; Emphasis added)

c) **Restoration and Conservation Goal**: "Restoration and conservation should occur via comprehensive restoration planning, public land acquisition, placing of conservation easements, site design and as development/redevelopment occurs. Activities that restore and enhance ecological functions of our shorelines should be emphasized. This master program's regulations and policies are required to achieve no net loss of shoreline ecological function on a reach and watershed scale. The restoration priority goals and objectives in the restoration plan (Appendix B) are intended to restore and improve ecological functions of our shorelines citywide."
    (BMC 22.02.020.B.1; Emphasis added)

d) **Restoration and Conservation Objective 2.c:** "Development should take appropriate steps to avoid shoreline modification and stabilization, utilize a range of low impact development techniques, minimize site disturbance, and avoid or minimize impacts to critical areas within shorelines." (BMC 22.02.020.B.2.c; Emphasis added)

e) **Restoration and Conservation Objective 2.c:** "Squalicum, Whatcom, Padden and Chuckanut Creek estuaries as well as other tidally influenced lagoons or pocket estuaries and pocket beaches should be restored in order to provide an improved level of habitat function and processes. These pocket estuaries are valuable for their diversity of aquatic and upland species habitat opportunities and their ability to support non-natal anadromous fish. As redevelopment occurs adjacent to these areas, these estuaries should be restored to achieve the following:

i. Improved tidal floodwater attenuation;
ii. Improved nutrient filtering and recycling;
iii. Higher quality shellfish habitat;
iv. Increased biological support and habitat value for juvenile salmonids and other upland species;
v. Shoreline stabilization and large woody debris (LWD) recruitment via native vegetation."
(BMC 22.02.020.B.2.k; Emphasis added)

f) **Restoration and Conservation Objective 2.n:** "Conservation efforts should be focused on protecting and sustaining ecological functions via protection with conservation easements or dedications to the city of Bellingham for public benefit."
(BMC 22.02.020.B.2.n; Emphasis added)

g) **Public Access Goal**: "Public access should be provided wherever feasible and where it will not impact ecological functions and habitat connectivity. As the Bellingham population increases and areas along city shorelines redevelop, preservation of existing access and development of new access opportunities to the shorelines for our citizens must be balanced with protection and preservation of shoreline ecological function."
(BMC 22.02.020.D.1.a; Emphasis added)

h) **Public Access Objective 2.h:** "Areas identified for establishment or enhancement of shoreline public access may include but should not be limited to:

x. Whatcom, Squalicum, Padden and Chuckanut Creek estuaries;"
(BMC 22.02.020.D.2.h; Emphasis added)

i) **Public Access Objective 2.i**: "Marine shorelines at Boulevard, Marine and Zuanich Point Parks, Little Squalicum Beach and at the head of Chuckanut Bay should be preserved for long-term public access and ecological restoration."
(BMC 22.02.020.D.2.i; Emphasis added)

j) **History, Cultural and Education Goal**: "Protect the public's interest in the conservation, preservation, and protection of the state's archaeological resources, and the knowledge to be derived and gained from the scientific study of these resources."
(BMC 22.02.020.G.1.a)

k) **History, Cultural and Education Objective 2.a**: "Shoreline areas having historical and/or cultural significance, especially those shorelines that historically supported the Lummi Nation and Nooksack Tribe, should be identified, preserved, protected, and restored." (BMC 22.02.020.G.2.a; Emphasis added)

l) **Flood Damage Minimization Goal**: "Establish and implement appropriate floodplain management strategies to minimize private and public property damage, and to improve the ecological functions and prevent habitat loss in wetlands, streams, estuaries and the marine near-shore." (BMC 22.02.020.H.1.a; Emphasis added)

m) **Water Quality Goal**: "All development along the shorelines of the city should include measures to protect and/or improve water quality." (BMC 22.02.020.I.1.a)

n) **Water Quality Objective 2.b**: "Current (2005) stormwater standards and low impact development techniques should be used for development on shoreline parcels where site conditions allow. Low impact development techniques within the 2005 Department of Ecology Stormwater Management Manual for Western Washington should be incorporated into site design to minimize impacts on water quality and ecological function where appropriate." (BMC 22.02.020.I.2.b; Emphasis added)

o) **Shoreline Environment Designations – Natural Purpose**: "To protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions intolerant of human use. Natural designated shorelines are best suited for very low-intensity uses to ensure that ecological function and ecosystem-wide processes are maintained." (BMC 22.03.030.A.1; Emphasis added)

p) **Shoreline Environment Designations – Natural Management Policy 2.a**: "Any use that would adversely affect the ecological functions or natural character of the shoreline, including channel migration zones, pocket estuaries and pocket or accretion beaches, should not be allowed." (BMC 22.03.030.A.2.a; Emphasis added)

q) **Shoreline Environment Designations – Natural Management Policy 2.d**: "All impacts to ecological function and values should be fully mitigated with the mitigation sequencing specified in BMC 22.08.020, Mitigation sequencing." (BMC 22.030.030.A.2.d; Emphasis added)

r) **Shoreline Environment Designations – Natural Management Policy 2.e**: "Preservation of ecological function of shorelines including critical areas should have priority over public access, recreation and development objectives whenever a conflict exists." (BMC 22.03.030A.2.e; Emphasis added)

s) **Shoreline Environment Designations – Natural Management Policy 2.g**: "New development, including subdivision of property that requires significant vegetation

removal or shoreline modification that would reduce the capability of vegetation to perform ecological functions, should not be allowed. Each new parcel, lot or tract should be able to support its intended development without significant ecological impacts to shoreline ecological functions." (BMC 22.03.030.A.2.g; Emphasis added)

t) **Shoreline Environment Designations – Natural Regulation 5.a**: "Development within shorelines designated as natural shall result in no net loss of shoreline ecological functions." (BMC 22.03.030.A.5.a; Emphasis added)

u) **Shoreline Environment Designations – Natural Regulation 5.b**: "Critical Areas. When permitted, development within critical areas or their buffers that occur in the shoreline jurisdiction shall comply with the applicable provisions of this program." (BMC 22.03.030.A.5.b; Emphasis added)

v) **Shoreline Environment Designations – Natural Regulation 5.e**: "Public access shall only be required in conjunction with a non-water-oriented use (excluding single-family residences when developed individually or in a subdivision of four or fewer lots) and shall be provided subject to the requirements within BMC 22.08.090, Public access. (BMC 22.03.030.A.5.b; Emphasis added)

w) **General Policies - Statewide Interest – Priority Uses 2**: "Preserve sufficient shorelands and submerged lands to accommodate current and projected demand for economic resources of statewide importance, such as commercial shellfish beds and navigable harbors." (BMC 22.04.030.C.2; Emphasis added)

x) **General Policies - Statewide Interest – Resources of Statewide Importance 1**: "Ensure the long-term protection of ecological resources of statewide importance, such as anadromous fish habitats, forage fish spawning and rearing areas, shellfish beds, and unique environments. Standards shall consider incremental and cumulative impacts of permitted development and include provisions to insure no net loss of shoreline ecosystems and ecosystem-wide processes." (BMC 22.04.030.D.1; Emphasis added)

y) **Conditional Uses C**: "Prior to the granting of a conditional use permit, as specifically required by this program or for uses which are not classified as such by this program, the applicant shall demonstrate all of the following:
1. The provisions spelled out in the master program have been met and the proposed use is consistent with the policies of the Act;
2. The proposed use will cause no significant, adverse impacts to the shoreline environment, ecological functions, or other uses;
3. The proposed use will not interfere with the normal public use of public shorelines;
4. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and the program;

5. The proposed use will not be contrary to the purpose and intent of the environment designation in which it is located and the general intent of the master program;
6. The proposed use(s) shall provide a long-term public benefit in terms of providing public access or implementing habitat restoration that is consistent with the goals of this program; and
7. That the public interest shall suffer no substantial detrimental effect."
(BMC 22.06.050.C; Emphasis added)

z) **Shoreline Buffers 4.g**: "Public Stormwater Conveyance Facilities. (This does not include stormwater management facilities such as detention ponds, stormwater vaults or wetlands.) Conveyance structures may be permitted within a required buffer in accordance with an approved critical area report when all of the following are demonstrated:
i. No other feasible alternatives with less impact exist;
ii. Mitigation for impacts including water quality is provided…"
(BMC 22.08.010.B.4.g; Emphasis added)

aa) **Mitigation Sequencing A.1**: "For all developments, applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts to shoreline ecological functions. Applicants shall follow the mitigation sequential descending order of preference below:
1. Avoiding the impact altogether by not taking a certain action or parts of an action."
(BMC 22.08.020.A.1; Emphasis added)

bb) **Mitigation Sequencing D**: "Application of the mitigation sequencing in subsection (A) of this section shall achieve no net loss of shoreline ecological functions for each new development and shall not result in required mitigation in excess of that necessary to assure that development will result in no net loss of shoreline ecological function."
(BMC 22.08.020.D; Emphasis added)

cc) **Critical Areas Policy 1**: "Critical areas that are within the shoreline jurisdiction are to be protected and managed in such a manner that the result of any use activity or development is no net loss of shoreline ecological function, and is in accordance with the standards and requirements within this title." (BMC 22.08.030.A.1; Emphasis added)

dd) **Critical Areas Policy 2**: "Critical areas within the shoreline jurisdiction should be protected and restored by integrating the full spectrum of planning and regulatory measures, including the comprehensive plan, inter-local watershed plans, local development regulations, and state, tribal, and federal programs."
(BMC 22.08.030.A.2; Emphasis added)

ee) **Critical Areas Policy 3**: "The city should protect critical areas and their existing shoreline ecological functions so that they continue to contribute to existing ecosystem-wide processes." (BMC 22.08.030.A.2; Emphasis added)

ff) **Critical Areas Regulation 1.a**: "Development within critical areas shall result in a no net loss of ecological function." (BMC 22.08.030.B.1.a; Emphasis added)

gg) **Critical Areas Regulation 2.a**: "Whenever activities are proposed within or adjacent to a habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with a critical area report prepared by a qualified professional and approved by the city." (BMC 22.08.030.B.2.a; Emphasis added)

hh) **Critical Areas Regulation 2.b**: "Bald eagle habitat shall be protected pursuant to the Washington State Bald Eagle Protection Rules (WAC 232-12-292). The city shall verify the location of eagle management areas for each proposed activity. Approval of the activity shall not occur prior to approval of the habitat management plan by the Washington Department of Fish and Wildlife." (BMC 22.08.030.B.2.b; Emphasis added)

ii) **Critical Areas Regulation 2.c**: "Whenever activities are proposed within or adjacent to a designated habitat of local significance or that may likely adversely affect a designated species of local importance (each category designated by city council per ordinance), such area shall be protected through the application of protection measures in accordance with a critical area report prepared by a qualified professional and approved by the city." (BMC 22.08.030.B.2.c; Emphasis added)

jj) **Critical Areas Regulation 3**: "All activities, uses and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of anadromous fish habitat including, but not limited to, adhering to the standards within this program." (BMC 22.08.030.B.3; Emphasis added)

kk) **Critical Area Regulations For Wetlands Within The Shoreline Jurisdiction I**: "Wetland hydrology shall not be adversely affected by stormwater management. Post-development wetland hydrology shall match pre-development wetland hydrology to the maximum extent feasible. An annual evaluation of hydrologic conditions, conducted by a qualified wetland professional or hydrologist, may be required to document hydrologic conditions." (BMC 22.08.060.I; Emphasis added)

ll) **Water Quality, Stormwater, and Nonpoint Pollution Policy 1**: "Shoreline master programs shall, as stated in RCW 90.58.020, protect against adverse impacts to the

public health, to the land and its vegetation and wildlife, and to the waters of the state and their aquatic life, through implementation of the following principles:

a. Prevent impacts to water quality and stormwater quantity that would result in a net loss of shoreline ecological functions, or a significant impact to aesthetic qualities, or recreational opportunities.

b. Ensure mutual consistency between shoreline management provisions and other regulations that address water quality and stormwater quantity, including public health, stormwater, and water discharge standards. The regulations that are most protective of ecological functions shall apply.

(BMC 22.08.110.A.1; Emphasis added)

mm) **Water Quality, Stormwater, and Nonpoint Pollution Regulation 1**: "Stormwater management facilities shall be developed in such a manner that there is no net loss of ecological function." (BMC 22.08.110.B.1; Emphasis added)

nn) **Water Quality, Stormwater, and Nonpoint Pollution Regulation 5**: "Low impact development (LID) techniques shall be considered and implemented to the greatest extent practicable throughout the various stages of development including site assessment, planning and design, vegetation conservation, site preparation, retrofitting and built-out management techniques." (BMC 22.08.110.B.5; Emphasis added)

oo) **Stormwater Management Facilities Policy 1**: "Stormwater facilities should not be located in areas where there would be an adverse impact to existing shoreline ecological functions." (BMC 22.08.210.A.1; Emphasis added)

pp) **Stormwater Management Facilities Regulation 5**: "New stormwater conveyance facilities (outfalls) shall not be constructed within required shoreline or critical area buffers unless no other feasible alternative exists."
(BMC 22.08.210.B.5; Emphasis added)

qq) **Stormwater Management Facilities Regulation 6**: "Individual shoreline permits shall include a requirement that an applicant prepare a stormwater management facility maintenance program for a five-year period that includes the following elements:

a. Frequency and detail of maintenance of the facilities (this includes but is not limited to catch basin insert and vault cartridge replacement, removal of noxious vegetation, pipe and overflow clean-out and outfall and diffuser maintenance);

b. Copy of signed and implemented contract verifying the entity that will perform the maintenance action and the frequency of the maintenance; and

c. A maintenance report shall be submitted to the planning department each year for five years from the date of issue of the original shoreline permit."
(BMC 22.08.210.B.6; Emphasis added)

rr) **Residential Development Policy 2**: "Any residential development along the shoreline should be set back from steep slopes and eroding shoreline areas so that the shoreline is not further eroded nor structural improvements required to protect property." (BMC 22.09.090.A.2, Emphasis added)

G. NONCOMPLIANCE WITH STATE AND FEDERAL GUIDELINES & REGULATIONS

1) **Washington State Department of Ecology Stormwater Management Manual**
   a. **Minimum Requirements**: As detailed in Section C4 through C8 above, the application materials do not fully comply with the 2019 Department of Ecology Stormwater Management Manual for Western Washington (SMMWW) §I-3.4 Minimum Requirements.

   b. **Wetland Protection Guidelines**: The application materials do not fully comply with SMMWW Appendix I-C Wetland Protection Guidelines, which require Wetland Hydroperiod Protection for the Mud Bay Category I estuarine wetlands. Additionally, the stormwater management plan for TDA 2 violates the requirement for placement of the outlet structure outside the wetland and its buffer. Once the outlet structure is placed outside the wetland and its buffer, the stormwater management plan will not comply with Minimum Requirement 7 Flow Control because flow control will be required. See Exhibit M for detailed information.

2) **Washington State RCW 58.17.110** (Public health, safety, and welfare): The proposal does not fully comply with RCW 58.17.110's provisions to provide for the public health, safety and welfare. The proposal's risks far outweigh any public benefit.

3) **U.S. Clean Water Act**: Considering the likely adverse impacts to water quality within the Mud Bay estuary, the proposal is unlikely to fully comply with the water quality provisions of the federal Clean Water Act.

H. CONCLUSION & SUMMARY

SEPA Threshold Determination of Significance & Environmental Impact Statement
Based on our review of *The Woods at Viewcrest* application materials, *Protect Mud Bay Cliffs* and PMBC's experts have concluded that:

1. The application materials:
   a. Are fundamentally flawed as they contain significant deficiencies, including errors, omissions and unsubstantiated and/or false claims.

b. Do not provide sufficient information necessary to identify and evaluate all significant adverse environmental impacts this project is likely to impose, as is required by state law under WAC 197-11-080.
c. Do not fully comply with Bellingham Municipal Code (BMC) regulations.
d. Do not fully comply with state and federal guidelines and regulations.
e. Do not fully comply with Best Available Science and Best Management Practice (BMP) standards, especially as they apply to protecting the functions of shoreline ecological values and critical areas and the preservation of anadromous fisheries.

2. Although the application materials do not provide sufficient information to fully identify and evaluate all potential significant adverse environmental impacts, it is clear from these materials that the proposal is likely to impose significant adverse environmental impacts that cannot be adequately mitigated. Consequently, the city must issue a SEPA threshold ***Determination of Significance*** (DS) and prepare an ***Environmental Impact Statement*** (EIS).

3. Because of the likely significant adverse impacts, the flawed application materials, and the failure to fully comply with city, state and federal laws and regulations:
   a. The proposal does not qualify for a *Mitigated Determination of Nonsignificance* (MDNS); and
   b. The city should not approve - or recommend approval of - the applications for the:
      i. Preliminary Plat
      ii. Subdivision Variance
      iii. Critical Areas Permit
      iv. Shoreline Substantial Development Permit
      v. Shoreline Conditional Use Permit
      vi. Street Vacation Petition

Washington Administrative Code (WAC) 197-11-794 states: (Emphasis added)

(1) "Significant" as used in SEPA means a ***reasonable likelihood of more than a moderate adverse impact on environmental quality***.

(2) ***Significance involves context and intensity*** and does not lend itself to a formula or quantifiable test. ***The context may vary with the physical setting***. Intensity depends on the magnitude and duration of an impact.

The severity of an impact should be weighed along with the likelihood of its occurrence. ***An impact may be significant if its chance of occurrence is not great, but the resulting environmental impact would be severe*** if it occurred.

WAC 197-11-330(3) further states:

In determining an impact's significance, the responsible official shall take into account the following, that:

(a) The same proposal may have a significant adverse impact in one location but not in another location;

(c) Several marginal impacts when considered together may result in a significant adverse impact;
(d) For some proposals, it may be impossible to forecast the environmental impacts with precision, often because some variables cannot be predicted or values cannot be quantified.

When considered together, WAC 197-11-794 and WAC 197-11-330 require the SEPA responsible official to consider the significance of a project's adverse impacts holistically.

- If there is a ***reasonable likelihood*** that a project will impose ***more than a moderate adverse impact*** on environmental quality when the ***physical location of the project*** is considered, when ***adverse impacts are considered in totality***, and when ***potential impacts would be severe*** even if the chance of occurrence is not great, then the adverse impacts of the project shall be considered significant and an EIS shall be required.

The application materials, including the materials submitted during the pre-application phase, clearly document that the ***physical location*** of the project:

- Contains areas with steep topography, including grades in excess of 80%;
- Is subject to geologic hazards, including landslide, rockfall, and erosion hazards;
- Has experienced mass wasting (landslide) activity in the past;
- Includes areas that have been identified as having High Landslide Potential;
- Drains into the ecologically sensitive Chuckanut Creek Estuary that includes Mud Bay's extensive mudflats and clam beds and which provides the highest level of functions of the City's pocket estuaries. The city made a significant investment in the Chuckanut Creek Estuary when the Chuckanut Village Marsh was restored in 2011.
- Is located on Viewcrest Road in the Edgemoor Neighborhood that has been suffering from precarious conditions for pedestrians, cyclists, pets and wildlife for years. A February 15, 2017 letter signed by 99 Edgemoor residents and delivered to Mayor Linville put the City on notice that these conditions have created public safety issues that must be addressed. Included with this letter was a 14-page Pedestrian Safety Survey highlighting areas impacting public safety. The city has taken no action since 2017 to remedy the situation.

Not a single technical report submitted with the application materials either claims or guarantees that this project will not increase the already existing possibility of geologic hazards, including erosion, landslide and rockslide hazards. Should any of these hazards occur, ***the resulting environmental impacts would be severe***.

PMBC's conclusion that this proposal is likely to have a significant adverse impact on the environment is founded on the factors detailed in WAC 197-11-794 and WAC 197-11-330.

- Based on these factors and the adverse environmental impacts detailed above and in the attached exhibits, it is clear that there is a ***reasonable likelihood*** that *The Woods at Viewcrest* subdivision will impose ***more than a moderate adverse impact*** on environmental quality in view of the ***physical location of the project***, when the ***adverse impacts are considered in totality***, and when the severity of the ***potential impacts*** is factored in.

Therefore, PMBC requests that the city issue a SEPA threshold *Determination of Significance* (DS) and require that an EIS be conducted.

Proposal does not qualify for a SEPA Mitigated Determination of Significance

Although the 1995 integration of SEPA and the Growth Management Act (GMA) enables the city to rely on existing laws and regulations - and to mitigate the adverse impacts of the project - in order to bring it below the threshold for EIS preparation, *Protect Mud Bay Cliffs* asserts that the proposal does not qualify for a *Mitigated Determination of NonSignificance* (MDNS).

Our assertion that the proposal does not qualify for an MDNS is based on the facts that:

- The application materials do not provide information reasonably sufficient to evaluate the environmental impact of the proposal or to mitigate impacts that cannot be identified due to insufficient information;
- The proposal does not fully comply with city, state and federal laws and regulations; and
- Many of the adverse environmental impacts cannot be adequately mitigated; therefore, the project will continue to have a significant adverse environmental impact, even with mitigation measures.

Protect Mud Bay Cliffs appreciates the opportunity to provide public comment on *The Woods at Viewcrest* subdivision proposal. Please include this letter in the administrative record.

Thank you for considering our request to issue a SEPA Determination of Significance and require an environmental impact statement based on the significant impacts this project will impose on multiple elements of the environment.

Sincerely,

Paul Brock · Ava Ferguson · Larry Horowitz · Wendy Larson
Janet Migaki · Gary Ranz · Brent Woodland
Protect Mud Bay Cliffs Coordination Committee Members
Info@MudBayCliffs.org

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT B

Richard R. Horner, Ph.D. Expert Opinion Public Comment re: Stormwater Management System

RICHARD R. HORNER, PH.D.
1752 NW MARKET STREET, # 551
SEATTLE, WASHINGTON 98107
TELEPHONE: (206) 605-9775
E-MAIL: rrhorner1@msn.com

March 18, 2024

Protect Mud Bay Cliffs
1050 Larrabee Ave, Ste 104, MB# 476
Bellingham, WA 98225

To Whom It May Concern:

As you requested, I reviewed documents submitted by the proponent of the Woods at Viewcrest development (Viewcrest, the development, or the project) in the City of Bellingham (the City). I focused primarily on the proposed stormwater management system and the project's potential effects on the waters that would regularly receive its stormwater runoff (Mud Bay). This letter presents the conclusions I reached.

In forming these conclusions I reviewed and assessed project documents: (1) Preliminary Stormwater Management Report (December 4, 2023); (2) The Woods at Viewcrest Project Plans (updated December 4, 2023); (3) The Woods at Viewcrest Expanded SEPA Checklist (updated December 4, 2023) (4) Land Use Application (January 31, 2022); (5) Geotechnical Investigation & Geohazard Report (October 6, 2022); and (6) sources from the literature of the stormwater management field and internet resources cited in footnotes.

In evaluating the Viewcrest documents, I applied the experience of my 47 years of work in the stormwater management field and 11 additional years of engineering practice. During this period, I have performed research, taught, and offered consulting services on all aspects of the subject, including investigating the sources of pollutants and other causes of aquatic ecological damage, impacts on organisms in waters receiving urban stormwater drainage, and the full range of methods of avoiding or reducing these impacts. Attachment A to this letter presents a more complete description of my background and experience, and Attachment B contains my full *curriculum vitae*.

SUMMARY OF MY CONCLUSIONS

A project put forward for approval to proceed should collect all underlying data pertinent to the required environmental assessments, conduct those assessments with the best available methods, and provide all of the information regulators and citizens need to make a full and confident evaluation of the proposal and its potential environmental effects. The Viewcrest project documents do not meet this standard, specifically with respect to:

- There is no direct consideration of the special needs for protecting Mud Bay, a Category I estuarine wetland with abundant salmonid fish and avian resources, that would receive stormwater runoff from the proposed development.

- The proposed project poses a number of potential threats to the Mud Bay ecosystem during both its construction and post-construction phases.

- The steep slopes on and adjacent to the development site risk considerable erosion during construction and sediment transport to Mud Bay without excellent controls.

- Despite this risk, the project documents give little attention to the challenging construction environment and, to the extent they do, provide only inferior controls.

- There has been no hydrologic assessment to estimate the quantities of stormwater runoff that will be generated during construction or in the finished development, or hydraulic analysis to estimate the routing of runoff during either phase. There is thus no basis for the sizing or locations of the management practices vaguely prescribed.

- The stormwater treatment proposed for the finished development would be less effective and pose a greater maintenance burden than a readily available alternative. Under the current plan, the treatment units also would not receive runoff from all of the locations that would generate pollutants.

- The potential environmental harm associated with the development as proposed warrants a full environmental impact assessment.

These flaws in the project documents signify that the proposed development poses threats to the Mud Bay ecosystem. The remainder of my letter elaborates on these points.

THE AFFECTED AQUATIC ECOSYSTEMS

Introduction

The large majority of the stormwater runoff produced in the proposed Viewcrest development would discharge to the estuary at the base of the slope, known as Mud Bay Cliffs, atop which the project would be built. Most of that flow would be collected from the largest of three drainage subbasins, Threshold Drainage Area 2 (TDA 2), and conveyed by a pipe running down the slope. Two smaller subbasins (TDA 1 and TDA 3) would discharge to City storm sewers, which in turn lead to the estuary. A fourth small area would drain overland to a freshwater wetland within the Viewcrest parcel.

The Estuary

The estuary goes by different names, including Mud Bay, North Chuckanut Bay, Northeast Chuckanut Bay, Chuckanut Creek estuary (the creek being the primary freshwater inflow), and

Chuckanut Bay Shoreland. References cited herein use a variety of names. This account designates it as Mud Bay or the estuary, except when quoting directly from a reference.

Washington Department of Ecology (Ecology) classifies marine and freshwater wetlands in four categories in relation to their resource values. Mud Bay is in Category I, the highest level, described as follows by Ecology:[1]

> Category I wetlands are those that 1) represent a unique or rare wetland type; or 2) are more sensitive to disturbance than most wetlands; or 3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or 4) provide a high level of functions. We cannot afford the risk of any degradation to these wetlands because their functions and values are too difficult to replace.
>
> Relatively undisturbed estuarine wetlands larger than 1 ac are Category I wetlands because they are rare and provide unique natural resources that are considered to be valuable to society. These wetlands need a high level of protection to maintain their functions and the values society derives from them.

The City has characterized the estuary as follows: "Northeast Chuckanut Bay is Bellingham's richest and most biologically diverse estuary."[2] It has abundant biological resources, specifically:

- Documented presence in Chuckanut Creek of chinook salmon, chum salmon, coho salmon, sea-run cutthroat trout, and steelhead, some on the Endangered Species Act endangered and threatened lists. These anadromous fish pass through Mud Bay during adult in-migration and juvenile return to the sea.[3, 4, 5, 6]

- Foraging opportunities for herons and winter waterfowl habitat, particularly for dabbling duck species in Mud Bay.[3, 4, 7]

- Eelgrass in the estuary according to the Washington Department of Natural Resources.[8] Eelgrass provides a number of important ecosystem functions, including foraging areas

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[1] Hruby, T. (2014). Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
[2] https://cob.org/services/recreation/parks-trails/parks-guide/chuckanut-bay-shorelands (accessed on March 14, 2024).
[3] Northwest Ecological Services, LLC. 2006. Management Recommendations for City of Bellingham Pocket Estuaries. Prepared for City of Bellingham Planning and Development Department, Bellingham, Washington.
[4] Raedeke Associates, Inc. November 16, 2022. Technical Memorandum to AVT Consulting, RE: Jones Family Long Subdivision–Wildlife Habitat Assessment.
[5] Northwest Ecological Services, LLC. 2008. Wetland Characterization: Chuckanut Village Marsh. Prepared for Whatcom County Public Works, Bellingham, Washington.
[6] City of Bellingham Environmental Resources Division. 2013. Chuckanut Village Marsh Water Quality Improvement, Monitoring Report, CCWF Grant Number G0900085. City of Bellingham, Bellingham, Washington.
[7] https://www.instagram.com/bellinghamparks/p/C3T-L9MiO_W/ (accessed on March 14, 2024).

> and shelter for young fish and invertebrates and food for migratory waterfowl. By trapping sediment, stabilizing the substrate, and reducing the force of wave energy, eelgrass beds also reduce coastal erosion.[9]

Regulation of Category I Estuarine Wetlands

Ecology's Stormwater Management Manual for Western Washington (the Manual), in Appendix I-C: Wetland Protection Guidelines, specifies protections for wetlands according to category. Particularly relevant to Mud Bay in its Category I status are the following provisions (from section I-C.3):

1. Provide Construction Stormwater BMPs [best management practices] as directed in I-3.4.2 MR2: Construction Stormwater Pollution Prevention Plan (SWPPP) to prevent sediment and other pollutants from entering the wetland.

2. Provide Source Control BMPs as directed in I-3.4.3 MR3: Source Control of Pollution. Refer to Volume IV and local jurisdiction requirements.

3. Provide On-Site Stormwater Management and use LID principles as much as practicable for the site, as directed in I-3.4.5 MR5: On-Site Stormwater Management. LID principles and practices will help meet other wetland hydroperiod protection criteria and provide additional habitat.

4. Provide Runoff Treatment BMPs as directed in I-3.4.6 MR6: Runoff Treatment to treat runoff prior to entering the wetland and its buffer.

> If the wetland is a special characteristic wetland (such as mature or old growth forest wetlands, bogs, **estuarine wetlands**, wetlands of high conservation value, coastal lagoons, and interdunal wetlands), **implement Runoff Treatment BMPs with the most advanced ability to control nutrient loads. Consider using Runoff Treatment BMPs with infiltration and active biological filtration** [emphasis added].

There are important implications of these requirements for the proposed development. The specification to use the most advanced methods to control nutrient loading to the estuary governs the BMPs suitable for the construction phase and on through the long-term occupation of the site. This provision also demands the use of source controls to minimize nutrient releases in the first place.

The Freshwater Wetland

Stormwater runoff from a portion of the northeastern part of the development would drain to a 9476-ft^2 palustrine forested wetland called Wetland B in the project documents. It is in Ecology

[8] https://wadnr.maps.arcgis.com/apps/webappviewer/index.html?id=83b8389234454abc8725827b49272a31 (accessed on March 14, 2024).
[9] https://www.fisheries.noaa.gov/feature-story/importance-eelgrass (accessed on March 14, 2024).

Category IV. Its scoring according to the Wetland Delineation Update & Critical Areas Summary for the Edgemoor Viewcrest Properties[10] does not obligate assessment for hydroperiod protection per Manual section I-C.5. There are three other Category IV wetlands on the site that would not receive runoff from the development.

ASSESSMENT OF THE CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT

Slope Considerations

The Geotechnical Investigation & Geohazard Report states that the majority of the slopes on the project site range from less than 15 to more than 30 percent. The Preliminary Stormwater Management Report indicates that the greater slopes are mainly in TDA 2 toward the estuary. These relatively steep slopes pose definite challenges for successfully managing construction-phase stormwater to comply with the Manual's I-3.4.2 MR2 requirements.

Slope is a leading factor in soil erosion and sediment loss from a construction site. Thus, it is especially crucial to comprehensively address means of avoiding sediment transport from this site or, at the very least, holding it to a *de minimis* level. Achieving this goal requires careful, detailed analysis and development of a SWPPP incorporating superior BMPs tailored to the site's circumstances.

Construction zones cleared of vegetation and not otherwise stabilized yield much more sediment compared to the original area well covered with plants and to the same area restablized with vegetative cover following construction. Measurements and estimates using a mathematical model (Revised Universal Soil Loss Equation Version 2, RUSLE2) indicate 30 to more than 1000 times as much soil loss can occur after vegetation clearing compared to before clearing. Therefore, one year of construction with no or inadequate erosion controls can release into the environment as much sediment loading as occurred over decades or even centuries before the piece of land had been cleared.

Going further into the matter of slope as an important determinant of erosion, RUSLE2 estimates soil loss potential according to variables representing rainfall characteristics, soils, slope length, vegetation cover, BMPs, and contributing area, in addition to slope steepness. All other factors being equal, the equation predicts the approximate increases in soil loss at different slope gradients given in Table 1. It can be seen that the rate of soil loss escalates greatly with increasing gradient. Slopes in the upper ranges of Table 1, and even greater, do exist in the areas to be disturbed for the Viewcrest development. The more extreme slopes are also most proximate to the estuary. Owing to these circumstances and the related high potential soil loss, before the project moves forward, there should be full analysis and construction SWPPP development, followed by assessment by the City and the public.

[10] Northwest Ecological Services. October 31, 2021. Memorandum to Susan Jones RE: Wetland Delineation Update & Critical Areas Summary for the Edgemoor Viewcrest Properties.

Table 1. Comparison of Estimated Soil Loss as Slope Increases from 3 Percent

Slope (%)	Estimated Soil Loss Compared to 3% Slope[a]
6	1.8 times
10	3.0 times
14	4.7 times
20	7.0 times
25	8.9 times
30	10.7 times

[a] From Table 4-3 of Renard, K.G., G.R. Foster, G.A. Weesies, D.K. McCool, and D.C. Yoder. 1997. Predicting Soil erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE). Agricultural Handbook No. 703, U.S. Department of Agriculture, Washington, DC. The example is for a slope 50 ft in length.

Soils and Hydrology

Beyond giving insufficient attention to the topographic challenges to limiting sediment export during construction, the project documents likewise have given little emphasis to the potential erosiveness of site's soils. RUSLE2 takes soils and their erosivity property into account with a variable termed the K Factor, an index that quantifies the relative susceptibility of the soil to sheet and rill erosion. Values range from 0.02 for the least erodible soils to 0.64 for the most erodible.[11] Thus, the challenge of erosion on a construction site can vary by more than 30 times due to soils alone. Soil properties affecting the K Factor include texture, organic matter content, structure, and saturated hydraulic conductivity. These characteristics must be known for a proper analysis of erosion potential and effective strategizing to defeat it.

Since this information is not available in comprehensive form, the K factors around the site cannot be firmly established. The loam soils predominating, according to the Geotechnical & Geohazard Report, do not generally have the lowest K values but can be in the moderate or even higher ranges depending on the controlling characteristics. Without thorough attention to the exact characteristics of soils that will be disturbed, it is impossible to make a proper assessment of erosiveness and the BMPs that will be necessary to prevent or mitigate it.

Producing a truly site-specific SWPPP will require hydrologic modeling of flows to be generated during construction; passed through on-site conveyances; probably held in basins or tanks for flow control, sedimentation and possibly other treatment; and then discharged. This modeling should be performed with the current version of Western Washington Hydrologic Model (WWHM2012). Resource protection demands that flows are estimated as well as possible to avoid erosion of conveyance channels, to size equipment correctly, and to protect the receiving waters from high discharges during construction.

It is clear from the project documents that this essential hydrologic modeling has not occurred. Approval of the project should not move further with this project until these construction-phase

[11] Natural Resources Conservation Service. Undated. Updated T and K Factors, Questions & Answers. U.S. Department of Agriculture, Washington, DC.

soils and hydrology assessments occur. They must then be incorporated in a project-specific SWPPP, along with the topographic considerations, for proper judgment of the construction-phase stormwater management plan.

Assessment of Proposed Construction-Phase BMPs

The overall construction-phase stormwater management plan presented in the Preliminary Stormwater Management Report is very incomplete. It lacks any site-specific consideration of how the relatively steep and potentially erosive slopes will be protected during clearing and grading exposure. It mentions use of a sediment pond as the method to be employed to interdict eroded material. In my opinion, such a pond will not comply with the Manual's I-3.4.2 MR2 requirements to protect a Category I estuarine wetland. The estuarine ecosystem is sensitive to nutrient inputs; and the nutrients phosphorus and nitrogen, generally present in soil, are transported with the eroded sediments. There is no information on where the sediment pond discharge will go or how it will be conveyed; with that careless presentation Mud Bay must be assumed to be endangered.

The Manual states, under the topic BMP C250, that a sediment pond is effective at removing larger particulate matter by gravity settling, but ineffective at capturing smaller particulates and may not be adequate to ensure compliance with the water quality standards in the receiving water. It advises that BMPs C250 (chemical treatment) and C251 (filtration) can reliably provide exceptional reductions of turbidity and associated pollutants, which include nutrients. These practices have been employed at hundreds of construction projects in Washington over many years. It is my strong opinion that an appropriate selection of treatment elements among these technologies is essential to protect Mud Bay should the Viewcrest construction occur.

The preceding discussion has emphasized the sediment that may issue from the construction site and compromise receiving water quality. Just as the project documents are incomplete in covering this area, it is equally vague on management of construction site pollutants besides sediments. These sources include construction materials; wastes produced; and pollutants associated with vehicles and other mechanized equipment, such as fuels, lubricants, and cleaning materials. These substances can introduce toxic pollutants to storm runoff, such as heavy metals, petroleum products, and organic chemicals derived from fossil fuels. A SWPPP should be produced and evaluated before further project consideration, and it should fully detail the BMPs that will be used to control pollutants from all sources.

ASSESSMENT OF THE POST-CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT

The Lack of a Basis for Post-Construction Stormwater Management

The general tasks for planning stormwater management for a finished development concern estimation of runoff flow rates and volumes, conveyance of water across and away from the site, and preventing or limiting the transport of pollutants associated with human occupancy and activities to waters downstream. The major tools used by analysts in performing these tasks are

hydrologic and hydraulic models, algorithms that predict the rates and volumes of runoff resulting from received precipitation and its routing from the point of generation to ultimate discharge. The categories of variables in these models are precipitation quantities and patterns and the characteristics of the land receiving the rainfall. Within the latter category, key variables are topography, surficial land cover, and soils. Based on the available project documents, none of these modeling exercises have been performed.

Despite the absence of this essential information, the Preliminary Stormwater Management Plan identifies locations and sizes of permanent stormwater treatment units (modular wetland systems [MWS]). Without hydraulic analysis of water flow, it is not certain that all of the water to be treated will reach the designated locations. Without hydrologic analysis of water quantities, treatment units cannot be reliably sized. It may be that the project proponents intend the locations and sizes to be "place holders," but the City and citizens deserve full details to determine if the plan will protect the affected environment.

Assessment of Proposed Post-Construction Stormwater Treatment

The Preliminary Stormwater Management Plan is predicated on treating stormwater from "pollutant generating surfaces" in TDA 1 and TDA 2, plus the area draining to Wetland B, with three MWS units. The report appears to regard only roads as pollutant generating. However, lawns will generate pollutants potentially harmful to the estuary too, particularly nutrients from fertilizing, pesticides, and bacteria from pet waste. Not treating runoff from this source ignores the Manual's emphasis on nutrient control to protect Category I estuarine wetlands. Roofs are also pollutant sources by collecting airborne deposits. The treatment plan should be expanded to incorporate drainage from these sources, especially the lawns.

The stormwater management plan gives no attention at all to the directive in the Manual's requirement I-3.4.3 MR3 to provide source control BMPs. Fertilizers, lawn and garden pesticides, pet wastes, and washing vehicles at home are all common and significant sources of pollutants in stormwater flowing from residential communities. If the plan was comprehensive, it would look ahead to how it could establish landscaping avoiding or reducing demands for applying fertilizers and pesticides and encourage future residents to abide by practices to limit these pollutants.

The MWS choice is not the best option pursuant to the Manual's I-3.4.5 MR5 and I-3.4.6 MR6 provisions regarding runoff treatment and the use of low impact development (LID) principles and practices. Being proprietary, its treatment medium is not known and therefore not subject to evaluation for the intended service.

I recommend instead using bioretention systems (Manual BMP T7.30) constructed on-site having a treatment medium tailored to the special requirements in place for the Category I wetland. Ecology supported research to identify a medium optimizing capture of a series of pollutants: total suspended solids (TSS); total and dissolved copper, lead, and zinc; total phosphorus; orthophosphate-phosphorus; nitrate + nitrite-nitrogen; fecal coliform bacteria; polycyclic aromatic hydrocarbons (PAHs); and total petroleum hydrocarbons (TPH). Only one

experimental blend among those tested met the study's objectives: an 18-inch layer of sand, coir, and biochar placed on top of a 12-inch polishing layer of sand, activated alumina, and iron aggregate. Bioretention can be infiltrating or lined on the bed and fitted with an underdrain to collect percolating water for surface discharge. The latter configuration would probably be the choice for the development site since it appears that infiltration potential is limited, except at some localized spots.

Another advantage of bioretention BMP T7.30 over a modular wetland system is a reduced maintenance burden. I have seen a bioretention unit discharge stormwater meeting the applicable pollutant limits from an industrial site without extensive maintenance for eight years. Only at the point did performance begin to decline. The modular wetland system manufacturer recommends the following maintenance schedule for that device:[12]

- Remove Trash from Screening Device – average maintenance interval is 6 to 12 months.
- Remove Sediment from Separation Chamber – average maintenance interval is 12 to 24 months.
- Replace Cartridge Filter Media – average maintenance interval 12 to 24 months.
- Replace Drain Down Filter Media – average maintenance interval is 12 to 24 months.
- Trim Vegetation – average maintenance interval is 6 to 12 months.

Filter media replacement, especially, would be a challenge if left to a homeowners' association to manage. The bioretention alternative I described would reduce that burden by stretching the need for maintenance out much longer.

Regarding localized infiltration, the Geotechnical & Geohazard Report identified the potential locations for this practice and recommended that the stormwater management plan exploit them for permeable pavements or downspout infiltration systems like linear trenches or drywells. The locations are on Lots 1-6, the bottom of Lots 27-31, the gentle mid-slope area of Lot 32, the lower half of Lot 33 and the adjacent right-of-way, and the eastern border of Lot 36. These are not insignificant opportunities, but the Preliminary Stormwater Management Plan indicates no sign of taking advantage of them. Retaining water on-site is 100 percent effective in preventing pollutant discharges, whereas even the best treatments producing an output do not reach that level. Such thoroughly positive opportunities should be capitalized on in a situation demanding the best possible protections for a highly valuable resource.

[12] https://swbmp.vwrrc.vt.edu/wp-content/uploads/2022/04/Filter_Application_MWS-Linear_Document-3-2.pdf (accessed on March 15, 2024).

ENVIRONMENTAL CONSEQUENCES OF CONSTRUCTION AND POST-CONSTRUCTION STORMWATER MANAGEMENT DEFICIENCIES

Water Pollutants of Concern and Their Sources

Above I determined that the Preliminary Stormwater Management Plan's provisions for both construction-phase and post-construction stormwater management are ill-defined and overall inadequate to prevent the introduction of pollutants to stormwater runoff during both periods. Hundreds of water pollutants are associated with urban development and its human facilities and activities. These pollutants fall into the categories of: (1) solid particles, which create their own negative impacts and also transport pollutants in the other categories; (2) nutrients, particularly phosphorus and nitrogen, which can over-enrich receiving waters and cause harmful algae and plant growths; (3) oxygen-demanding materials, which deplete dissolved oxygen needed by aerobic life; (4) metals, some of which, like copper and zinc, are toxic to aquatic life; (5) petroleum products, which have toxic and nuisance effects in receiving waters; (6) organic chemicals, including pesticides and numerous other household and commercial chemicals, again many of them toxic to aquatic organisms as well as humans and wildlife; and (7) pathogenic (disease-causing) organisms.

Contaminants from a poorly controlled construction site include sediments, the pollutants for which they are a transport medium, and a host of harmful substances associated with construction materials, wastes, and equipment. Fueling of vehicles, other equipment, or both almost always occurs on large construction sites. Maintenance and cleaning also sometimes take place. Careless operations release petroleum products, which are then picked up and transported in runoff. Paint, solvents, cleaners, and other chemicals used in construction are sources of toxic organics. After a development is occupied, human activities such as vehicular transportation, lawn care, and pet keeping introduce pollutants from several of the categories listed above. Pollutants in all seven categories listed above issue from a site such as Viewcrest.

Quantification of Residential Land Use Pollutant Releases

Table 2 gives the concentrations of common stormwater pollutants associated with activities occurring during construction and occupation of a residential community in comparison to drainage from open (undeveloped) land, such as the present forested site. With the exceptions of total suspended solids, nitrate+nitrite-nitrogen, and total phosphorus, concentrations in flows from the developed land use range from 190 to 260 percent higher than in open land runoff. Total phosphorus is 20 percent higher in runoff from the residential land use compared to open land.

Table 2. Median Pollutant Concentrations in Stormwater Runoff from Two Land Use Types from the National Stormwater Quality Database[13]

Pollutant	Unit	Open Space	Residential
Total suspended solids	mg/L	51	48
Total phosphorus	mg/L	0.25	0.30
Total Kjeldahl nitrogen[a]	mg/L	0.60	1.40
Nitrate+nitrite-nitrogen	mg/L	0.60	0.60
Biochemical oxygen demand	mg/L	4.2	9.0
Chemical oxygen demand	mg/L	21	55
Total copper	µg/L	5	12
Total lead	µg/L	5	12
Total zinc	µg/L	39	73
Fecal coliform bacteria	No./100 mL	3100	7750

[a] Nitrogen in the organic plus inorganic ammonia and ammonium forms.

In addition to concentration (mass/unit volume of water), pollutant mass loading (mass/unit time) is instrumental in water quality. Concentration represents exposure to the contaminant at a point in time and thus is the major factor in acute effects on receptor organisms. Mass loading represents a cumulative exposure over time, creating a chronic stress on life forms and aggregate contaminant collection in a repository such as the aquatic sediments. Loading is the multiplication product of concentration times flow volume over the time period and can be expressed on the basis of unit area (kg/ha-year) or total catchment (kg/year). With the construction of impervious surfaces and lawns in place of native landscapes, urbanization increases runoff volume. Table 2 shows that it generally also increases concentrations. Therefore, we would anticipate seeing substantially elevated pollutant mass loadings in developed versus undeveloped runoff.

Table 3 shows that expectation to be borne out. Loadings from the developed compared to undeveloped land uses are generally about 50-400 percent greater, although ranging much higher for TSS, total phosphorus, and total lead. The ultimate, long-term burden of unmitigated urban stormwater runoff on water quality is thus a function of both hydrologic modification and release of chemical, physical, and biological agents by urban inhabitants and their possessions and activities.

[13] Shaver, E., R. Horner, J. Skupien, C. May, and G. Ridley. 2007. *Fundamentals of Urban Runoff Management: Technical and Institutional Issues*, 2nd Ed. North American Lake Management Society, Madison, Wisconsin, USA.

Table 3. Pollutant Loadings in Storm Runoff from Three Land Use Types as Reported in the Stormwater Literature[a]

Pollutant	Unit	Undeveloped[b]	Residential[c]
Total suspended solids	kg/ha-year	3	250
Total phosphorus	kg/ha-year	0.03	0.3
Total Kjeldahl nitrogen	kg/ha-year	2.5 as total nitrogen*	2.5
Nitrate+nitrite-nitrogen	kg/ha-year		1.4
Biochemical oxygen demand	kg/ha-year	NA[d]	27
Chemical oxygen demand	kg/ha-year	NA[d]	50
Total copper	kg/ha-year	0.01**	0.03
Total lead	kg/ha-year	0.005	0.05
Total zinc	kg/ha-year	0.03**	0.10
Fecal coliform bacteria***	No./ ha-year	1.0×10^{10}	3.8×10^{10}

[a] Source: Burton, G.A., Jr. and R.E. Pitt. 2002. *Stormwater Effects Handbook: A Toolbox for Watershed Managers, Scientists, and Engineers*. Lewis Publishers, Boca Raton, FL (Table 2.5), except:

* Beaulac, M.N. and K.H. Reckhow. 1982. An Examination of Land Use - Nutrient Export Relationships. *Journal of the American Water Resources Association* 18:1013-1024.

** Wanielista, M.P. and Y.A. Yousef. 1993. *Stormwater Management*. John Wiley and Sons, Inc., New York, New York, USA (Table 5.19).

*** Shaver, E., R. Horner, J. Skupien, C. May, and G. Ridley. 2007. *Fundamentals of Urban Runoff Management: Technical and Institutional Issues*, 2nd Ed. North American Lake Management Society, Madison, Wisconsin, USA (Table 3-13).

[b] "Woodland" for total copper and total zinc; "parks" for total suspended solids, total phosphorus, and total lead; "forest" for remaining pollutants (Note: Multiple sources were consulted for the undeveloped category since data for the various pollutants were not reported in consistent land use terms.).

[c] Medium-density residential (approximately 20 percent impervious).

[d] Not available.

Environmental Harm Associated with Stormwater Pollutants of Particular Concern for Mud Bay

Eroded sediments from a construction site deposited in a relatively quiescent location, such as Mud Bay, change the character of its bed. The nutrients phosphorus and nitrogen, generally present in soil and transported by the eroded particles, stimulate increased growths of algae, a process known as eutrophication. A common effect of eutrophication is alteration of the algal community composition toward species with less food value for consumer organisms.

Both copper and zinc are toxic to fish and other aquatic life, much more so than to mammals. There is a large body of literature on the specific lethal and negative sublethal effects of these metals on fish and other aquatic life. Particularly in the dissolved forms, they are toxic to aquatic organisms in relatively low concentrations. Equivalent concentrations and higher are often measured in urban stormwater. The effects of both metals on aquatic organisms can be directly lethal or sublethal but detrimental to such life cycle functions as migration, reproduction, rearing, feeding, growth, disease resistance, and predator avoidance.

Copper, especially, has received a great deal of attention for its inhibition of various salmonid physiological processes, to the detriment of migration, feeding, reproduction, and rearing. The mechanisms bringing about these adverse effects include fraying of gills, diminishing their physiological processes, and reduction of olfactory ability (sense of smell).[14] The onset of negative consequences depends on species and water pH, dissolved organic carbon, and hardness but begins as low as approximately 5 µg/L or even less.

Baldwin et al. (2003)[15] used coho salmon olfactory capacity, a reliable indicator of sublethal toxicity, in a series of studies. Exposure to 10 µg/L of copper for 30 minutes reduced responses to three odorants by 35-67 percent, and the reduced olfactory function persisted for hours. Impairment was evident within 10 minutes for exposures ranging from 2 to 20 µg/L. The researchers defined the threshold for sublethal, copper-induced coho neurotoxicity to be 25 percent reduction in olfactory responses. They found the threshold to be 2.3-3.0 µg/L (depending on odorant) above the 3.0 µg/L background in source water; i.e., the presence of approximately 5-6 µg/L of copper reduced olfactory function by 25 percent.

Zinc concentrations as low as 93 µg/L have been found to be lethal to 50 percent of juvenile rainbow trout in 96 hours of exposure.[16] Sublethal effects at even lower concentrations include avoidance of rearing habitat and inhibited immune response.[17] Such negative effects interfere with growth, ability to avoid predators, and resistance to disease.

The negative effects of metal toxins are not necessarily limited to short-term, acute lethal or medium-term sublethal impacts. Over time an organism can accumulate metals in tissue, a process known as bioaccumulation. When predators consume organisms with bioaccumulated metals, they concentrate them in their tissues. The top predator in an aquatic ecosystem tends to have the highest concentrations, through biomagnification up the food chain. Fish and their food sources in the benthic macroinvertebrate community are subject to these impacts.

Aquatic sediments become repositories for particulate metals through gravity settling and for dissolved metals through various adsorption and ion exchange processes. In addition to their toxicity to bottom-dwelling organisms, these captured metals can become remobilized into the water column by disturbance and dissolution, and thus harm pelagic aquatic life long after their initial release.

Petroleum derivatives contain numerous chemicals, certain ones (*e.g.*, many in the polyaromatic hydrocarbon group) of which are toxic to aquatic life. They produce harmful sublethal, if not immediately lethal, reactions negatively affecting reproduction, development, and behavior.

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[14] Solomon, F. 2009. Impacts of Copper on Aquatic Ecosystems and Human Health. MINING.com, January 2009, pp. 25-28.
[15] Baldwin, D.H., J.F. Sandahl, J.S. Labenia, and N.L. Scholz. 2003. Sublethal effects of copper on coho salmon: Impacts on nonoverlapping receptor pathways in the peripheral olfactory nervous system. *Environmental Toxicology and Chemistry* 22(10):2266-2274.
[16] Chapman, G.A. 1978. Toxicities of Cadmium, Copper, and Zinc to Four Juvenile Stages of Chinook Salmon and Steelhead. *Transactions of the American Fisheries Society* 107: 841-847.
[17] Price, M.H.H. 2013. Sub-lethal Metal Toxicity Effects on Salmonids: A Review. Report prepared for SkeenaWild Conservation Trust. Smithers, BC.

These materials decompose relatively slowly and tend to accumulate in the aquatic environment. The gradual decomposition reduces the oxygen supply needed by aerobic water life, from fish to the microorganisms responsible for the breakdown themselves. This oxygen demand aggravates that created by biodegradable particles.

A FINAL WORD

I was one of 14 signatories from the scientific community of a 2006 letter to the Puget Sound Partnership giving recommendations for improving water quality and aquatic and human ecosystems through better stormwater runoff management.[18] The letter recommended actions and practices related to land use as necessary to halt the decline of the Puget Sound ecosystem, provide for recovery of anadromous fish, halt the increase in and reduce the load of pollutants carried by stormwater to Puget Sound, and begin the steep climb toward restoration. The recommendations included means of preserving the least disturbed areas, arranging for no net loss of forest cover, and reducing runoff from impervious areas. The proposed form of the Viewcrest development disregards all of these principles. For this reason and because of the potential harm to Mud Bay, and more broadly the adjacent waters, the proposed development should be subjected to a full environmental impact assessment.

I would be pleased to answer any questions you may have and invite you to contact me if you wish.

Sincerely,

Richard R. Horner

Attachments: Attachment A; Background and Experience; Richard R. Horner, Ph.D.
Attachment B; *Curriculum Vitae*

[18] https://special.seattletimes.com/s/ABPub/2008/05/10/2004406008.pdf (accessed on March 15, 2024)

ATTACHMENT A

RICHARD R. HORNER, PH.D.

BACKGROUND AND EXPERIENCE

I have 57 years of professional experience, 44 teaching and performing research at the college and university level. For the last 46 years I have specialized in research, teaching, and consulting in the area of stormwater runoff and surface water management.

I received a Ph.D. in Civil and Environmental Engineering from the University of Washington in 1978, following two Mechanical Engineering degrees from the University of Pennsylvania in 1965 and 1966. Although my degrees are all in engineering, I have had substantial course work and practical experience in aquatic biology and chemistry.

For 12 years beginning in 1981, I was a full-time research professor in the University of Washington's Department of Civil and Environmental Engineering. From 1993 until 2011, I served half time in that position and had adjunct appointments in two additional departments (Landscape Architecture and the College of the Environment's Center for Urban Horticulture). I spent the remainder of my time in private consulting through a sole proprietorship. My appointment became emeritus in late 2011, but I have participated in some research and teaching since then while maintaining my consulting practice.

My research, teaching, and consulting embrace all aspects of stormwater management, including determination of pollutant sources; their transport and fate in the environment; physical, chemical, and ecological impacts; and solutions to these problems through better structural and non-structural management practices.

I have conducted numerous research investigations and consulting projects on these subjects. Serving as a principal or co-principal investigator on more than 40 research studies, my work has produced three books, approximately 30 papers in the peer-reviewed literature, and over 20 reviewed papers in conference proceedings. I have also authored or co-authored more than 80 scientific or technical reports.

In addition to graduate and undergraduate teaching, I have taught many continuing education short courses to professionals in practice. My consulting clients include federal, state, and local government agencies; citizens' environmental groups; and private firms that work for these entities, primarily on the West Coast of the United States and Canada but in some instances elsewhere in the nation.

Over a 17-year period beginning in 1986 I spent a major share of my time as the principal investigator on two extended research projects concerning the ecological responses of freshwater resources to urban conditions and the urbanization process. I led an interdisciplinary team for 11 years in studying the effects of human activities on freshwater wetlands of the Puget Sound lowlands. This work led to a comprehensive set of management guidelines to reduce negative

effects and a published book detailing the study and its results. The second effort involved an analogous investigation over 10 years of human effects on Puget Sound's salmon spawning and rearing streams. These two research programs had broad sponsorship, including the U.S. Environmental Protection Agency, the Washington Department of Ecology, and a number of local governments.

Nationally, I conducted research sponsored by the National Science Foundation, U.S. Environmental Protection Agency, Water Environment Research Foundation, Transportation Research Board, and Electric Power Research Institute. In Washington, I have performed research for the Washington State Department of Transportation, Washington Department of Ecology, City of Seattle Public Utilities, King County Water and Land Resources Division and its predecessor Municipality of Metropolitan Seattle, King County Roads Division, and Washington Sea Grant.

I now serve or have served on technical advisory panels concerning stormwater issues for Seattle-Tacoma International Airport and King County Water and Land Resources Division. I was one of 14 signatories from the scientific community of a 2006 letter to the Puget Sound Partnership giving recommendations for improving water quality and aquatic and human ecosystems through improved stormwater runoff management (https://special.seattletimes.com/s/ABPub/2008/05/10/2004406008.pdf).

I have helped to develop stormwater management programs in Washington State, California, and British Columbia and studied such programs around the nation. I was one of four principal participants in a U.S. Environmental Protection Agency-sponsored assessment of 32 state, regional, and local programs spread among 14 states in arid, semi-arid, and humid areas of the West and Southwest, as well as the Midwest, Northeast, and Southeast. This evaluation led to the 1997 publication of "Institutional Aspects of Urban Runoff Management: A Guide for Program Development and Implementation" (subtitled "A Comprehensive Review of the Institutional Framework of Successful Urban Runoff Management Programs").

In California I have been a federal court-appointed overseer of stormwater program development and implementation at the city and county level and for two California Department of Transportation districts. I was directly involved in the process of developing the 13 volumes of Los Angeles County's Stormwater Program Implementation Manual, working under the terms of a settlement agreement in federal court as the plaintiffs' technical representative. My role was to provide quality-control review of multiple drafts of each volume and contribute to bringing the program and all of its elements to an adequate level. I have also evaluated and contributed in various ways to the stormwater programs in Los Angeles, San Diego, Orange, Riverside, San Bernardino, Ventura, Santa Barbara, San Luis Obispo, and Monterey Counties, as well as a regional program for the San Francisco Bay Area. At the recommendation of San Diego Baykeeper, I have been a consultant on stormwater issues to the City of San Diego, the San Diego Unified Port District, and the San Diego County Regional Airport Authority.

Over the past 30 years I have been a consultant to and expert witness for the U.S. Department of Justice and a number of national and regional environmental organizations in Clean Water Act cases. They include Natural Resources Defense Council, Earthjustice, Center for Biological

Diversity, and members of the Waterkeeper Alliance in the states of Washington, Oregon, and California.

I have been a member of the science team for Salmon-Safe, Inc. for 20 years. Salmon-Safe recognizes landowners who meet prescribed standards for aiding salmon protection and recovery. My role is to assess candidates' programs and performance, mainly concentrating on stormwater, and participate with other members of the team in certification decisions.

I was a member of the National Academy of Sciences-National Research Council ("NAS-NRC") committee on Reducing Stormwater Discharge Contributions to Water Pollution. NAS-NRC committees bring together experts to address broad national issues and give unbiased advice to the federal government. The present panel was the first ever to be appointed on the subject of stormwater. Its broad goals were to understand better the links between stormwater discharges and impacts on water resources, to assess the state of the science of stormwater management, and to apply the findings to make policy recommendations to the U.S. Environmental Protection Agency relative to municipal, industrial, and construction stormwater permitting. My principal contribution to the committee's final report, issued in October 2008, was the chapter presenting the committee's recommendations for broadly revamping the nation's stormwater program.

ATTACHMENT B

CURRICULUM VITAE

HORNER, Richard Ray

230 NW 55th Street
Seattle, WA 98107
Telephone: (206) 782-7400
E-mail: rrhorner1@msn.com
rrhorner@u.washington.edu

University of Washington:
Emeritus Research Associate Professor,
Departments of Landscape Architecture and Civil and Environmental Engineering and
Sole Proprietor Consultant

EDUCATION

1976 - 1978 University of Washington, Seattle, Washington; Ph.D. (Civil Engineering)

1965 - 1966 University of Pennsylvania, Philadelphia, Pennsylvania; M.S. (Mechanical Engineering)

1961 - 1965 University of Pennsylvania, Philadelphia, Pennsylvania; B.S. *Cum Laude* (Mechanical Engineering)

HONORS AND AWARDS

Augustus Trask Ashton Scholarship, University of Pennsylvania, 1961 - 65
Annual Academic Honors, University of Pennsylvania, 1961 - 65
Tau Beta Pi National Engineering Honor Society
National Science Foundation Traineeship, University of Pennsylvania, 1965 - 66

EMPLOYMENT

1986 - Present Richard R. Horner, Sole Proprietor (offering services in environmental engineering and science)

2011 - Present University of Washington, Seattle, Washington
Emeritus Research Associate Professor

1981 - 2011 University of Washington, Seattle, Washington
Research Associate Professor

1986 - 1990 King County, Seattle, Washington
Coordinator of Puget Sound Wetland and Stormwater Management Research Program (part-time; continued under contract to University of Washington)

1969 - 1981 Northampton Community College, Bethlehem, Pennsylvania
Engineering Department (Coordinator, 1971 - 73 and 1978 - 79)

	Environmental Studies Department (Co-coordinator, 1973 - 76 and 1978 - 1981) Professor, 1978 - 1981; Associate Professor, 1973 - 78; Assistant Professor, 1969 - 73, Leave of Absence, 1977 - 78; Sabbatical Leave, 1976 - 77
1977 - 1978	University of Washington, Seattle, Washington Department of Civil Engineering Research Engineer, Highway Runoff Water Quality Project
1976 - 1977	University of Washington, Seattle, Washington Department of Civil Engineering and Institute for Environmental Studies Research Assistant and Teaching Assistant
1966 - 1969	Exxon Research and Engineering Company, Florham Park, New Jersey; Project Engineer
1965 - 1966	University of Pennsylvania, Philadelphia Pennsylvania Department of Mechanical Engineering; Research Assistant

NATIONAL COMMITTEES

National Academy of Sciences Panel on Reducing Stormwater Discharge Contributions to Water Pollution, 2007-2008.

Technical Advisory Panel for Water Environment Federation projects on Decentralized Stormwater Controls for Urban Retrofit and Combined Sewer Overflow Reduction, 2005-2007.

Co-chair, Engineering Foundation Conference on Effects of Watershed Development and Management on Aquatic Ecosystems, 1996.

National Academy of Sciences Panel on Costs of Damage by Highway Ice Control, 1990-91.

U.S. Environmental Protection Agency National Wetland Research Planning Panel, 1988, 1991.

RESEARCH PROJECTS

* Principal Investigator.
** Co-Principal Investigator. (Where undesignated, I was a member of the faculty investigation team without principal investigator status).

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Horner, R.R. and M.H. Kortenhof. Improving the Cost-Effectiveness of Highway Construction Site Erosion/Pollution Control, Phase 1. Report to Washington State Department of Transportation, 1987.

Horner, R.R., B.W. Mar, L.E. Reinelt, and J.S. Richey. Design of Monitoring Programs for Determination of Ecological Change Resulting from Nonpoint Source Water Pollution in Washington State. Report to Washington State Department of Ecology, 1986.

Horner, R.R., E.B. Welch, M.R. Seeley, and J.M. Jacoby. Velocity-Related Critical Phosphorus Concentrations in Flowing Water, Phase II. Report to National Science Foundation, 1986.

Horner, R.R., J.S. Richey, and D.P. Lettenmaier. Source Control of Transit Base Runoff Pollutants--Final Report. Report to Municipality of Metropolitan Seattle, 1985.

Welch, E.B., R.R. Horner, D.E. Spyridakis, and J.I. Shuster. Response of Lake Sammamish to Past and Future Phosphorus Loading. Report to Municipality of Metropolitan Seattle, 1985.

Horner, R.R. and S.R. Wonacott. Performance Evaluation of a Detention Basin and Coalescing Plate Oil Separator for Treating Urban Stormwater Runoff. Report to State of Washington Water Research Center and U.S. Geological Survey, 1985.

Cahn, D.C. and R.R. Horner. Preliminary Investigation of Sewage Sludge Utilization in Roadside Development. Report to Washington State Department of Transportation, 1985.

Horner, R.R. Highway Runoff Water Quality Research Implementation Manual, Vol. 1-2, FHWA WA-RD 72.1,2. Report to Washington State Department of Transportation, 1985.

Horner, R.R. Suggested Revisions to WSDOT Manuals for Implementing Washington State Highway Runoff Water Quality Research Results, FHWA WA-RD 72.3. Report to Washington State Department of Transportation, 1985.

Mar, B.W., D.P Lettenmaier, R.R. Horner, J.S. Richey, R.N. Palmer, S.P. Millard, and M.C. MacKenzie. Sampling Design for Aquatic Ecological Monitoring, Vol. 1-5. Final Report on Electric Power Research Institute, Project RP1729-1, 1985.

Horner, R.R., J.S. Richey, D.P. Lettenmaier, and J.F. Ferguson. Source Control of Transit Base Runoff Pollutants, Task 1--Interim Report. Report to Municipality of Metropolitan Seattle, 1984.

Brown and Caldwell Engineers and R.R. Horner. Moses Lake Clean Lake Project, Phase I. Report to Moses Lake Irrigation and Rehabilitation District, 1984.

Mar, B.W., D.P. Lettenmaier, J.S. Richey, R.R. Horner, R.N. Palmer, S.P. Millard, and G.L. Thomas. Sampling Design for Aquatic Ecological Monitoring, Phase II--Methods Development, Vol. 1-2. Report to Electric Power Research Institute, 1984.

Horner, R.R. Highway Runoff Water Quality Technology Transfer Workshop Handbook. Prepared for Washington State Department of Transportation, 1983.

Pedersen, E.R., R.R. Horner, and G.L. Portele. SR 528 - 4th Street Extension, Marysville, Snohomish County, Washington: Draft Environmental Impact Statement. Prepared for City of Marysville, 1983.

Horner, R.R., B.W. Mar, B. Chaplin, and F. Conroy. Implementation Plan for Highway Runoff Water Quality Research Results. Report to Washington State Department of Transportation, 1983.

Little, L.M., R.R. Horner, and B.W. Mar. Assessment of Pollutant Loadings and Concentrations in Highway Stormwater Runoff, FHWA WA-RD-39.17. Report to Washington State Department of Transportation, 1983.

Horner, R.R., and E.B. Welch. Velocity-Related Critical Phosphorus Concentrations in Flowing Water. Final Report to National Science Foundation for award number (CME) 79-18514, 1982.

Horner, R.R., and E.B. Welch. Impacts of Channel Reconstruction on the Pilchuck River, FHWA WA-RD-39.15. Report to Washington State Department of Transportation, 1982.

Mar, B.W., R.R. Horner, J.F. Ferguson, D.E. Spyridakis, and E.B. Welch. Summary - Highway Runoff Water Quality, 1977-1982, FHWA WA-RD-39.16. Report to Washington State Department of Transportation, 1982.

Horner, R.R. and B.W. Mar. Guide for Water Quality Assessment of Highway Operations and Maintenance, FHWA WA-RD-39.14. Report to Washington State Department of Transportation, 1982.

Mar, B.W., D.P. Lettenmaier, R.R. Horner, D.M. Eggers, R.N. Palmer, G.J. Portele, J.S. Richey, E.B. Welch, G. Wiens, and J. Yearsley. Sampling Design for Aquatic Ecological Monitoring, Phase 1. Report to Electric Power Research Institute, 1982.

Portele, G.J., B.W. Mar, R.R. Horner, and E.B. Welch. Effects of Seattle, Area Highway Stormwater Runoff on Aquatic Biota, FHWA WA-RD-39.11. Report to Washington State Department of Transportation, 1982.

Wang, T.S., D.E. Spyridakis, B.W. Mar, and R.R. Horner. Transport, Deposition, and Control of Heavy Metals in Highway Runoff, FHWA WA-RD-39.10. Report to Washington State Department of Transportation, 1982.

Chui, T.W., B.W. Mar, and R.R. Horner. Highway Runoff in Washington State: Model Validation and Statistical Analysis, FHWA WA-RD-39.12. Report to Washington State Department of Transportation, 1981.

Mar, B.W., J.F. Ferguson, D.E. Spyridakis, E.B. Welch, and R.R. Horner. Year 4, Runoff Water Quality, August 1980-August 1981, FHWA WA-RD-39.13. Report to Washington State Department of Transportation, 1981.

Horner, R.R. and S.M. Grason. An Ecological Study of the Monocacy Creek and its Groundwater Sources in the Vicinity of Camels Hump. Report to the Monocacy Creek Watershed Association, Bethlehem, Pennsylvania, 1981.

Horner, R.R. and E.B. Welch. Background Conditions in the Lower Pilchuck River Prior to SR-2 Construction. Report to Washington State Department of Transportation, 1979.

Horner, R.R. and B.W. Mar. Highway Runoff Monitoring: The Initial Year, FHWA WA-RD-39.3. Report to Washington State Department of Transportation, 1979.

Horner, R.R. and E.B. Welch. Effects of Velocity and Nutrient Alterations on Stream Primary Producers and Associated Organisms, FHWA WA-RD-39.2. Report to Washington State Department of Transportation, 1978.

Horner, R.R., T.J. Waddle, and S.J. Burges. Review of the Literature on Water Quality Impacts of Highway Operations and Maintenance. Report to Washington State Department of Transportation, 1977.

Horner, R.R. A Method of Defining Urban Ecosystem Relationships Through Consideration of Water Resources. U.S. Man and the Biosphere Project 11 Report, 1977.

Horner, R.R. and R. Gilliom. Bear Lake: Current Status and the Consequences of Residential Development. Report to Bear Lake Residents' Association, Kitsap County, Washington, 1977.

PRESENTATIONS AND DISCUSSIONS

*Presented by a co-author. In all other cases, I presented the paper.

Stormwater Runoff Flow Control Benefits of Urban Drainage System Reconstruction According to Natural Principles. Puget Sound/Georgia Strait Research Meeting; Vancouver, British Columbia; April 2003.

Structural and Non-Structural Best Management Practices (BMPs) for Protecting Streams. Invited presentation at the Engineering Foundation Conference on Linking Stormwater BMP Designs and Performance to Receiving Water Impact Mitigation; Snowmass, Colorado; August 2001.

Performance of a Perimeter ("Delaware") Sand Filter in Treating Stormwater Runoff from a Barge Loading Terminal. Invited presentation at the Comprehensive Stormwater and Aquatic Ecosystem Management Conf.; Auckland, New Zealand; February 1999.

Regional Study Supports Natural Land Cover Protection as Leading Best Management Practice for Maintaining Stream Ecological Integrity. Invited presentation at the Comprehensive Stormwater and Aquatic Ecosystem Management Conf.; Auckland, New Zealand; February 1999.

Watershed Determinants of Ecosystem Functioning. Invited presentation at the Engineering Foundation Conference on Effects of Watershed Development on Aquatic EcosystemsUrban Runoff and Receiving Systems; Snowbird, Utah; August 1996.

Overview of the Puget Sound Wetlands and Stormwater Management Research Program. Puget Sound Water Quality Authority Research Meeting; Seattle, Washington; January 1995.

Guidelines for Managing Urban Wetlands. Puget Sound Water Quality Authority Research Meeting; Seattle, Washington; January 1995.

Urbanization Effects on Wetland Hydrology and Water Quality. Puget Sound Water Quality Authority Research Meeting; Seattle, Washington; January 1995 (prepared with B. Taylor and K. Ludwa).*

Constructed Wetlands for Urban Runoff Water Quality Control. Invited presentation at National Conf. on Urban Runoff Management; Chicago, Illinois; March 1993.

Training for Construction Site Erosion Control and Stormwater Facility Inspection. Invited presentation at National Conf. on Urban Runoff Management; Chicago, Illinois; March 1993.

Toward Ecologically Based Urban Runoff Management. Invited presentation at The Engineering Foundation Conference on Urban Runoff and Receiving Systems; Crested Butte, Colorado; August 1991.

How Stormwater Harms Shellfish. Invited presentation at the Pacific Rim Shellfish Sanitation Conference; Seattle, Washington; May 1991.

Environmental Evaluation of Calcium Magnesium Acetate for Highway Deicing Applications. Invited presentation at Conference on Calcium Magnesium Acetate, An Emerging Chemical for Environmental Applications; Boston, Massachusetts; May 1991.

Issues in Stormwater Management. Statement to State Senate Environment and Natural Resources Committee; Olympia, Washington; January 1991.

Urban Stormwater Impacts on the Hydrology and Water Quality of Palustrine Wetlands in the Puget Sound Region. Invited presentation at Puget Sound Water Quality Authority Research Meeting; Seattle, Washington; January 1991 (prepared with L.E. Reinelt).

The Impact of Nonpoint Source Pollution on River Ecosystems. Invited presentation at the Northwest Rivers Conference; Seattle, Washington; November 1990.

Research Program Overview and Discussion of Hydrologic and Water Quality Studies. Presented at the Puget Sound Wetlands and Stormwater Management Research Program Workshop; Seattle, Washington; October 1990.

Control of Urban Runoff Water Quality. Invited presentations at American Society of Civil Engineers Urban Stormwater Short Courses; Bellevue, Washington; April, 1990; Portland, Oregon; July 1990.

Various Aspects of Erosion Prevention and Control. Invited presentations at University of Wisconsin Erosion Control Short Course; Seattle, Washington; July 1990.

Examination of the Hydrology and Water Quality of Wetlands Affected by Urban Stormwater. Presented at the Society of Wetland Scientists Annual Meeting; Breckenridge, Colorado, June 1990 (prepared with L.E. Reinelt).*

Analysis of Plant Communities of Wetlands Affected by Urban Stormwater. Presented at the Society of Wetland Scientists Annual Meeting; Breckenridge, Colorado; June 1990 (prepared with S.S. Cooke).*

Environmental Evaluation of Calcium Magnesium Acetate. Invited presentation at the Symposium on the Environmental Impact of Highway Deicing; Davis, California; October 1989.

Application of Wetland Science Principles in the Classroom and Community. Invited presentation at the Annual Meeting of the Association of Collegiate Schools of Planning; Portland, Oregon; October 1989.

Structural Controls for Urban Storm Runoff Water Quality. Invited presentation at the Northwest Regional Meeting of the North American Lake Management Society; Seattle, Washington; September 1989.

The Puget Sound Wetlands and Stormwater Management Research Program. Invited presentation at the U.S. Environmental Protection Agency Workshop on Wetlands and Stormwater; Seattle, Washington; September 1989.

An Overview of Storm Runoff Water Quality Control. Invited presentation at the American Water Resources Association Workshop on Forest Conversion; LaGrande, Washington; November 1988.

Progress in Wetlands Research. Invited presentation at the Pacific Northwest Pollution Control Association Annual Meeting; Coeur d'Alene, Idaho; October 1988.

Long-Term Effects of Urban Stormwater on Wetlands. Invited presentation at the Engineering Foundation Conference on Urban Stormwater; Potosi, Missouri; July 1988.

Highway Construction Site Erosion and Pollution Control: Recent Research Results. Invited presentation at the 39th Annual Road Builders' Clinic; Moscow, Idaho; March 1988.

Urban Stormwater and Puget Trough Wetlands. Presented at the 1st Annual Puget Sound Water Quality Authority Research Meeting; Seattle, Washington; March 1988 (prepared with F.B. Gutermuth, L.L. Conquest, and A.W. Johnson).

Preliminary Comparative Risk Assessment for Hanford Waste Sites. Presented at Waste Management 88; Tucson, Arizona; February 1988 (prepared with R.F. Weiner and J. Kettman).*

What Goes on at the Hanford Nuclear Reservation? Invited presentation at the Northwest Association for Environmental Studies Annual Meeting; Western Washington University, Bellingham, WA; November 1987.

The Puget Sound Wetlands and Stormwater Management Research Program. Invited presentation at the Pacific Northwest Pollution Control Association Annual Meeting; Spokane, Washington; October 1987.

Design of Cost-Effective Monitoring Programs for Nonpoint Source Water Pollution Problems. Invited presentation at the American Water Resources Association, Puget Sound Chapter, Annual Meeting; Bellevue, Washington; November 1986.

A Review of Wetland Water Quality Functions. Invited plenary presentation at the Conference on Wetland Functions, Rehabilitation, and Creation in the Pacific Northwest: The State of Our Understanding; Port Townsend, Washington; May 1986.

Nonpoint Discharge and Runoff session leader. American Society of Civil Engineers Spring Convention; Seattle, Washington; April 1986.

Prevention of Lake Sammamish Degradation from Future Development. Invited presentation at the American Society of Civil Engineers Spring Convention; Seattle, Washington; April 1986.

Design of Monitoring Programs for Nonpoint Source Water Pollution Problems. Invited presentation at the American Society of Civil Engineers Spring Convention; Seattle, Washington, April 1986 (prepared with L.E. Reinelt, B.W. Mar, and J.S. Richey).*

Nonpoint Pollution Control Strategies for Moses Lake, Washington. Presented at the Fifth Annual Meeting of the North American Lake Management Society; Lake Geneva, Wisconsin; November 1985 (prepared with R.C. Bain, Jr., and L. Nelson).

Response of Lake Sammamish to Urban Runoff Control. Presented at the Fifth Annual Meeting of the North American Lake Management Society; Lake Geneva, Wisconsin; November 1985 (prepared with J.I. Shuster, E.B. Welch, and D.E. Spyridakis).*

A General Approach to Designing Environmental Monitoring Programs. Invited presentation at the Pacific Section AAAS Symposium on Biomonitors, Bioindicators, and Bioassays of Environmental Quality; Missoula, Montana; June 1985 (prepared with J.S. Richey and B.W. Mar).

Panel Discussion on the Planning Process for Non-point Pollution Abatement Programs. Non-point Pollution Abatement Symposium; Milwaukee, Wisconsin; April 1985.

Nutrient Transport Processes in an Agricultural Watershed. Presented at the Fourth Annual Meeting of the North American Lake Management Society; McAfee, New Jersey; October 1984 (prepared with E.B. Welch, M.M. Wineman, M.J. Adolfson, and R.C. Bain Jr.).*

Nutrient Transport Processes in an Agricultural Watershed. Presented at the American Society of Limnology and Oceanography Annual Meeting; Vancouver, British Columbia; June 1984 (prepared with M.M. Wineman, M.J. Adolfson, and R.C. Bain, Jr.).

Factors Affecting Periphytic Algal Biomass in Six Swedish Streams. Presented at the American Society of Limnology and Oceanography Annual Meeting; Vancouver, British Columbia; June 1984 (prepared with J.M. Jacoby and E.B. Welch).*

A Conceptual Framework to Guide Aquatic Monitoring Program Design for Thermal Electric Power Plants. Presented at the American Society for Testing and Materials Symposium on Rationale for Sampling and Interpretation of Ecological Data in the Assessment of Freshwater Ecosystems; Philadelphia, Pennsylvania; November 1983 (prepared with J.S. Richey, and G.L. Thomas).

Panel Discussion. Public Forum: Perspectives on Cumulative Effects; Institute for Environmental Studies; University of Washington; Seattle, Washington; August 1983.

A Guide for Assessing the Water Quality Impacts of Highway Operations and Maintenance. Presented at the Transportation Research Board Annual Meeting; Washington, D.C.; January 1983 (prepared with B.W. Mar).

Assessment of Pollutant Loadings and Concentrations in Highway Stormwater Runoff. Presented at the Pacific Northwest Pollution Control Association Annual Meeting; Vancouver, British Columbia; November 1982 (prepared with B.W. Mar and L.M. Little).

Phosphorus and Velocity as Determinants of Nuisance Periphytic Biomass. Presented at the International Workshop on Freshwater Periphyton (SIL); Vaxjo, Sweden; September 1982 (prepared with E.B. Welch and R.B. Veenstra).*

The Development of Nuisance Periphytic Algae in Laboratory Streams in Relation to Enrichment and Velocity. Presented at the American Society of Limnology and Oceanography Annual Meeting; Raleigh, North Carolina; June 1982 (prepared with R.B. Veenstra and E.B. Welch).

A Predictive Model for Highway Runoff Pollutant Concentrations and Loadings. Presented at the Stormwater and Water Quality Model Users' Group Meeting; Alexandria, Virginia; March 1982 (prepared with B.W. Mar).

Stream Periphyton Development in Relation to Current Velocity and Nutrients. Presented at American Society of Limnology and Oceanography Winter Meeting; Corpus Christi, Texas; January 1979 (prepared with E.B. Welch).

A Comparison of Discrete Versus Composite Sampling of Storm Runoff. Presented at the Northwest Pollution Control Association Annual Meeting; Victoria, British Columbia; October 1978 (prepared with B.W. Mar and J.F. Ferguson).*

A Method of Defining Urban Ecosystem Relationships Through Consideration of Water Resources. Presented at UNESCO International Man and the Biosphere Project 11 Conference; Poznan, Poland; September 1977.

<u>GRADUATE AND UNDERGRADUATE COURSES TAUGHT</u> (University of Washington)

Civil and Environmental Engineering 552, Environmental Regulations; 8 quarters.

Landscape Architecture 590, Urban Water Resources Seminar; 3 quarters.

Landscape Architecture 522/523, Watershed Analysis and Design; 15 quarters.

Engineering 260, Thermodynamics; 1 quarter.

Engineering 210, Engineering Statics; 2 quarters.

Civil Engineering/Water and Air Resources 453, Water and Wastewater Treatment; 1 quarter.

Civil Engineering/Water and Air Resources 599, Analyzing Urbanizing Watersheds; 1 quarter.

CONTINUING EDUCATION SHORT COURSES TAUGHT (University of Washington; multiple offerings)

Infiltration Facilities for Stormwater Quality Control

Wetlands Ecology, Protection, and Restoration

Storm and Surface Water Monitoring

Fundamentals of Urban Surface Water Management

Applied Stormwater Pollution Prevention Planning Techniques

Construction Site Erosion and Pollution Control Problems and Planning

Construction Site Erosion and Pollution Control Practices

Construction Site Erosion and Sediment Control Inspector Training

Inspection and Maintenance of Permanent Stormwater Management Facilities

Biofiltration for Stormwater Runoff Quality Control

Constructed Wetlands for Stormwater Runoff Quality Control

LOCAL COMMITTEES

Stormwater Panel advising Puget Sound Partnership, 2007.

Technical Advisory Committee, City of Seattle Environmental Priorities Project, 1990-91.

Environmental Toxicology Graduate Program Planning Committee, University of Washington, 1990.

Habitat Modification Technical Work Group, Puget Sound Water Quality Authority, 1987.

Underground Injection Control of Stormwater Work Group, Washington State Department of Ecology, 1987.

Nonpoint Source Pollution Conference Advisory Committee, 1986-87.

Puget Sound Wetlands and Stormwater Management Research Committee, 1986-90.

Accreditation Review, University of Washington Department of Landscape Architecture, 1986.

Planning Committee for University of Washington Institute for Environmental Studies Forum on Perspectives on Cumulative Environmental Effects, 1983.

CONSULTING

Equity Legal Services, Inc., Fairview Heights, Illinois; Technical assistance in a legal case seeking injunctive relief and damages for repeated, widespread neighborhood flooding; 2023-2024.

U.S. Department of Justice; Technical assistance in Clean Water Act legal cases; 2017-2018 and 2022-2024.

Food and Water Watch, Washington, D.C.; development of a water quality monitoring program for confined animal feeding operations; 2022.

Brinnon Group, Brinnon, Washington; development of a water quality and aquatic ecological monitoring program for the local watershed and marine waters; 2021-2022.

Kampmeier & Knutsen PLLC, Portland, Oregon; Technical assistance in Clean Water Act legal cases; 2017 and 2021-2023.

Chesapeake Legal Alliance; Annapolis, Maryland; Assessment of and comment on Maryland's draft Municipal Separate Storm Sewer Discharge Permits and Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated; 2020-2021.

Gonzaga University Legal Assistance; Spokane, Washington; Review of technical documents supporting a proposal for a PCB water quality variance for the Spokane River; 2020.

City of Monrovia, California; Recommendations for improving a watershed management plan; 2020.

Columbia Riverkeeper; Portland Oregon; Assessment of a port industrial development; 2020.

Columbia Riverkeeper and Northwest Environmental Defense Center; Portland Oregon; Assessment of Oregon Department of Environmental Quality's actions regarding setting Water Quality-Based Effluent Limits; 2020.

Coast Law Group, Encinitas, California; Technical assistance in Clean Water Act legal cases and assessments of submissions required by consent decrees; 2019-present.

Monterey County District Attorney, Monterey, California; Assessment of pollution issues at two construction company yards; 2019-2020.

Seneca Lake Guardian, Seneca Falls, New York; Assessment of potential water quality problems associated with an industrial plant; 2019.

Endangered Habitats League, Los Angeles, California; Assessment of stormwater management systems proposed for a large residential development; 2018-2019.

Ziontz Chestnut Law Firm, Seattle, Washington; Assistance with implementation of a court order on a settled case; 2018.

Black Warrior Riverkeeper, Birmingham, Alabama; Review and comment on a total maximum daily load assessment for the Black Warrior River; 2017.

King County, Washington, Seattle, Washington; Participant in a regional stormwater infrastructure assessment project; member of technical advisory committees for stormwater hydrologic and water quality modeling studies; 2012-present.

DeLano and DeLano, Escondido, California; Assessment of stormwater management systems proposed for residential and commercial developments; 2012-present.

Salmon-Safe, Inc.; assessment of sites for possible certification representing practices that protect salmon; 2004-present.

Puget Soundkeeper Alliance and Smith and Lowney, PLC, Seattle, Washington; Technical assistance in Clean Water Act legal cases and expert testimony; 1996, 2002-present.

Natural Resources Defense Council, Los Angeles, California; Technical and program analysis and expert testimony on legal cases involving municipal and industrial stormwater NPDES permit compliance and assistance in reacting to California municipal stormwater permits; 1993-present.

Santa Monica Baykeeper (now Los Angeles Waterkeeper); Technical and program analysis and expert testimony on legal cases involving municipal and industrial stormwater NPDES permit compliance; 1993-present.

Orange County Coastkeeper; Assistance with legal cases involving industrial and construction site pollution control and monitoring and expert testimony; 2001-present.

Lawyers for Clean Water and successor Sycamore Law; Assistance with legal cases involving stormwater discharges and expert testimony; 2004-present.

Earthjustice; Report and testimony regarding Washington state municipal stormwater permit before Pollution Control Hearing Board; 2008, 2013; assessment of Washington, DC combined sewer overflow control plan; 2015.

Tulane Environmental Law Clinic; Assessment and declaration on a legal case involving discharge under an industrial stormwater permit and expert testimony; 2015.

San Diego Coastkeeper, San Diego, California; Technical and program analysis and expert testimony on potential legal cases involving municipal and industrial stormwater NPDES permit compliance; liaison with City of San Diego; 1996-2011 and 2019-present.

Stillwater Science and Washington Department of Ecology; Water quality modeling for Puget Sound Characterization, Phase 2; 2010-2011.

City of Seattle Public Utilities; Analysis of technical aspects of stormwater management program; 2000-2008.

Ventura Coastkeeper; Technical and program analysis and expert testimony on legal cases involving municipal and industrial stormwater NPDES permit compliance; 2010-2015.

San Diego Airport Authority; Peer review of consultant products, training; 2004-2006.

U. S. Federal Court, Central District of California; Special master in Clean Water Act case; 2001-2002.

Storm Water Pollution Prevention Program, City of San Diego; Advising on response to municipal stormwater NPDES program; 2001-2002.

Kerr Wood Leidel, North Vancouver, B.C.; subconsultant for Stanley Park (Vancouver, B.C.) Stormwater Constructed Wetland Design; 1997-1998.

Clean South Bay, Palo Alto, California; Technical and program analysis and expert testimony on potential legal cases involving municipal and industrial stormwater NPDES permit compliance; 1996.

Resource Planning Associates, Seattle, Washington; Assistance with various aspects of monitoring under Seattle-Tacoma International Airport's stormwater NPDES permit; 1995-1997.

Watershed Management Institute, Crawfordsville, Florida; Writing certain chapters of guides for stormwater program development and implementation and maintenance of stormwater facilities; 1995-2003.

King County Roads Division, Seattle, Washington; Teaching two courses on construction erosion and sediment control; 1995.

Snohomish County Roads Division, Seattle, Washington; Teaching a course on construction erosion and sediment control; 1995.

Alaska Marine Lines, Seattle, Washington; Performance test of a sand filter stormwater treatment system; 1994-95.

Economic and Engineering Services, Inc., Bellevue, Washington; Assessment of the potential for water quality benefits through modifying existing stormwater ponds; technical advice on remedying operating problems at infiltration ponds; 1994-96.

Washington State Department of Transportation, Olympia, Washington; Teaching courses on construction erosion and sediment control; 1994.

City of Bellevue, Washington; Peer review of documents on potential erosion associated with a road project; analysis of stormwater quality data; 1993-95.

City of Kelowna, B. C., Canada; Teaching short courses on constructed wetlands and erosion and sediment control; 1993.

Oregon Department of Environmental Quality, Portland, Oregon; Technical review of Willamette River Basin Water Quality Study reports; 1992-93.

Whatcom County, Bellingham, Washington; Mediation on lakeshore development moratorium among county, water district, and local community representatives; 1993.

Boeing Commercial Airplane Company, Renton, Washington and Sverdrup Corporation, Kirkland, Washington (at request of City of Renton); Review of stormwater control system design; design of performance monitoring study for system; 1992-94.

Golder Associates, Redmond, Washington; Technical advisor for study of stormwater infiltration; 1992.

Smith, Smart, Hancock, Tabler, and Schwensen Attorneys, Seattle, Washington; Technical advice on a legal case involving a stormwater detention pond; 1992.

PIPE, Inc., Tacoma, Washington; Teaching a course on the stormwater NPDES permit; 1992.

CH2M-Hill, Inc., Bellevue, Washington and Portland, Oregon; Technical seminar on constructing wetlands for wastewater treatment; literature review on toxicant cycling in arid-region wetlands constructed for waterwater treatment; literature and data review on lake nutrient input reduction; expert panel on TMDL analysis for Chehalis River; 1989-1995.

Kramer, Chin and Mayo, Inc., Seattle, Washington; Watershed analysis in Washington County and Lake Oswego, Oregon; literature review in preparation for stormwater infiltration system design; literature review and contribution to design of constructed wetland for municipal wastewater treatment; 1989-1995.

Woodward-Clyde Consultants, Portland, Oregon and Oakland, California; Analysis of wetland capabilities for receiving urban stormwater; design of a constructed wetland for urban stormwater treatment; technical advisor on Washington Department of Ecology and City of Portland stormwater manual updates; 1989-1995.

R.W. Beck and Associates, Seattle, Washington; Assessment of pollutant loadings and their reduction for one master drainage planning and two watershed planning efforts; 1989-92.

Boeing Computer Services Corporation, Bellevue, Washington; mediation among Boeing, citizens' group, and City of Bellevue on stormwater control system design; 1990.

Parametrix, Inc., Bellevue, Washington; Review of Kitsap County Drainage Ordinance; 1990.

U.S. Environmental Protection Agency, Duluth Laboratory; Review of certain provisions of WET 2.0 wetland functional assessment model; 1989.

King County Council, Seattle, Washington; Review of King County Surface Water Design Manual; 1989.

Port of Tacoma, Washington; Assessment of stormwater control strategies; 1989.

Municipality of Metropolitan Seattle, Seattle, Washington; Assessment of land treatment systems for controlling urban storm runoff water quality; 1988-1992.

Impact Assessment, Inc., La Jolla, California (contractor to Washington State Department of Ecology); Socioeconomic impact assessment of the proposed high-level nuclear waste repository at Hanford, Washington; 1987.

Technical Resources, Inc., Rockville, Maryland (contractor to U. S. Environmental Protection Agency); assessment of water treatment waste disposal at pulp and paper plants; 1987-88.

Dames and Moore, Seattle, Washington; analysis of the consequences of a development to Martha Lake; 1987.

Harper-Owes, Seattle, Washington; project oversight, data analysis, and review of limnological aspects for Lake Chelan Water Quality Assessment Study; 1986-88.

URS Corporation, Seattle, Washington and Columbus, Ohio; presentation of a workshop on nonpoint source water pollution monitoring program design; analysis of innovative and alternative wastewater treatment for Columbus; development of a stormwater utility for Puyallup, Washington; watershed analysis for Edmonds, Washington; 1986-88.

Entranco Engineers, Bellevue, Washington; environmental impact assessment of proposed highway construction; technical review of Lake Sammamish watershed management project; technical review of Capital Lake wetland development; 1981-82; 1987-88; 1990.

Washington State Department of Ecology, Olympia, Washington; review of literature on wetland water quality, preparation of conference plenary paper, and leading discussion group at conference; analysis in preparation for a Shoreline Hearing Board case; 1986-87.

Richard C. Bain, Jr., Engineering Consultant, Vashon Island, Washington; analysis of watershed data and development of a policy for septic tank usage near Moses Lake, Washington; 1984-87.

University of Washington Friday Harbor Laboratory; analysis of adjacent port development and preparation of testimony for Shoreline Hearing Board; 1986.

Washington State Department of Transportation and Morrison-Knudsen Company, Inc./H.W. Lochner, Inc., Joint Venture, Mercer Island, Washington; environmental assessment of disposal of excavated material by capping a marine dredge spoil dumping site; 1984.

Foster, Pepper, and Riviera Attorneys, Seattle, Washington; analysis and testimony on provisions to reduce pollutants in stormwater runoff from a site proposed for development; 1983.

Williams, Lanza, Kastner, and Gibbs Attorneys, Seattle, Washington; collection and analysis of water quality data to support a legal case and preparation of testimony; 1982.

Herrera Environmental Consultants, Seattle, Washington; lake data analysis and report preparation; 1982-83.

Brown and Caldwell Engineers, Seattle, Washington; data collection and analysis for watershed study; 1982-83.

City of Marysville, Washington; environmental impact assessment of proposed bridge construction; 1982-83.

F.X. Browne Associates, Inc., Lansdale, Pennsylvania; contributions to manual on lake restoration for U.S. Environmental Protection Agency; preparation of funding proposals and permits for lake restoration; lake data analysis; literature reviews and analysis of septic tank contributions to lake nutrient loading and availability of different forms of nutrients; 1980-83.

Reston Division of Prentice-Hall, Inc., Reston, Virginia; review of and contributions to texts on environmental technology; 1978-79.

Butterfield, Joachim, Brodt, and Hemphill Attorneys, Bethlehem, Pennsylvania; analysis of environmental impact statements; expert witness; 1973.

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT C

Dan McShane, L.E.G., M.Sc.
Stratum Group
Licensed Engineering Geologist

Expert Opinion Public Comment re:
Geology
Landslides / Rockfall
Shoreline Impacts

PO Box 2546, Bellingham, Washington 98227
Phone: (360) 714-9409

March 19, 2024

Re: Engineering Geology Comments
Proposed Woods at Viewcrest 38-Lot Plat
Bellingham, WA

This review and comment is focused on the geology and the potential for landslides/rockfall and shoreline impacts at the property of the proposed subdivision. The proposed plat is located in an area with steep slopes that are potential landslide/rockfall and erosion hazard areas.

Element Solutions geology assessment of the proposed plat identified and assessed potential landslide and rockfall hazards and made recommendations regarding those hazards. The recommendations included avoidance of some areas and setbacks distances from some areas. The report also discusses soil and rock conditions and slope stability considerations for stormwater management. The report includes a recommendation not to utilize blasting for grading on the site due to the potential for blasting impacts on slope stability.

The following sections very briefly summarize the Element Solutions report regarding potential unstable slope in order to provide context for my comments concerning the proposed plat which follow this summary.

Potential Unstable Slopes Summary

Element Solutions geology assessment assessed the potential landslide and rockfall hazards they identified on and near the proposed subdivision. Figure 9 of the report is a lidar bare earth image of the property showing areas of steep slopes and denotes six areas where there are steep slopes that could be potential landslide hazard areas and are discussed and evaluated in the Element Solutions report.

The potential landslide/rockfall areas are:

1. NW Forested Slope
2. NW Bedrock Face
3. West-Central Bedrock Faces
4. SW Forested Slope
5. Relict Landslide Feature (suspected)
6. SE Bluff Slopes

The first four listed potential landslide/rockfall areas were addressed in the Element Solutions in

detail as these slopes are within the plat area or are on or are in close proximity to the lots that are being proposed for the plat. Recommended setbacks and avoidance for these areas are provided in the report.

Element Solutions identified areas 5 and 6 above as 'two areas of special significance' in the report: "*1) the main southeast shoreline bluff slope, and 2) an area of bowl-shaped topography at the northeast corner of the property."* Element Solutions further noted that "*Reconnaissance and direct observation of these bordering areas was limited or not possible within the scope of this study due to safe access difficulties. Given their location relative to proposed development features, the current review relies upon inferences from site geology and LiDAR image interpretation to set conservative setback standards."* For the southeast bluff slope, Element Solutions recommended "*The coastal southeast slope and its upland vicinity is recommended to be fully avoided by development.*" (Section 4.2.2 - 4). For the bowl-shaped area avoidance and a setback of 50 feet was deemed adequate.

Summary of Test Pit Investigation relative to Stormwater

Element Solutions oversaw and assessed soil and rock conditions at numerous test pit locations throughout the proposed plat area. Based on the test pit information Element Solutions provided recommendations or assessments regarding stormwater management:

In Section 5.12.1 *"Generally speaking, we recommend that all stormwater from new impervious surfaces be captured and managed. On-site stormwater release systems (infiltration or dispersion) for lots or roadways are not considered viable among areas on or proximally above steep slopes. With exception of localized lot-scale infiltration at areas of the property fronting Viewcrest Road, and possibly pervious pavement driveways at some other lots to be determined, the site is generally considered infeasible for infiltration. The combination of small lot sizes and sloping topography also appears to limit use of individual lot dispersion systems within most of the building lots."*

In Section 5.1.3 *"the predominant majority of the site is not conducive to infiltration due to shallow restrictive soil/rock conditions, potential for perched seasonal groundwater, steep grades with potential for saturation-induced instability, or a combination of limiting factors. Local infiltration, where viable, is best suited for individual lot stormwater management at select areas to be addressed with future design and construction of home sites. Aside from the localized infiltration usage, only where appropriate, most lots are recommended to have runoff captured and routed for dispersion or off-site disposal in the same manner as is proposed to serve the primary plat infrastructure."*

Element Solutions did note that soils on the north part of the plat may be acceptable for infiltration, but noted in Section 5.1.3 regarding on site infiltration areas on the north: *"We recommend a contingency plan of off-site disposal be available in the event that infiltration is found to be non-viable upon further review on a per-lot basis. The current proposed plat stormwater plan, with stormwater conveyance pipes following roads, appears to provide such an alternative for off-site disposal along the frontage of the lots."*

Comments:

Comment 1: A full geology hazard and risk assessment should be completed for proposed stormwater pipe route across the SE Bluff Slope. The assessment should also include an analysis of the impacts of a break in the stormwater pipe at the SE Bluff Slope.

Element Solutions identified the SE Bluff Slopes as a 'Special Hazard Area' (Section 2.4.2. 1). A detailed assessment of this area was not conducted. Element Solutions stated *"In our opinion, a detailed review of the feature is not necessary for plat approval."* That opinion is based on the recommendation by Element Solutions for the SE Bluff Slope "*The coastal southeast slope and its upland vicinity is recommended to be fully avoided by development.*" (Section 4.2.2 - 4).

The proposed stormwater pipe route is located along the base of steep bedrock cliff areas that pose potential rockfall hazard that could damage or break the pipe releasing stormwater on the steep slope. The geology and slope stability below the cliff area has not been evaluated, but based on the geology of the site may consist of deeply weathered soft siltstone or mudstone that may be susceptible to large scale movement that could break the pipe.

Comment 2: The Preliminary Stormwater Management Plan needs to account for stormwater contribution from lot development including subsurface foundation and access driveway drainage.

The Preliminary Stormwater Management Plan appears to be only for serving the road infrastructure. It is clear from Element Solutions report that most lot development will require off site stormwater disposal. The off site disposal for lot development needs to be included in the stormwater plan prior to plat approval process.

Comment 3: A complete geology hazard assessment should be required of the SE Bluff slope prior to approval of proposed Lots 23 through 33.

Lots 23 through 33 are all located below the proposed roads. As such development of these lots has the potential to impact the hydrology of the SE Bluff Slope. Dispersion of stormwater or infiltration of stormwater on these lots poses a potential risk of increasing the slope failures within the SE Bluff Slope area. Foundation and stormwater drainage from these lots will likely need to be tightlined into a drain system for off site disposal. The specifics of the drainage system need to be fully developed prior to approval of these lots.

Comment 4: Impacts of stormwater flow across the tidelands below the stormwater discharge has not been evaluated.

While the proposed discharge location is on a bedrock bench, there will still be a flow of water across fine grained sediments of the tideland of Mud Bay. There has been no evaluation of the potential tideland erosion or changes with the introduction of large flow volumes across the

tideland during low tide and how that may impact the tidal channels and tidal waters and biology in and down gradient from the discharge point.

Comment 5: A detailed geohydrology analyses of Wetland Area B and a detailed geology hazard assessment that incorporates the geohydrology impacts to the identified landslide area below the wetland area should be completed prior to approval of Lots 34, 35, 36 and 38 and approval of the split flow system in the stormwater plan.

The development and access driveways to Lots 34, 35, 36 and 38 will alter the geohydrology above and to the wetland as well as the landslide area below. So will the proposed flow splitter proposed in the Preliminary Stormwater Plan. Element Solutions did not evaluate this landslide area beyond identifying the feature. Impacts of hydrologic period changes to this landslide area are not known at this time and have not been evaluated.

Comment 6: Blasting of bedrock should not be allowed and timing of rock chiseling noise impacts should be evaluated.

Element Solutions specifically recommended no blasting for the proposed development. I concur with this recommendation as blasting in alternating sandstone layers with joints can have bedrock stability impacts over long distances. Some sections of the proposed roads and sewer line installations will require deep down cuts and trenching. With blasting prohibited rock chiseling will have a significant noise impact over extended periods of time. This noise impact should be evaluated in more detail prior to approval of the plat.

Comment 7: A shoreline substantial development permit is required for the proposed stormwater discharge (BMC.08.010.B.4.g.) as well as a shoreline conditional use permit. These permits will require a critical area report(s).

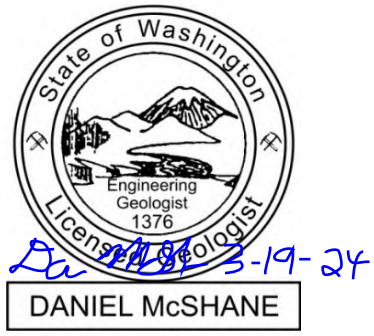
It should also be noted that BMC.08.010.B.4.g. states "*Public Stormwater Conveyance Facilities. Conveyance structures may be permitted within a required buffer in accordance with an approved critical area report when all of the following are demonstrated: i. No other feasible alternatives with less impact exist;*

A feasible alternative that would have less impact would be a different plat that would not require the installation of a new stormwater discharge to the tidal estuary. Given the potential impacts to tide lands and the language in BMC.08.010.B.4.g. an alternatives analysis appears warranted in order to address what is feasible and what is not.

I appreciate the opportunity to comment on this proposal. Should you have any questions regarding these comments please contact our office at (360) 714-9409.

Sincerely yours,
Stratum Group

Dan McShane, L.E.G., M.Sc.
Licensed Engineering Geologist



Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT D

Lyndon C. Lee, Ph.D., SPWS
L.C. Lee & Associates, Inc.
Principal Ecologist – Wetland Science
Director, National Wetland Training Cooperative

Expert Opinion Public Comment re: Impacts to Structure & Function of Mud Bay Ecosystem

L.C. Lee & Associates, Inc.
421 North Forest Street
Bellingham, Washington 98225
Tel: 206.979.5633
Email: [lyndon@lcleeinc.com]

Technical Memorandum
April 18, 2024

To: Larry Horowitz
Responsible Development
Protect Mud Bay Cliffs
1050 Larrabee Ave, Ste 104, MB# 476
Bellingham, WA 98225

From: Lyndon C. Lee, Ph.D., SPWS #385
L.C. Lee & Associates, Inc.

Ref: Mud Bay Shorelands, Woods at Viewcrest Issues

I. Introduction and Objectives

This Technical Memorandum has been developed for Responsible Development/Protect Mud Bay Cliffs by Lyndon C. Lee, Ph.D., SPWS (#385). It offers an analysis of present conditions and potential impacts to the structure and functioning of the Mud Bay/Northeast Chuckanut Bay ecosystem by development of the proposed "Woods at Viewcrest" project in the City of Bellingham. It also offers recommendations for completing due diligence in the planning, design, and public interest review of the proposed development, with the goal of avoiding and minimizing impacts to Mud Bay and the Traditional Navigable Waters (TNWs) of Chuckanut Bay and the Salish Sea.

II. Background

A. L.C. Lee Qualifications

I, (Lyndon C. Lee, Ph.D., SPWS) work as the Principal Ecologist and President of L.C. Lee & Associates, Inc. I have prepared this report for use by the Responsible Development/Protect Mud Bay Cliffs organization. The results and conclusions offered in this report are based upon information available in the public domain and on my on-site reconnaissance, data collection, and analyses by standard methods. These results and conclusions represent my best professional judgment. A summary of my qualifications and my *Curriculum vitae* are offered in Appendix A of this Technical Memorandum.

B. Mud Bay and the Proposed Woods at Viewcrest Project Location

Mud Bay is located at the northeastern end of Chuckanut Bay (Figures 1, 2, 3, 4, 5, and 6). The Latitude/Longitude coordinates for the approximate centroid of Mud Bay are 48.699834/-122.500787.

The proposed Woods at Viewcrest development is located at the northeast end of Chuckanut Bay on several contiguous parcels that together total approximately 37.4 acres (Figures 1, 2, 3 and 5). Preliminary plat plans for the Woods at Viewcrest developed by Pacific Surveying and Engineering, show that there are approximately 34 acres of "uplands" proposed for development. These parcels are within the incorporated limits of the City of Bellingham (Figures 1 and 2).

III. Materials Reviewed

In preparing this Technical Memorandum I visited Mud Bay and vicinity on March 22 and 23, 2024 to observe current conditions at different tidal stages and to refresh my memories of other visits I have completed over the past 10 years. I also reviewed a range of materials that included the following project specific and standard publicly available materials:

1. Land Use Application for the City of Bellingham

2. Preliminary plat project plans developed by Pacific Surveying and Engineering

3. Preliminary Stormwater Management Report prepared by Pacific Surveying and Engineering

4. Geotechnical Investigation and Geohazard Assessment Report prepared by Element Solutions

5. Dr. Richard Horner's Report dated March 18, 2024

6. The SEPA Checklist for the proposed Woods at Viewcrest project

7. Drainage and Stormwater Overview document prepared by Protect Mud Bay Cliffs

8. A series of selected photographs and figures prepared by Protect Mud Bay Cliffs

9. Wratten, E. 2019. "Sediment characteristics at the delta of Chuckanut Creek, Mud Bay, Bellingham, Washington." Master's Thesis, Earth and Space Sciences: Applied Geosciences, University of Washington, Seattle.

10. U.S. Geological Survey (USGS) Topographic maps at 1:24,000

11. Data from USGS Stream Gauge # 12201700 Chuckanut Creek Near Bellingham, WA

12. National Wetlands Inventory (NWI) Mapping

13. Natural Resources Conservation Service (NRCS) Soils mapping

14. National Oceanographic and Atmospheric Administration (NOAA) charts

15. Current and historical sequences of Google Imagery

16. City of Belling parcel information and mapping resources available at [CityIQ Online Map Viewer - City of Bellingham (cob.org)].

IV. Summary of Observations

A. Overview of Geomorphology, Hydrology, and Landscape Setting

Mud Bay and the vicinity of the proposed Woods at Viewcrest development is located in a partially filled coastal basin that occurs in the northeastern end of the larger Chuckanut Bay ecosystem (Figures 1, 2, 3, 4, 5, and 6). The area is dominated by Mud Bay estuarine waters/wetlands complex itself and by steep, generally intact forested hillslopes that have undergone 3-4 cycles of logging since the late 1800's (Figure 7). Suburban development and associated forest clearing dominates part of the eastern and northern perimeters of Mud Bay especially in more gently sloping to nearly level terrain.

B. Mud Bay Mapping, Regulatory Contexts, and Washington State Rating

1. National Wetlands Inventory (NWI) Mapping

The NWI map for Mud Bay is included as Figure 8 in this Technical Memorandum. At a map scale of 1:58,000, NWI classifies Mud Bay as "estuarine, intertidal, unconsolidated shore, regularly flooded" (E2USN). My field observations confirm the NWI mapping at the 1:58,000 scale. The definition of the E2USN NWI designation is as follows:

> System **Estuarine (E)** : The Estuarine System consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semi enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of sea water. Offshore areas with typical estuarine plants and animals, such as red mangroves (Rhizophora mangle) and eastern oysters (Crassostrea virginica), are also included in the Estuarine System.
>
> Subsystem **Intertidal (2)** : The substrate in these habitats is flooded and exposed by tides; includes the associated splash zone.

Class **Unconsolidated Shore (US)** : Includes all wetland habitats having two characteristics: (1) unconsolidated substrates with less than 75 percent areal cover of stones, boulders or bedrock and; (2) less than 30 percent areal cover of vegetation. Landforms such as beaches, bars, and flats are included in the Unconsolidated Shore class.

Water Regime **Regularly Flooded (N)** : Tides alternately flood and expose the substrate at least once daily.

2. Regulatory Contexts

There is tiered and long-standing U.S. Federal, Washington State, and City of Bellingham jurisdiction regulating most activities in Mud Bay.

a. U.S. Federal Jurisdiction – The Mud Bay estuarine complex is a Type 1 "Water of the United States" (WOTUS) and a so-called "Traditional Navigable Water" (TNW)(Table 1). It is also designated as a "Special Aquatic Site" which are -

> "…geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. (See § 230.10(a)(3))"

The geographic extent of federal jurisdiction in the Mud Bay ecosystem extends to the "High Tide Line" (HTL) or to the upland edge of wetlands that have a continuous surface connection to the TNWs of Mud Bay. Activities such as dredging and filling, direct or indirect impacts to water quality or to aquatic habitats are regulated by (at least) the combination of Section 10 of the Rivers and Harbors Act, Sections 402 and 404 of the Clean Water Act, the Endangered Species Act, and Section 106 of the Historical Preservation Act. Embedded within this suite of federal regulations and policies is the requirement for "sequencing" of proposed activities to first avoid impacts, second minimize impacts, and third mitigate for any unavoidable impacts.

b. Washington State Jurisdiction - At the Washington State level of jurisdiction, activities in Mud Bay are regulated by Section 401 of the Clean Water Act (Water Quality Certification), by the Shorelines Management Act, and by the Washington State Department of Fish and Wildlife (WDFW) "Hydraulic Projects Approval" program. The statewide Construction Stormwater General Permit also applies to projects such as the Woods at Viewcrest (Construction stormwater permit - Washington State Department of Ecology).

c. City of Bellingham Jurisdiction - At the City of Bellingham level of jurisdiction, activities impacting Mud Bay are regulated primarily by the Shorelines Management Program.

3. Washington State Wetlands Rating

Based on its large size and current condition and using the "Special Characteristics" rating criteria in the Washington State Wetlands Rating System (Hruby, 2014),[1] Mud Bay is a Category I estuarine wetland. According to guidance provided in the Washington State Wetlands Rating System, Category I wetlands are those that -

1. Represent a unique or rare wetland type; or
2. Are more sensitive to disturbance than most wetlands; or
3. Are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or
4. Provide a high level of functions. We cannot afford the risk of any degradation to these wetlands because their functions and values are too difficult to replace.

As emphasized by Dr. Richard Horner in his March 18, 2024 letter report the City of Bellingham agrees with the special status of Mud Bay and vicinity. The City has characterized the estuary as follows:

> "Northeast Chuckanut Bay is Bellingham's richest and most biologically diverse estuary. It has abundant biological resources, specifically:
>
> Documented presence in Chuckanut Creek of chinook salmon, chum salmon, coho salmon, sea-run cutthroat trout, and steelhead, some on the Endangered Species Act endangered and threatened lists. These anadromous fish pass through Mud Bay during adult in-migration and juvenile return to the sea.
>
> Foraging opportunities for herons and winter waterfowl habitat, particularly for dabbling duck species in Mud Bay.
>
> Eelgrass in the estuary according to the Washington Department of Natural Resources.8 Eelgrass provides a number of important ecosystem functions, including foraging areas and shelter for young fish and invertebrates and food for migratory waterfowl. By trapping sediment, stabilizing the substrate, and reducing the force of wave energy, eelgrass beds also reduce coastal erosion."

C. The Mud Bay/Chuckanut Creek Watershed

The Chuckanut Creek watershed contributing area to Mud Bay is approximately 4,711 acres in size (Chuckanut Creek Watershed (yumpu.com)). It and the hillslopes that immediately surround the northern, eastern, and western perimeter of Mud Bay are steep. They range in slope steepness from 15-80% (Figures 3 and 7). As noted by Dr. Richard Horner in his March 18, 2024 letter report, these same slopes are dominated by relatively thin and potentially moderately to highly erodible soils. For example, the Natural Resources Conservation Service (NRCS) mapping for

[1] (Hruby, 2014). Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology)

Mud Bay and vicinity and type descriptions for modal soils show slowly permeable layers near the surface (Spodic or "iron cemented" horizons) and/or rock (paralithic) contact at depths ranging from near the surface to approximately 31 inches (Figure 9; Appendix B). The combination of slope steepness and thin soils with slowly permeable or rock contacts results in relatively low soil water storage capacity in the Chuckanut Creek watershed and on the hillslopes that constitute the watershed areas that contribute water flows directly to Mud Bay (e.g. the proposed Woods at Viewcrest site). This creates a situation that is often described by hydrologists to be "flashy." Specifically, "flashy" means that even in its current condition with large forest patches dominating the watershed contributing areas, Mud Bay is subject to delivery of large amounts of high (kinetic) energy water relatively quickly from either Chuckanut Creek or the surrounding hillslopes that deliver water directly to Mud Bay, or both. My examination of the long-term average and instantaneous data available for water flows at the Chuckanut Creek USGS stream gauge #12201700 and conditions in the field in the Mud Bay/Chuckanut Creek watershed bear this out (Figure10).

It is important to note that especially when they are cleared of vegetation and developed with large impervious surfaces such as roads, house roofs, parking areas, and lawns, the characteristics of water flows within watershed contributing areas like those in play at Mud Bay will undergo a change of state. Specifically, they will go from (a) sustaining relatively high rates of evapotranspiration on forested hillslopes (which pumps a great deal of water to the atmosphere) and delivery of relatively low energy subsurface flows to (b) quickly delivering greatly increased volumes of surface stormwater flows with high (kinetic) energy to the shoreline wetlands, unconsolidated sediments, and open water components of Mud Bay. The larger flows come faster because the evapotranspirational pump has been decommissioned by clearing of vegetation and impervious surfaces do not allow water in infiltrate soil surfaces and then (slowly) move down into soil layers and down hydrologic gradients.

As Dr. Horner emphasizes in his March 18, 2024 letter report, without hydrologic modeling and comparisons of pre and post development conditions at the Woods at Viewcrest site, we remain ignorant of how the proposed development will impact the timing, volumes, and quality of stormwater flows that will occur. Modeling and development of more detailed information focused on proposed changes to hydrologic conditions need to be used to inform the overall development design, including development of required Stormwater Pollution Prevention Plans (SWPPP) that incorporate Best Management Practices (BMPs) and requirements for maintenance and adaptive management before, during, and after construction. Because it is designated as Category I, the overall development design and the associated SWPPP plans are required to be at the highest level sufficient to protect the Mud Bay complex. Specifically, they need to be well thought out, well constructed, and well maintained. Otherwise, high kinetic energy and polluted stormwater will no doubt mobilize and transport a great deal of sediment and sorbed or chelated nutrients and contaminants to Mud Bay, which since at least 1994 has documented water quality (Fecal coliform) issues (Figure 11).[2] In addition to fecal coliform,

[2] North Chuckanut Bay is a recreational shellfish harvesting area with elevated bacteria (fecal coliform) levels and has been closed to recreational shellfish harvest since 1994, by the Washington Department of Health. (Rose, A. 2018. Whatcom Marine

transformation of the existing, dominantly forested areas on the Woods at Viewcrest site to a suburban landscape will be combined with less than perfect stormwater controls/SWPPP issues and concerns highlighted by Dr. Horner in his March 19, 2024 letter report. Given this combination, one can expect significantly elevated levels of road runoff such as oils, brake pad material, and crumb rubber, fertilizers, herbicides, insecticides, and pharmaceuticals to enter the Mud Bay system. All of these constituents are documented to be harmful to salmon, and to the range of aquatic and semi-aquatic vertebrates and invertebrates that depend on maintenance of the integrity of the Mud Bay ecosystem to complete all or essential portions of their life cycles [stormwater_fact_sheet_3222016.pdf (noaa.gov); Where the Rubber Meets the Road (and River)—Evaluating Impacts of Stormwater and Road Runoff on Salmon and Aquatic Ecosystems | U.S. Geological Survey (usgs.gov)].

D. Mud Bay Ecosystem Functioning

1. Current Conditions

In the field, I have observed that at scales finer than NWI's 1:58,000 and given its land use history, Mud Bay currently exists as a structurally and functionally degraded Category I tidal estuarine waters/wetland complex (Figures 1-7). For example, it includes relatively intact and functioning open water, mudflats, sandflats, tidal fringing estuarine wetland components and the junction environment of the downstream end of Chuckanut Creek as it flows into the tidal waters the Mud Bay/Chuckanut Bay estuarine complex. This array of estuarine ecosystem components is highly interconnected and fragile in the sense that connections among components of the complex could be easily interrupted or fragmented. For example, fragmentation of the integrity of the structure and functioning of the Mud Bay ecosystem could occur by the direct, indirect, or cumulative impacts of physical processes that are set in motion by development. Uncontrolled sediment inputs could overwhelm the system with too much sediment too fast and associated rapid accretions of Mud Bay bottom elevations, which changes patterns of water flow and circulation in the Mud By ecosystem. The interruption or fragmentation of ecosystem structure and functioning is also possible via more subtle pathways. For example, in urbanizing environments these include inputs of biogeochemical stressors such as uncontrolled or poorly managed discharges of stormwater carrying high concentrations of constituents such as nitrogen, phosphorus, heavy metals, and pharmaceuticals. Singly or grouped together, these constituents can cause significant damage or become lethal to the range of aquatic and semi-aquatic organisms that depend on the Mud Bay ecosystem, including federally listed species.

2. Identification of Estuarine Ecosystem Functions

Table 2 provides examples of U.S. National and regional lists of tidal fringe and estuarine ecosystem functions. As is common with modern functional assessment approaches, these lists identify and describe a suite of functions. These functions are commonly sorted into physical or

---

Resources Committee Chuckanut Pollution, Identification and Correction (PIC) 2017-2018 Final Report what_chuckanutpicfinalreport_2018.pdf (nwstraits.org))

"hydrogeomorphic" functions such as Tidal Surge or Wave Energy Attenuation or "biogeochemical" functions such as nutrient and organic matter storge and exchange, and "biological" functions such as provision of food and cover resources for faunal species that use aquatic or semi-aquatic habitats or development of vertical and horizontal structure in plant communities.

As a Category I estuarine waters/wetland complex, Mud Bay performs all the functions listed in Table 2 at levels that are consistent with past and current land use choices. It is not a "pristine" system by any means, but it still functions. In comparison to more intact "reference standard" estuarine waters/wetland complexes, land use choices in Mud Bay have fundamentally impacted or limited the capacity or potential of the bay to complete processes such as unperturbed tidal water exchanges, dampening or attenuation of inputs of uncontrolled and high kinetic energy stormwater flows, and completion of relatively normal sediment mobilization, storage and export processes.

One of the main reasons that Mud Bay is degraded is illustrated in Figures 1, 2, 3, 4, and 6. There is an approximately 2,400 ft long train trestle/causeway structure at the southern end of Mud Bay as it transitions into the deepwater portions of Teddy Bear Cove and the waters of the main body of Chuckanut Bay. This structure was originally built in 1901 as a trestle and then replaced with the causeway in the 1920's (WrattenE_MESSAGeReport_070.pdf (washington.edu).[3] Today, the causeway is used regularly by the Burlington Northern/Santa Fe (BNSF) railway corporation. Most of the causeway (approximately 93% of its total length) was constructed in the 1920's as a through-fill structure placed directly on and thus surcharging the bottom sediments of Mud Bay. The through-fill ballast consists of materials such as angular rip-rap rock, sands, gravels, cobbles, and large pieces of concrete. There is an approximately 170 ft wide gap that was constructed 700 ft from the west end of the causeway (Figure 6). Ms. Wratten (2019) also writes –

> "The train trestle….is a possible source of decreased energy in Mud Bay and therefore increased sedimentation. The train causeway enclosed Mud Bay, cutting off much of the wind and wave influences…If the bay is shallowing, increased sediment deposition behind the trestle is the more likely cause since its construction over isostatic rebound…
> It seems likely that the train causeway shifted the bay energy dynamics enough to retain sediment."

In the field, I have observed that while the existing gap in the causeway allows for some tidal exchange between Mud Bay and the Teddy Bear Cove/Chuckanut Bay complex (to the south), it only comprises approximately 7% of the overall length of the existing causeway structure. Consequently, the causeway constriction of the southern end of Mud Bay has resulted in direct,

[3] Sediment characteristics at the delta of Chuckanut Creek, Mud Bay, Bellingham, Washington Elizabeth Wratten - A report prepared in partial fulfillment of the requirements for the degree of Master of Science Earth and Space Sciences: Applied Geosciences University of Washington March, 2019 WrattenE_MESSAGeReport_070.pdf (washington.edu)

indirect, cumulative, and temporal (long lasting) impacts to the structure and functioning of the Mud Bay ecosystem. These impacts start with significant alteration of the timing, volume, intensity (kinetic energy), and patterns of tidal water flow and circulation in Mud Bay. Because it changes the tidal energy signature and sediment dynamics in Mud Bay, the causeway also controls sediment, nutrient, contaminant, and organic matter mobilization, transport, and export processes within Mud Bay and between Mud Bay and the waters of the Teddy Bear Cove/Chuckanut Bay complex to the south. In Mud Bay, the interactions among altered tidal flows, kinetic energy, and sediment, nutrient, and organic matter mobilization, storage, and export have direct impacts on water "turnover" (flux/storage), water temperatures, and thus overall water quality and the quality of associated aquatic habitats that are used by a range of aquatic, semi-aquatic, and riparian dependent faunal species.

Notwithstanding the impacts of the BNSF trestle, the Mud Bay estuarine complex incorporates a relatively intact transitional area that supports a gradient of Teddy Bear Cove/Mud Bay salt water to - brackish water to - tidally influenced fresh water to - riverine fresh water (in Chuckanut Creek). These types of transitional areas are rare and warrant extraordinary protection because they are small in area and they provide rare food, cover, resting and "compensating" (osmotic adjustment) areas for fish and other aquatic and semiaquatic organisms as they transition from salt water to fresh water, or vice versa. These salt to freshwater transition areas are a key part of an ecosystem type that provides a suite of hydrologic, biogeochemical, plant community, and faunal support/habitat functions that do not occur anywhere else in the landscape. The salt to freshwater transition areas are vital to supporting and maintaining the structural and functional integrity of Mud Bay ecosystem as a connection to upgradient freshwater and forested habitats and to downgradient deep, saltwater habitats. Further, over the past several decades I have worked and traveled throughout the various types of waters/wetlands in the Salish Sea and up and down the West Coast of the USA. During this time, I have observed that tidally influenced salt to freshwater transition areas like the one that exists in Mud Bay are certainly among the rarest types of waters/wetlands in the Puget Sound Lowlands/Salish Sea complex or for that matter, on the west coast of the North American continent from Kodiak Island to the U.S./Mexico border. They are vital in supporting essential components of aquatic, semi-aquatic, and riparian dependent species life cycles (including endangered species) such as growth and reproduction. In the vicinity of Mud Bay, maintenance of this transitional area gradient from salt to freshwater is highly dependent on rates of sediment loading and the energy and quality of stormwater that is allowed to enter the system. Specifically, increased/unchecked accretion of sediment in Mud Bay caused by inputs from high-energy, poor-quality stormwater from poorly or uncontrolled source areas will stress an already delicate, degraded, but still functioning estuarine waters/wetland complex.

V. Recommendations/Summary

A. *Rarity* - Mud Bay is a rare, large, and important Category I aquatic resource of special importance to the City of Bellingham and to all residents and visitors to the Salish Sea.

B. *Existing Tiered Protections* - Mud Bay exists under the protections of a relatively powerful and tiered array of long-standing U.S. Federal, Washington State, and City of Bellingham laws and associated policies and guidance.

C. *Missing Analyses and Plans* –

1. The existing lack of hydrologic modeling and comparisons of pre and post development conditions for the proposed Woods at Viewcrest development is a glaring omission in the current basis of design/plan set and the narratives that support the proposed development. This is especially true given the steepness of the existing terrain, thin soils, and the significantly changed characteristics of water movements within this terrain that will occur with forest clearing, loss of evapotranspiration processes (e.g. water losses to the atmosphere), and significant increases in impervious surfaces within watershed contributing areas.

2. In the current basis of design documents for the project, there is a lack of innovative and detailed SWPPP plans and a presentation of these plans that requires tight on-site management and adaptability of SWPPP/BMP systems before, during and after construction.

D. Considering the lack of hydrologic analyses and fully developed, innovative, and adaptive SWPPP plans discussed in items C 1 and 2 immediately above, it is my opinion that the application materials in their current state do not fully comply with federal, state, and City laws and regulations that require no net loss of ecological structure and functioning of WOTUS and Shorelines.

E. *Significant Impacts* - In the instance of the proposed Woods at Viewcrest development, it is my opinion that the project is likely to impose significant adverse impacts on the ecological structure and functions of Mud Bay with a particular focus on sediment and contaminated stormwater inputs. Further, although significant adverse impacts are likely, the application materials do not provide sufficient information to determine the full extent of adverse environmental impacts.

F. *Required Sequencing* - As a Category I estuarine waters/wetland complex within the Bellingham City limits, any development with the potential to impact Mud Bay demands that project proponents step up and deliver smart/innovative planning, design, and construction approaches that clearly show adherence to sequencing requirements of (in order) -

1. Impact avoidance,
2. Impact minimization,
3. Mitigation of any unavoidable impacts.

G. *Required Reviews* - Given the potential significant impacts, responsible and required administrative procedure demands rigorous technical peer and public interest reviews that meet or exceed the requirements of the existing regulations. I recommend that the required review processes are most likely best fulfilled using an Environmental Impact Statement vehicle.

Table 1. Definitions of Waters of the United States

EPA Regulations 40 CFR 120.2(a), and U.S. Army Corps Regulations 33 CFR 328.3)
[Current Implementation of Waters of the United States | US EPA]

Waters of the United States means:

(1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(ii) The territorial seas; or
(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or
(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through

(4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Eight exclusions from the definition of "waters of the United States" are codified at paragraph (b), and key terms are defined at paragraph (c). "Adjacent" is defined at (c)(2) as "having a continuous surface connection."

Table 2. Examples of National and Regional Lists of Tidal Fringe and Estuarine Ecosystem Functions

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Shafer, Deborah J. and David J. Yazzo. 1998. National guidebook for application of hydrogeomorphic assessment to tidal fringe wetlands. Prepared for U.S. Army Corps of Engineers. Technical report; WRP-DE-16. 76 pp. wrpde16.pdf (dren.mil)

Hydrogeomorphic Functions

1. Tidal Surge Attenuation The capacity of a wetland to reduce the amplitude of tidal storm surges.
2. Tidal Nutrient and Organic Carbon Exchange The ability of a wetland to import and export nutrients and organic carbon from the wetland. Mechanisms include leaching, flushing, and erosion.
3. Deposition and retention of inorganic and organic particulate from the water column, primarily through physical processes.

Habitat Functions:

1. Maintenance of Characteristic Plant Community Composition The ability of a wetland to support a native plant community of characteristic species composition.
2. Resident Nekton Utilization Describes potential utilization of the wetland by resident fishes and macrocrustaceans.
3. Nonresident Nekton Utilization Describes potential utilization of the wetland by nonresident (transient) fishes and macrocrustaceans.
4. Nekton Prey Pool Describes the potential for the wetland to produce and maintain a characteristic benthic and epiphytic invertebrate prey pool.
5. Habitat Utilization Describes potential utilization of the wetland by resident and migratory avifauna, herpetofauna, and mammals

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Shafer, D.J., T.H, Roberts, M.S. Peterson. 2007. A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing the Functions of Tidal Fringe Wetlands Along the Mississippi and Alabama Gulf Coast (ERDC/EL TR-07-2)
trel07-2.pdf (dren.mil)

a. Wave Energy Attenuation
b. Biogeochemical Cycling
c. Nekton Habitat Utilization
d. Provide Habitat for Marsh-Dependent Wildlife
e. Characteristic Plant Community Structure and Composition

Shafer, D. J., Herczeg, B., Moulton, D. W., Sipocz, A., Jaynes, K., Rozas, .P.,Onuf, C.P.,and Miller, W. 200). "Regional guidebook for applying the hydrogeomorphic approach to assessing wetland functions to northwest Gulf of Mexico tidal fringe wetlands," ERDC/ELTR-02-5, U.S.Army Engineer Research and Development Center, Vicksburg, MS.
trel02-5.pdf (dren.mil)

1. Shoreline stabilization.
2. Sediment deposition.
3. Nutrient and organic carbon exchange.
4. Resident nekton utilization.
5. Non-resident nekton utilization.
6. Maintain invertebrate prey pool.
7. Provide wildlife habitat.
8. Maintain characteristic plant community composition.
9. Plant biomass production.

Figure 1. Aerial Image of Mud Bay and Vicinity
Source – Google Imagery, August 7, 2022

Figure 2. U.S. Geological Survey Topographic Map of Mud Bay and Vicinity
Source - Whatcom County Tax Parcel Viewer (arcgis.com)

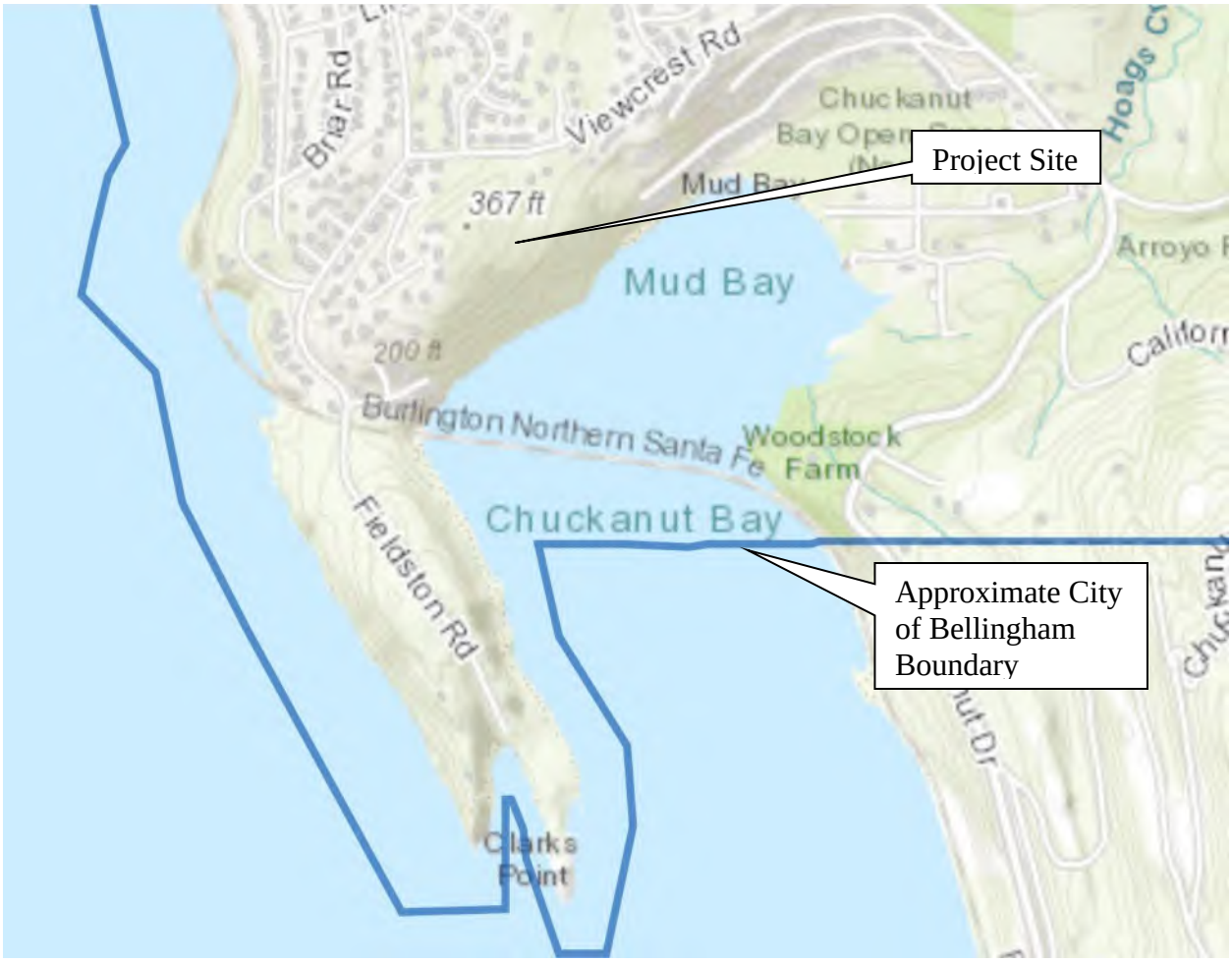


Figure 3. Lidar Imagery of Mud Bay and Vicinity
Source – Washington SState Department of Natural Resources Lidar Portal
Washington Lidar Portal

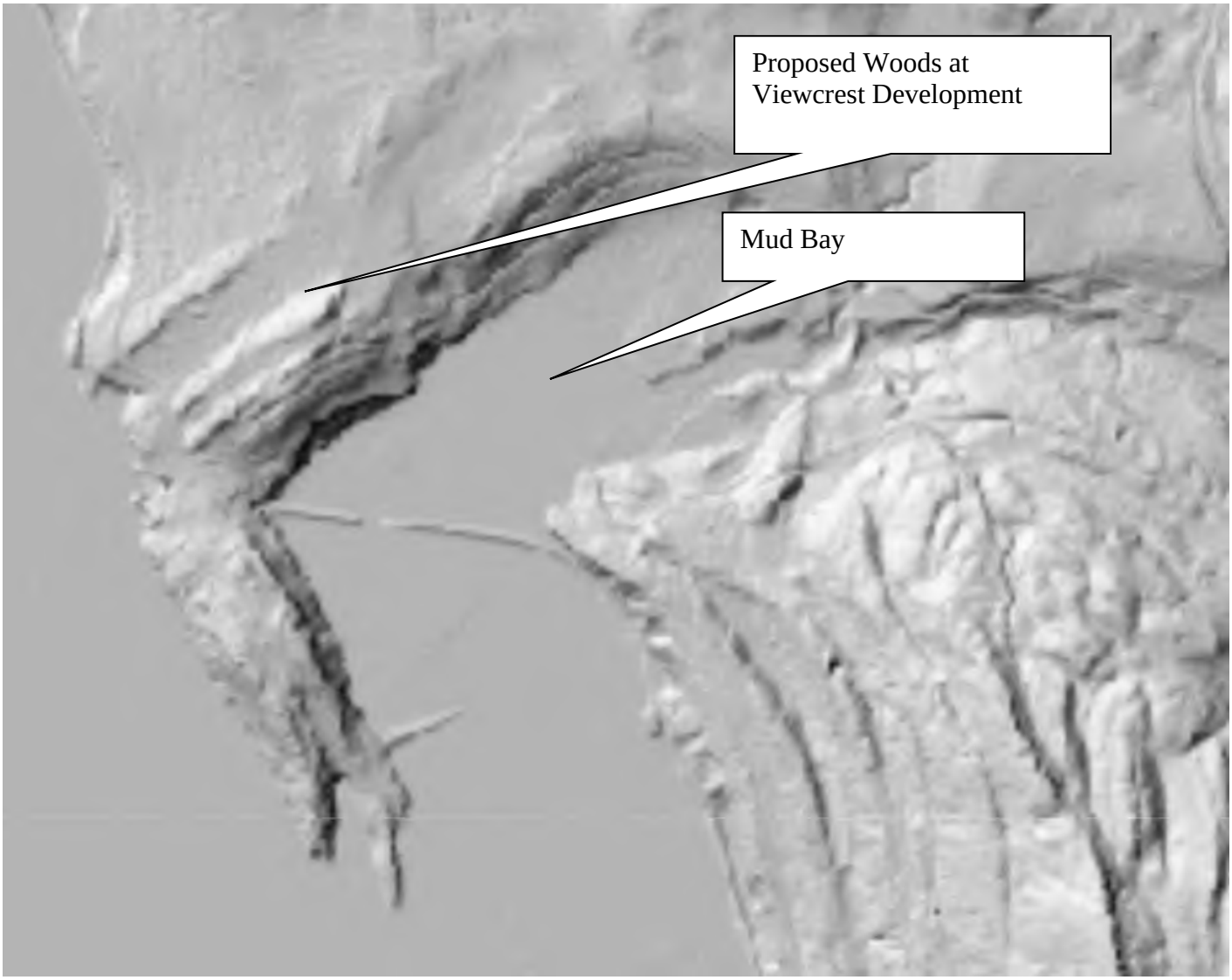


Figure 4. National Ocean and Atmospheric Administration Nautical Chart of Mud Bay and Vicinity

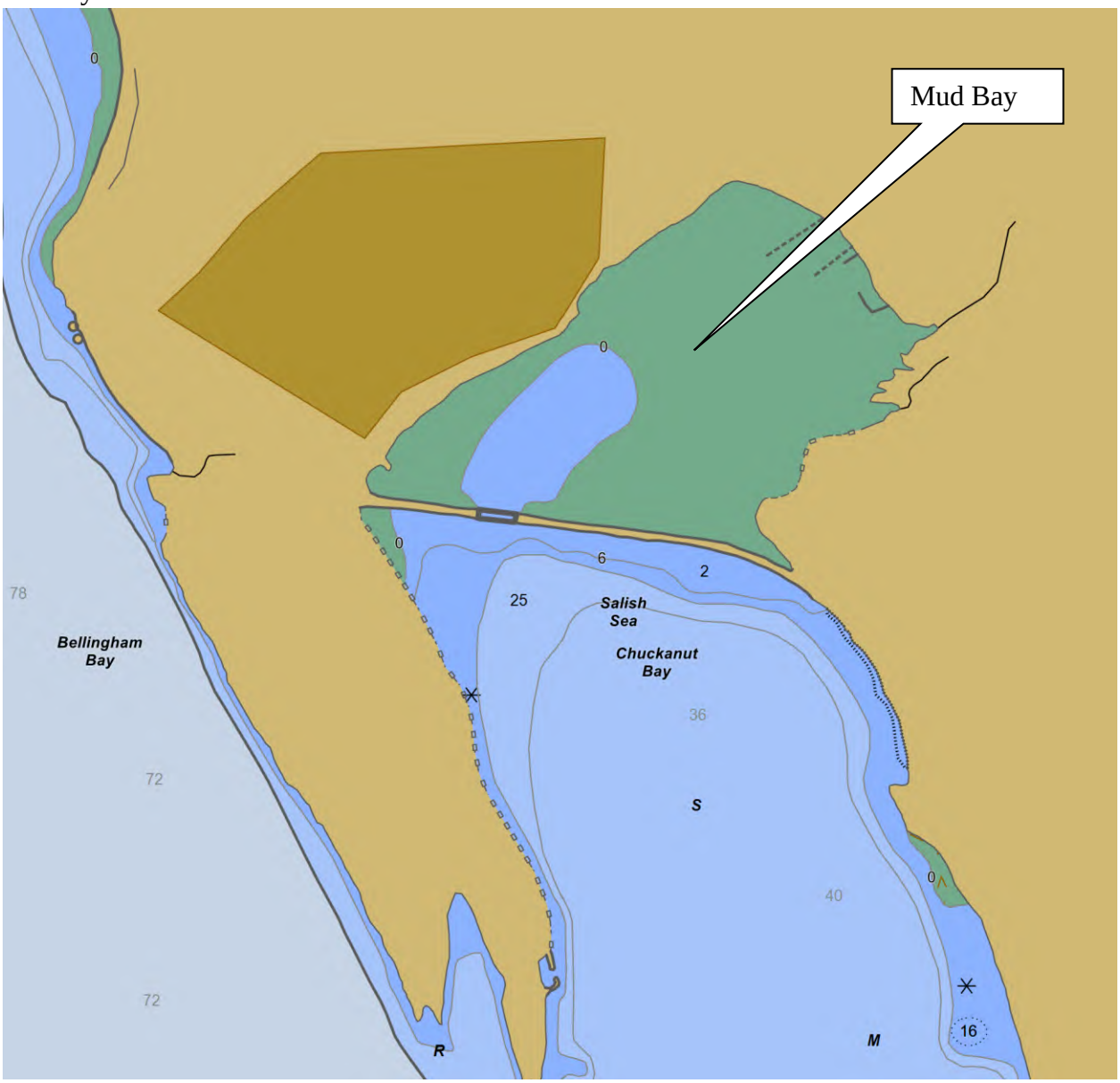


Figure 5. Location of the Woods at Viewcrest Project Site
[Source – Pacific Survey and Engineering Plan Set for the Woods at Viewcrest Preliminary Plat]

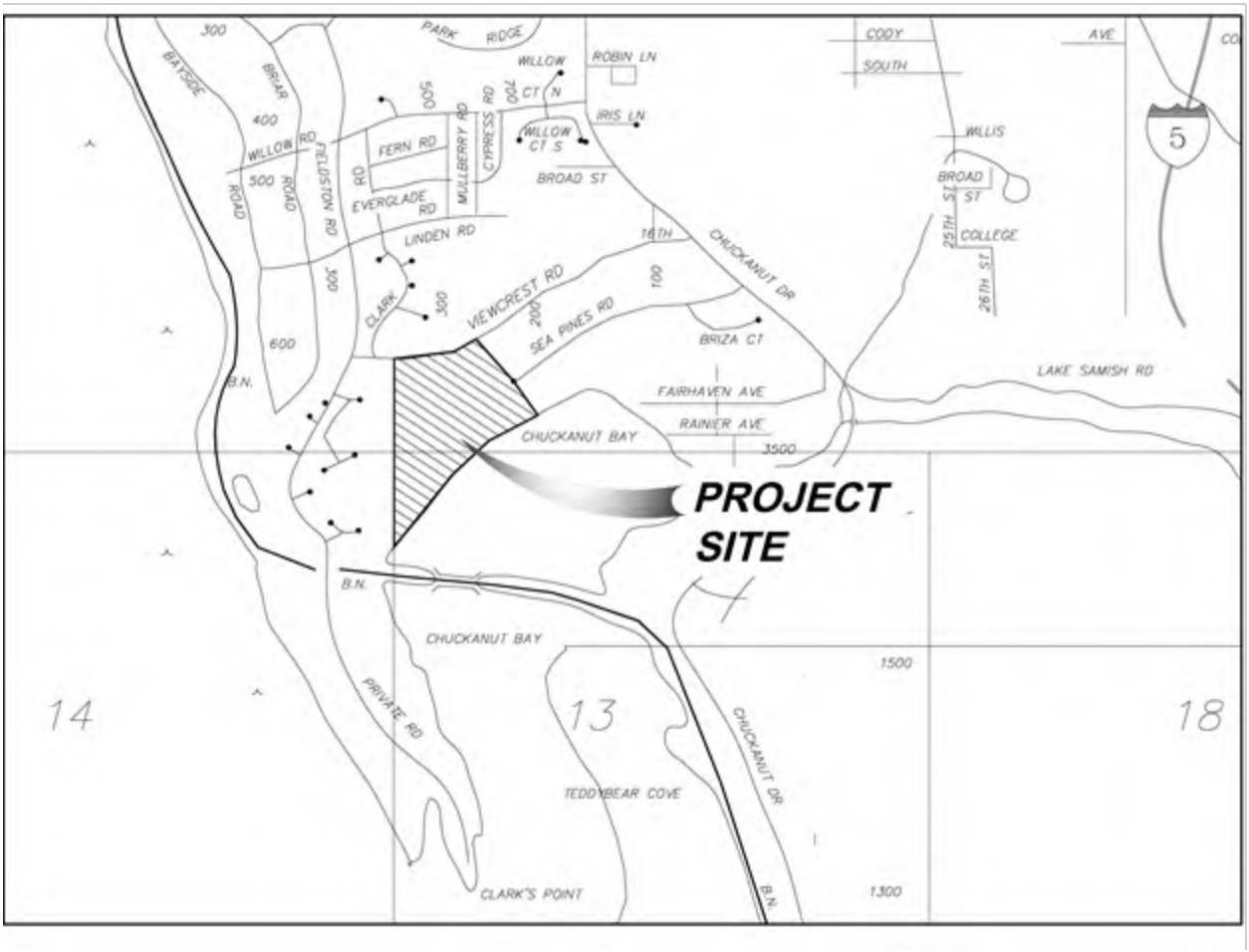


Figure 6. The Burlington Northern – Santa Fe Trestle at the Southern End of Mud Bay.
[Source – Google Earth Image May 16, 2023]

Figure 7. Hillslope Steepness in the Vicinity of the Proposed Woods at Viewcrest Development

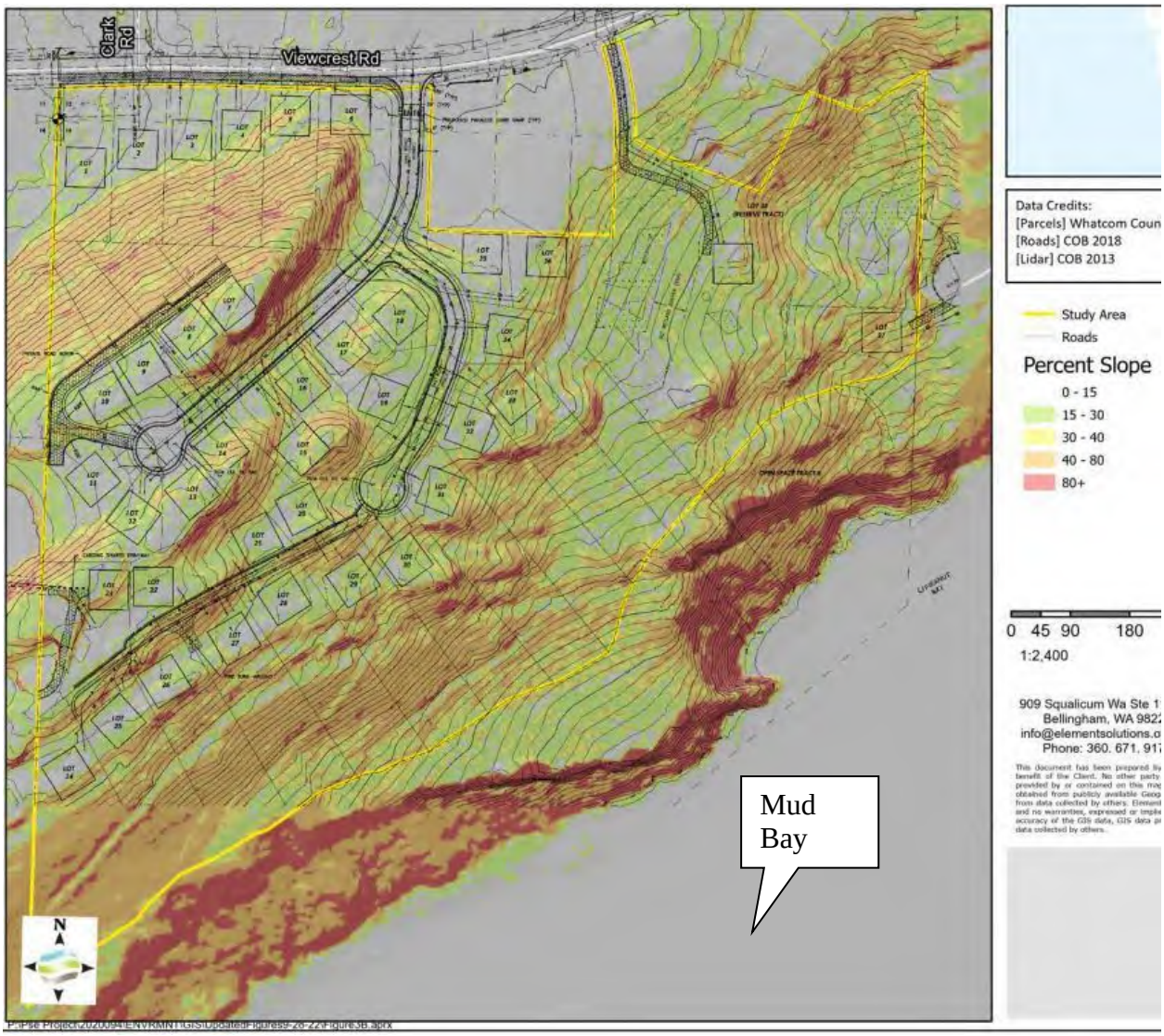


Figure 8. National Wetlands Inventory (NWI) Mapping for Mud Bay and Vicinity
Notes:
Source - National Wetlands Inventory (usgs.gov)
Area - This 77.30 acres
Classification – The Mud Bay Estuarine and Marine Wetland is classified as a E2USN.
Mapping - The wetlands and deepwater habitats in this area were photo interpreted using 1:58,000 scale, color infrared imagery from 1981.

Classification code: E2USN

System Estuarine (E) : The Estuarine System consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semienclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of sea water. Offshore areas with typical estuarine plants and animals, such as red mangroves (Rhizophora mangle) and eastern oysters (Crassostrea virginica), are also included in the Estuarine System.

Subsystem Intertidal (2) : The substrate in these habitats is flooded and exposed by tides; includes the associated splash zone.

Class Unconsolidated Shore (US) : Includes all wetland habitats having two characteristics: (1) unconsolidated substrates with less than 75 percent areal cover of stones, boulders or bedrock and; (2) less than 30 percent areal cover of vegetation. Landforms such as beaches, bars, and flats are included in the Unconsolidated Shore class.

Water Regime Regularly Flooded (N) : Tides alternately flood and expose the substrate at least once daily.

Figure 9. Natural Resources Conservation Service (NRCS) Soils Map & Key for Mud Bay and Vicinity

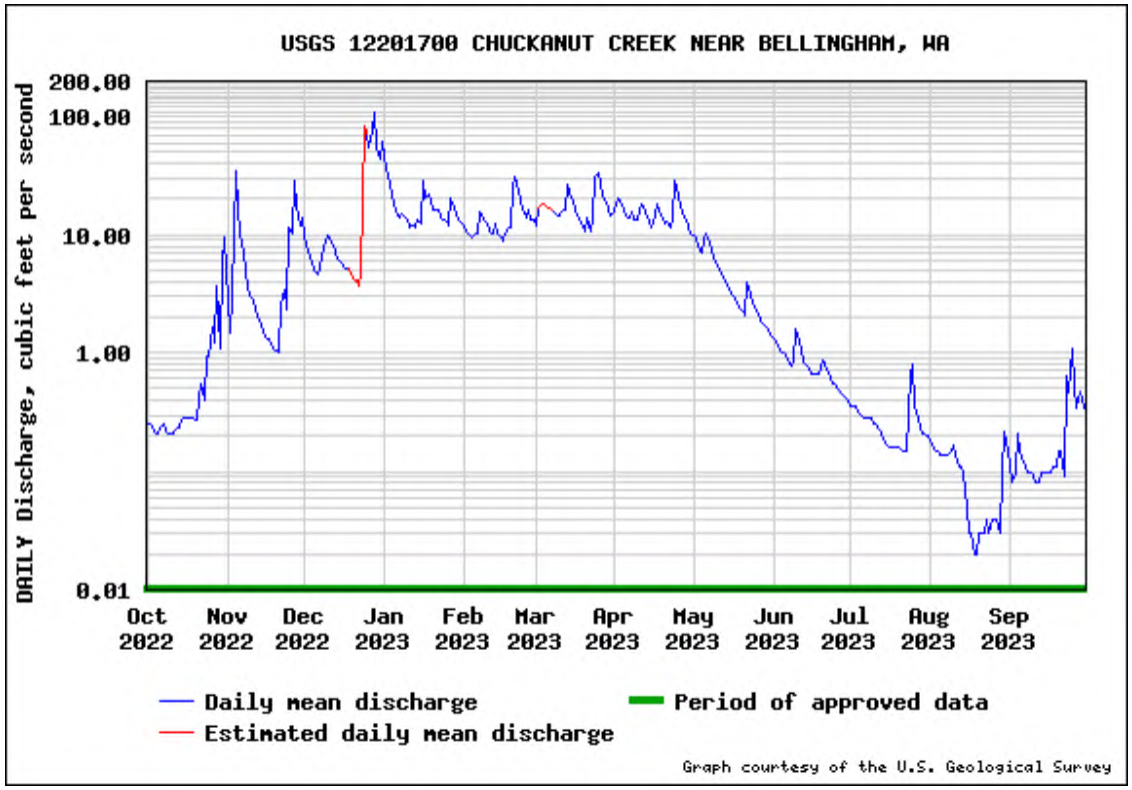
NRCS Map Key/Legend

Whatcom County Area, Washington (WA673)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
26	Chuckanut gravelly ashy sandy loam, 15 to 30 percent slopes	0.5	0.2%
52	Everett-Urban land complex, 5 to 20 percent slopes	46.3	16.5%
54	Fishtrap muck, drained, 0 to 2 percent slopes	9.1	3.2%
75	Hydraquents, tidal, 0 to 1 percent slopes	7.5	2.7%
109	Nati loam, 15 to 30 percent slopes	13.9	5.0%
110	Nati loam, 30 to 60 percent slopes	65.7	23.4%
156	Squalicum gravelly loam, 5 to 15 percent slopes	0.3	0.1%
182	Whatcom-Labounty silt loams, 0 to 8 percent slopes	14.3	5.1%
Totals for Area of Interest		**281.0**	**100.0%**

Figure 10. USGS 12201700 Chuckanut Creek Near Bellingham, WA.

Description:
Latitude 48°42'07.8", Longitude 122°28'56.9" NAD83
Whatcom County, Washington, Hydrologic Unit 17110004
Datum of gage: 78 feet above NAVD88.



STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2023 - 2023, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.00	6.90	22.5	17.7	13.7	17.5	15.4	4.51	.81	.27	.094	.22
Max	1.00	6.90	22.5	17.7	13.7	17.5	15.4	4.51	.81	.27	.094	.22
(WY)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)
Min	1.00	6.90	22.5	17.7	13.7	17.5	15.4	4.51	.81	.27	.094	.22
(WY)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)	(2023)

Figure 11. Northern Chuckanut Bay Freshwater Bacteria Levels
Source - Rose, A. 2018. Whatcom Marine Resources Committee Chuckanut Pollution, Identification and Correction (PIC) 2017-2018 Final Report what_chuckanutpicfinalreport_2018.pdf (nwstraits.org)

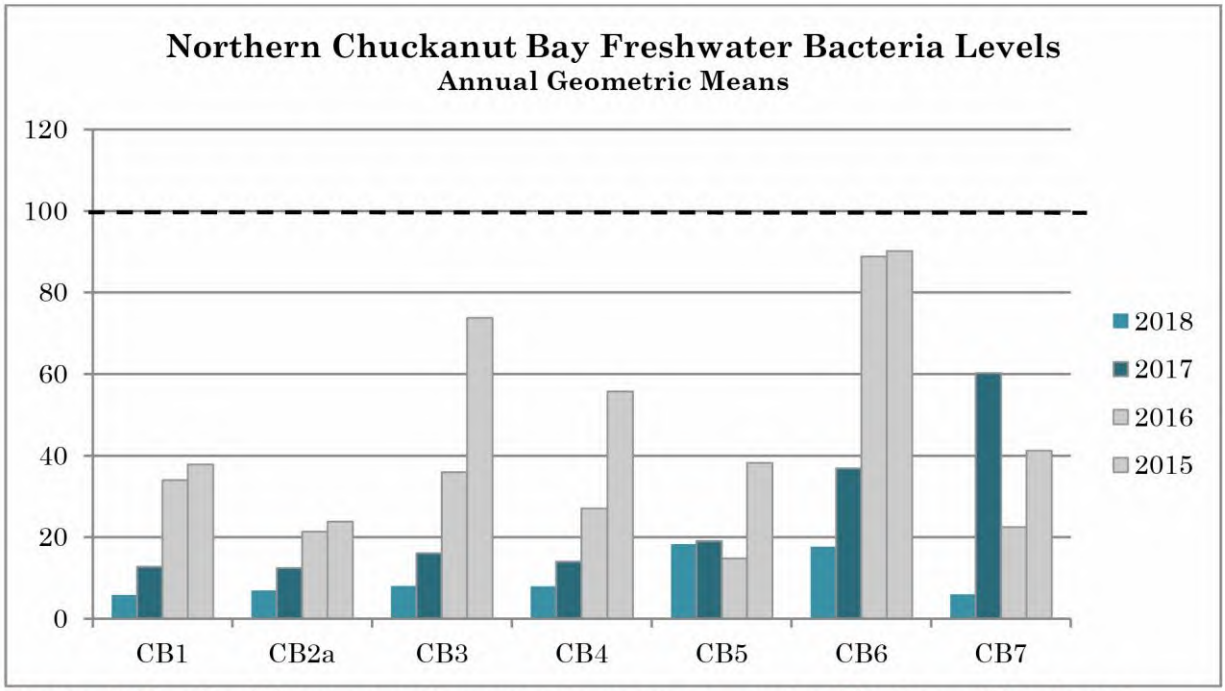


Figure 2: Fecal coliform annual geometric means at routine Northern Chuckanut Bay watershed freshwater stations (2015-2018). Bars indicate annual fecal coliform geometric and dashed black line indicates the water quality standard. All stations meet the geometric mean standard for fecal coliform bacteria. Blue bars illustrate the reduced geometric means observed over the past two years at all stations except CB7 in 2017.

Appendix A. Summary of Qualifications and *Curiculum vitae* for Lyndon C. Lee

[The CV is provided as a separate electronic file]

I am an ecosystems ecologist with a specialty in wetland and river science. I am also a regulatory expert and a Professional Wetland Scientist (#385) certified by the Society of Wetland Scientists. I have 49 years of professional experience working as an ecologist in rivers, wetlands, and shorelines throughout the U.S. and internationally. I have lived and worked in Washington State for 37 years. During this time, I have made it my focus to develop extensive familiarity with the waters of the Chuckanut Bay ecosystem, the Salish Sea, and the northern coastal waters of the west coast from the Columbia River, throughout British Columbia and north to Kodiak, Alaska.

My academic training is as follows:

> Ph.D. (April 1983) - College of Forest Resources, University of Washington, Seattle, Washington. Majors: Ecosystems Ecology, Wetland & River Science.

M.Sc. (March 1979) - School of Forestry, University of Montana, Missoula, Montana. Majors: Forest Ecology, Riparian Ecology, and Silviculture

B.S. (December 1974) - Tufts University and School of Forestry, University of Montana, Missoula, Montana. Majors: Forest Ecology, Silviculture.

Since 1990, I have worked mostly as the Principal Ecologist and President of L.C. Lee & Associates, Inc. and Director of the National Wetland Science Training Cooperative. During this time, I have worked extensively as an Expert Witness and Technical Team Leader for the U.S. Department of Justice Environment and Natural Resources Defense Section and the U.S. Environmental Protection Agency. I emphasize the application of best available science and design to projects that occur in shoreline, wetland, river, and forested ecosystems. In this context, I focus on (a) design and construction of wetland, river, and forest restoration projects, and (b) development and implementation of practical management programs for shorelines, wetlands, rivers, and forested ecosystems. My scientific interests are focused on responses of shorelines, wetland, river, and forested ecosystems to perturbations, assessment of site-specific and cumulative impacts to waters/wetland ecosystems, design and construction of waters/wetlands and forested ecosystem restorations, and management of the movement and fate of contaminants in waters/wetlands ecosystems.

Appendix B.

Natural Resources Conservation Service Description for the NATI SERIES – the Modal Soil at the Proposed Woods at Viewcrest Development

(Source - Official Series Description - NATI Series (usda.gov))

The Nati series consists of moderately deep, well drained soils formed in colluvium and slope alluvium from sandstone and siltstone with an admixture of volcanic ash and glacial till. Nati soils are on foothill backslopes and toeslopes and have slopes of 5 to 60 percent. The average annual precipitation is about 40 inches and the mean annual temperature is about 43 degrees F.

TAXONOMIC CLASS: Coarse-loamy, isotic, mesic Typic Haplorthods

TYPICAL PEDON: Nati loam - on 17 percent northwest facing slope under a coniferous forest canopy of Douglas-fir at 1,500 feet elevation. (Colors are for moist soil unless otherwise stated. All textures are apparent field textures)

Oi--3 1/2 to 3 inches; undecomposed needles, leaves, and twigs.
Oa--3 inches to 0; decomposed forest litter; many very fine and fine roots.

A--0 to 8 inches; dark brown (10YR 3/3) loam, yellowish brown (10YR 5/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky, nonplastic, weakly smeary; common very fine and fine, many medium, and common coarse roots; many fine irregular pores; 5 percent weathered pebbles; NaF pH 10.l; strongly acid (pH 5.1); abrupt smooth boundary. (3 to 10 inches thick)

Bs--8 to 16 inches; dark yellowish brown (10YR 4/4) loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; soft, very friable, nonsticky, nonplastic, weakly smeary; common very fine, fine, and medium roots; many fine irregular pores; 30 percent weathered pebbles and 5 percent hard rounded pebbles; NaF pH 10.6; strongly acid (pH 5.2); abrupt smooth boundary. (6 to 16 inches thick)

BC--16 to 31 inches; brownish yellow (10YR 6/6) fine sandy loam, pale yellow (2.5Y 7/4) dry; massive; soft, very friable, nonsticky, nonplastic, weakly smeary; few fine medium and coarse roots; many fine irregular pores; 35 percent weathered pebbles; NaF pH 11.0; strongly acid (pH 5.4); abrupt wavy boundary. (0 to 15 inches thick)
2Cr--31 inches; sandstone.

TYPE LOCATION: Whatcom County, Washington, about 6 miles southeast of Bellingham; 400 feet north and 2,000 feet east of the southwest corner of sec. 12, T. 37 N., R. 4 E.

RANGE IN CHARACTERISTICS: Mean annual soil temperature is 48 degrees to 51 degrees F. Depth to a paralithic contact with sandstone and thickness of volcanic ash influence is 20 to 40 inches. The soil moisture control section is dry in all parts for 60 to 75 consecutive days within the four months that follow the summer solstice in 6 or more years out of 10. By weighted average, the control section has 5 to 20 percent hard rounded pebbles, 20 to 40 percent weathered pebbles, and 0 to 15 percent weathered cobbles. Reaction is strongly acid or moderately acid throughout.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4 moist, 4 through 6 dry, and chroma of 2 through 6 moist, 4 through 6 dry. It has 0 to 15 percent hard rounded pebbles, 10 to 25 percent weathered pebbles, and 0 to 15 percent weathered cobbles.

The Bs horizon has hue of 7.5YR or 10YR, value of 3 or 4 moist, 5 or 6 dry, and chroma of 4 through 6 moist and dry. It has 5 to 15 percent hard rounded pebbles, 15 to 30 percent weathered pebbles, and 0 to 15 percent weathered cobbles. It is loam or sandy loam.

The BC horizon has hue of 7.5YR through 2.5Y, value of 4 through 6 moist, 6 or 7 dry, and chroma of 4 through 6 dry. It has 5 to 25 percent hard rounded pebbles, 15 to 45 percent weathered pebbles, and 0 to 20 percent weathered

cobbles and stones. It is loam, sandy loam, fine sandy loam, or gravelly loam. Some pedons have a C horizon and lack a BC horizon.

COMPETING SERIES: These are the Chuckanut, Kickerville, Sehome, and Squalicum series and the similar Cathcart, Cathlamet, Comar, Giles, Nevat, Pastik, Pronto, Sadie, and Sulsavar series. All of these soils are more than 40 inches deep except Sadie and Sehome. Sadie and Sehome soils are 20 to 40 inches deep to a paralithic contact with dense compact glacial till.

GEOGRAPHIC SETTING: Nati soils are on colluvial mountain backslopes and plateaus at elevations of 100 to 1,600 feet. Slopes are 5 to 60 percent. The soils formed in colluvium and slope alluvium from sandstone and siltstone with an admixture of volcanic ash and glacial till. Nati soils are in a marine climate with warm, dry summers and cool, moist winters. Snow cover is intermittent. Average annual precipitation is 35 to 50 inches. Mean January temperature is about 36 degrees F; mean July temperature is about 62 degrees F. Mean annual temperature is about 48 degrees F. The frost-free season is 140 to 170 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the competing Cathcart Sehome and, Squalicum soils and the Revel soils. Revel soils are frigid.

DRAINAGE AND PERMEABILITY: Well drained; slow to medium runoff; moderate permeability.
USE AND VEGETATION: Used for timber production, homesites, recreation, and wildlife habitat. Vegetation is Douglas-fir, western hemlock, western redcedar, and red alder with an undergrowth of western swordfern, salal, red huckleberry, and western brackenfern.

DISTRIBUTION AND EXTENT: West slopes of the Cascade Mountains is northwestern Washington. The series is moderately extensive.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Portland, Oregon
SERIES ESTABLISHED: Whatcom County, 1983.

REMARKS: This draft reflects a change in classification from medial, mesic Andic Xerochrepts to coarse-loamy, mixed, mesic Typic Haplorthods. Diagnostic horizons and features recognized in this soil are an ochric epipedon from the surface to 8 inches, a spodic horizon from 8 to 16 inches, and a paralithic contact at 31 inches. The spodic horizon does not meet spodic chemical criteria, but does meet micro morphological criteria, i.e. cracked coatings and silt-sized and larger pellets.

Lyndon C. Lee, Ph.D., SPWS
Principal Ecologist & President
L.C. Lee & Associates, Inc.
421 North Forest Street
Bellingham, Washington 98225
Phone: 206.979.5633
Email: lyndon@lcleeinc.com

I. EDUCATION

Ph.D. (April 1983) - College of Forest Resources, University of Washington, Seattle, Washington. *Majors*: Ecosystem Ecology, Wetland & River Science.

M.Sc. (March, 1979) - School of Forestry, University of Montana, Missoula, Montana. *Majors*: Forest Ecology, Silviculture.

B.S. (December, 1974) - School of Forestry, University of Montana, Missoula, Montana. *Majors*: Forest Ecology/Silviculture.

Tufts University (1969 – 1971), Medford, Massachusetts. *Major*: Ecology

II. SUMMARY OF PROFESSIONAL EMPLOYMENT

A. Applied Science & Management

President and Principle Ecologist, L.C. Lee & Associates, Inc. and Director, National Wetland Science Training Cooperative. Independent private consultant specializing in wetland and river science, ecosystem restoration, regulatory assistance, and training. L.C. Lee & Associates, Inc. (LCLA) is a nationally based environmental consulting with offices in Bellingham, Washington. Lee's emphasis is on applied science including (a) design and construction of waters/wetlands and forested ecosystem restorations, (b) assessment of impacts to waters/wetlands, (c) management of the movement and fate of contaminants in waters/wetland ecosystems, and (d) training of environmental professionals. Since 1990, Lee has often served the U.S. federal government as a national waters/wetlands regulatory expert. In this capacity, Lee has functioned as a national technical team member and leader on several complicated and/or controversial technology development, restoration, and/or Clean Water Act enforcement projects throughout the U.S. and abroad. Lee's emphasis is always on the application of best available science to federal, state and local regulatory programs that focus on protection and restoration of aquatic ecosystems. (January, 1990 – Present)

Principal Ecologist & Vice President, Ecosystem Science & Restoration Services, WSP Environment & Energy, Seattle, Washington and London, U.K. (February 2007 – August, 2009)

Principal Ecologist & Vice President, Ecosystem Science & Restoration Services, BBL/ Arcadis, Seattle, Washington (June 2004 – January 2006)

Senior Wetlands Ecologist, Office of Wetlands Protection, U.S. Environmental Protection Agency, Washington, DC & ***Assistant Research Ecologist***, Savannah River Ecology Laboratory, Institute of Ecology, University of Georgia. This appointment was a 3-year Cooperative Agreement between the University of Georgia's Savannah River Ecology Laboratory and the EPA Headquarters Office of Wetlands Protection. Dr. Lee functioned as the Senior Wetland Scientist responsible for (a) National Technical Oversight and Assistance of EPA Regional Wetlands Protection Programs, (b) National Training Programs In Wetland and Ecosystem Sciences and the U.S. Clean Water Act, (c) National Office Of Wetlands Protection Liaison to the Superfund and RCRA programs, and (d) Headquarters EPA - University Research Liaison (May 1986 - February 1989).

Research Manager and Assistant Research Ecologist, Division of Wetlands Ecology, Savannah River Ecology Laboratory (SREL), Institute of Ecology, University of Georgia, Aiken, South Carolina. Dr. Lee served as the supervisor of 11 PhD staff, 20 technicians and the $3,500,000/year Wetlands Research Program based at the U.S. Department of Energy Savannah River Nuclear Facility and National Environmental Research Park. Program focus was on (a) assessment and monitoring of the effects of weapons grade radionuclide production on waters/wetland ecosystems, (b) management of the fate, transport and removal of radionuclide, heavy metal, and complex organic contaminants in waters/wetlands, and (c) restoration of waters/wetland ecosystems degraded by thermal effluents and radionuclide and heavy metal contamination (Dr. R. R. Sharitz, Supervisor) (June 1984 - June 1986).

Research Associate, College of Forest Resources, University of Washington, Seattle, WA. Lee completed doctoral research on wetland and river ecosystems throughout the Pacific Northwest, including Alaska. Study design and direction, grant and contract development and management, employee and field-crew supervision, laboratory and data analyses, dissertation preparation, delivery, and publication of peer reviewed articles (Drs. C. C. Grier and T. M. Hinckley, Co-Chairmen) (January 1980 - June 1983).

Principal Habitat Ecologist, Interagency Grizzly Team, Border Grizzly Project. This job was with the Montana Forest and Conservation Experiment Station and Cooperative Wildlife Studies Unit, University of Montana, Missoula, Montana. Lee developed, conducted and supervised research on the definition, description, classification, protection and restoration of grizzly bear and grey wolf habitats throughout the northern Rocky Mountains, SE British Columbia, and northern Mexico. Responsibilities included research project design, planning, and direction, grant proposal preparation & funding, employee, student and field crew supervision in very remote areas, laboratory and data analyses, report development and publication, wildlife habitat impact assessment, and mitigation consultation (Drs. C. J. Jonkel and R. Ream, Directors) (January 1978 - January 1980).

Research Assistant, School of Forestry, University of Montana, Missoula, Montana. Completed Master's study on riparian/wetland ecosystems in mid-montane and high elevation habitats throughout western Montana (December 1975 - June 1977).

Forestry Technician, U.S. Forest Service, Intermountain Forest and Range Experiment Station, Missoula, Montana. Wind River Range, near Dubois, Wyoming and Coram Experimental Forest, Hungry Horse, Montana. Lee worked as a project scientist and forester documenting (a)

management approaches for chipped slash in high elevation *Pinus contorta* forests, (b) field testing a habitat type classification for the Wind River Range, and (c) measuring surface and shallow subsurface runoff from clearcut *Larix occidentalis* forests (June - November 1975).

Project Technician, Silvicultural Harvest Practices Demonstration Area, Lubrecht Experimental Forest, School of Forestry, University of Montana, Missoula, Montana. Lee worked as the project technician, setting up demonstrations of silvicultural systems for mid-montane forests in the Garnet Range, Montana (June - September 1973).

Research Technician, Lubrecht Ecosystems Project, School of Forestry, University of Montana, Missoula, Montana. Lee worked as a survey crew member (June - September 1972).

B. Academic

Assistant Research Ecologist, Division of Wetlands/Ecology, Savannah River Ecology Laboratory, Institute of Ecology, University of Georgia, Aiken, South Carolina. Created and administered a Cooperative Agreement with the Office of Wetlands Protection, US Environmental Protection Agency (EPA), Washington, DC to serve as the Senior Scientist in the EPA Headquarters Office of Wetlands Protection. Lee also provided national EPA Programs with training and regional technical assistance. During the course of this appointment, Lee served on two doctoral and two master's committees. He also supervised one AAAS Science and Engineering Fellow, one EPA Senior Fellow, and three interns (May 1986 - February 1989).

Adjunct Assistant Professor, Department of Biology, George Mason University, Fairfax, Virginia (March 1987 - December 1990).

Adjunct Assistant Professor, Department of Biology, University of South Carolina, Columbia, South Carolina (December 1987 - February 1989).

Assistant Research Ecologist, Institute of Ecology, Savannah River Ecology Laboratory, University of Georgia. Postdoctoral (2), graduate (2) and undergraduate (1) student supervision in wetlands and ecosystems ecology at the Savannah River Ecology Laboratory, Aiken, South Carolina (June 1984 - May 1986).

Teaching Assistant, College of Forest Resources, University of Washington, Seattle, Washington (Silviculture, Plant Physiology) (January 1980 - January 1982).

Principal Instructor, Forest Habitat Classification & Silvicultural Management Short Course Series, MacMillan Bloedel Ltd., Woodlands Services, Nanaimo, British Columbia, Canada. Developed and delivered training for MacMillan Bloedel technical and field staff on forest site classification and "best silvicultural management practices" throughout Vancouver Island and the south coast of British Columbia, Canada (June - September 1981).

Teaching Assistant, Montana Forest and Conservation Experiment Station & U.S. Forest Service. Restructured the Montana Forest Habitat Type course curriculum, and authored *A Training Manual for Montana Forest Habitat Types* (January 1976 - June 1978).

Teaching Assistant, School of Forestry, University of Montana, Missoula, Montana (Forest Ecology, Silviculture, Soil Chemistry, Dendrology, Forest Ecosystem Ecology and Classification) (January 1975 – June 1977).

Instructor, Montana Forest Habitat Type Short Courses. Conducted and administered cooperative continuing education in forest habitat type classification and timber management for forest and range specialists from federal and state agencies, universities, corporations and small private entities from throughout the Rocky Mountains (Month of June, 1975 – 1979).

III. SELECTED PROJECT EXPERIENCE

A. Completed Ecosystem Restoration Projects

Presidio Trust/National Park Service, San Francisco California. Planned and designed the restoration of Dragonfly Creek, a perennial creek tributary to San Francisco Bay within the San Francisco Presidio, Golden Gate National Recreation Area (2004 – 2005).

Stanford University, Palo Alto, California. Planned, designed, permitted, and constructed a series of waters/wetlands in the Stanford Academic Reserve that served as breeding/metamorph aquatic habitat for the California Tiger Salamander (*Ambystoma californiense*) (2003 – 2005).

U.S. Department of Justice, Washington, D.C. Borden Ranch, Galt, California. Developed plans/recommendations for mitigation of non-compliance activities in agricultural waters/ wetlands (2001).

Natural Resources Conservation Service and Headwaters Ranch Cooperative, Quilcene, Washington, Andrews Creek Restoration (2000 – Present).

University of Washington-Bothell/ Cascadia Community College Co-located Campus,

Bothell, Washington. Environmental assessment, planning, permitting, mitigation design, construction supervision, native plant nursery development and operation, and monitoring of the 58- acre stream ecosystem restoration in North Creek (1994 to 2004).

City of Pacifica, California
San Pedro Creek Restoration. Flood Control/ Steelhead and California red-legged frog habitat restoration) (1990 – 2004). *Calera Creek Restoration*: Pacifica Wastewater Treatment Plant. Environmental planning, permitting, grant procurement, mitigation design, endangered species issues, stream design, stream native plant propagation, construction supervision, and compliance monitoring of a 18- acre riparian waters/wetlands restoration on California's north-central coast (1989-2004).

Milagra Creek Restoration: Flood control (1996 - 1997) *Upper Calera Creek*: Riverine restoration in association with new police station (2000 – 2004). *Capistrano Bridge*: Rebuilt fish passage / riparian restoration (2001 – 2004).

City of New York, New York. Restoration Advisor/Peer Review for waters/wetlands restoration projects (1993).

City of Portland, Oregon: Ramsey Lake Storm Water Treatment Wetlands at the Willamette Columbia River confluence (1995-1998).

Washington State Department of Corrections, Monroe, Washington. Restoration of forested slope wetlands (1999 – 2002).

Washington State Department of Corrections, Olympia and Aberdeen, Washington. Restoration of a tidally influenced reach of Newskah Creek, a tributary to Gray's Harbor, Washington (1998 – 2004).

Robert Cole Property. Tidal marsh restoration in Puget Sound, Anderson Island, Washington (1996 – 2002).

Shell Oil Company, Anacortes Refinery Clean Fuels Project, Anacortes, Washington. Permitted, designed mitigation, supervised construction, and monitored 16-acre restoration site adjacent to Padilla Bay National Estuarine Research Reserve (1993-2001).

Shell Oil Company/ Tesoro, March Point Refinery, Anacortes, Washington. Slope and riparian waters/wetland restoration in a tributary to the Padilla Bay National Estuarine Reserve (1992 – 2001).

International Paper, Ticonderoga, New York. Main Wastewater Pipeline Replacement Project. Emergency response, environmental assessment, planning, permitting, mitigation design, restoration construction, monitoring of a 63-acre waters/wetland ecosystem adjacent to Lake Champlain (1992 -2000).

Shell Oil Company, Sewaren, New Jersey. Tidal marsh restoration in a tributary to the Arthur Kill/New York Harbor (1990-1992).

Boeing Company, Seattle Washington Customer Services Training Center. Master planning, land acquisition, design, permitting, and construction of the Longacres Corporate Park waters/wetlands, Boeing Customer Service Training Center (1990-1995).

National Arboretum, Washington, D.C. Restoration Advisor/Peer Review National Aquatic Gardens, Anacostia River Restoration (1989-1991).

U.S. Department of Energy/University of Georgia, Savannah River Plant, Aiken, South Carolina. Designed and constructed the 93 acre "L–Reactor" cooling lake and associated waters/wetlands (1984-1989).

Shurgard Storage, Seattle, Washington. Richards Creek Restoration. Resolve non-compliance issues in a salmon-bearing tributary to Lake Washington (1983-1986).

Bonhoeffer Botanical Gardens - Stanwood, Washington. Resolve noncompliance issues relating to clearing and earthwork in forested wetlands - develop a botanical gardens and learning center. (2010 - 2012)

Hoag Restoration, Mount Vernon, Washington. Restore a series of depressional wetlands on the floodplain of the Skagit River, City of Mount Vernon, Washington (2011 - 2015)

Big Wave Project, Half Moon Bay, California. Environmental assessment, planning, permitting, waters/wetlands design to date; design and develop native plant nursery, permit and construction 7-acre landscape restoration pending (2008 – 2009).

Chevron EMC, San Luis Obispo, California. San Luis Obispo Tank Farm Remediation and Landscape Restoration, San Luis Obispo, CA. Environmental assessment, planning, permitting, landscape mitigation design to date; design and develop native plant nursery, permit and construction 130-acre landscape restoration pending (2008 - 2018).

City of Mount Vernon, Washington. Kulshan, Logan, and Trumpeter Creeks. Restore riverine forested ecosystem structure and functioning to three different salmon bearing urban creeks owned and managed by the City of Mount Vernon Integrate each restoration with the City's existing park and trail networks (2006 – present).

Lobisser Property, Bainbridge Island, Washington. Remediate contamination and restore estuarine ecosystem structure and functioning to a 2.5 acre tidal wetland in Port Madison, (Puget Sound), Washington (2006 – 2010).

Elma Horse Ranch, Elma, Washington. Restore riverine forested ecosystem structure and functioning to a 600 ft (3 acres) reach on an unnamed, salmon-bearing tributary of the Chehalis River (2006 – 2014).

B. Expert Witness Work and Testimony

Expert Witness, Environment Enforcement Section, U.S. Department of Justice, United States v. Norfolk Southern Railway, East Palestine, Ohio. Provide expert services/technical team leadership in the matter of U.S. v. Norfolk Southern Railway at the derailment site in East Palestine, Ohio. Lauren Grady (Attorney). Analyze U.S. Federal jurisdiction in WOTUS, impacts of the derailment to tributary streams, and mitigation/restoration opportunities sufficient to offset impacts of the derailment (August, 2023 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, United States v. Washington State Department of Transportation. Provide expert services/technical team leadership in the matter of U.S. v. Washington State Department of Transportation. Guss Guarino (Attorney). Analyze impacts of state highway management on the Shoalwater Indian Reservation, Tokeland, WA. (December, 2022 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, United States v. Ace Black Ranches. Provide expert services/technical team leadership in the matter of U.S. v. Ace Black Ranches. Sonya Shea and Jeffrey Hammons (Attorneys). Analyze impacts and mitigation/restoration opportunities for unauthorized placement of fill in the Bruneau River and associated wetlands, Bruneau, Idaho (September, 2022 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, United States v. Sharfi. Provide expert services/technical team leadership in the matter of U.S. v. Sharfi. Brandon Adkins and Andrew Doyle (Attorneys). Analyze impacts and mitigation/restoration opportunities for unauthorized placement of fill in wetlands, Martin County, Florida (July, 2021 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, United States v. Brock Maslonka. Provide expert services/technical team leadership in the matter of U.S. v. Brock Maslonka. Brian Uholick and Gustavus Maxwell (Attorneys). Analyze impacts and mitigation/restoration opportunities for unauthorized placement of fill in Perkins Slough, a tributary of the Pend Oreille River, Cusick, WA (January, 2021 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, United States v. Duran Construction. Provide expert services/technical team

leadership in the matter of U.S. v Duran Construction. Mark Nitczynski and Gustavus Maxwell, (Attorneys). Analyze impacts and mitigation/restoration opportunities for unauthorized placement of fill on three properties in the City and Borough of Juneau, Alaska. (June, 2021 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, United States v. Electron Hydro. Provide expert services/technical team leadership in the matter of U.S. v Electron Hydro. Sarah Buckley and John Borderick (Attorneys). Analyze impacts and mitigation/restoration opportunities for unauthorized placement of artificial turf in a bypass channel within the Puyallup River. (January, 2021 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, U.S. v. U.S. v. Joan V. Bayley; Philip N. Bayley individually and in his capacity as the Trustee of Frihet Trust and Bid D's Beach Cabin, LLC. Provide expert services/technical team leadership in the matter of U.S. v Bayley et. al. Kent Hanson, Attorney. Determination of the impacts to the Hood Canal as a result of unauthorized construction of a bulkhead below the high tide line. (November, 2020 – May, 2023). Won on court decision.

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington and International Border Water Commission, San Diego and El Paso. Provide expert services/technical team leadership in the matter of Imperial Beach et.al. v. U.S. Andrew Coghlan and Debra Carfora, Attorneys. Determination of the structure, functioning and jurisdictional status of six tributary streams to the Tijuana River Estuary. (August, 2019 - Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington D.C. and U.S. Environmental Protection Agency Region 8 – Denver. Provide expert services/technical team leadership in the matter of U.S. v Paul Bunn and Steven Snyder. Hydraulic dredging and filling of riverine waters/wetlands in the Yaak River, Montana. (June, 2018 - Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Army Corps of Engineers, Sacramento District. Provide expert services/technical team leadership in the matter of U.S. Army Corps of Engineers v. Roger J. LaPant, Jr. *et al.* Ripping for conversion of vernal depression, swale, and tributary stream waters/wetlands in northern California (October, 2016 – Settled, February, 2021).

Expert Witness, Environment and Natural Resources Defense Section U.S. Department of Justice, Washington D.C. and U.S. Army Corps of Engineers, Sacramento District. Provide expert services/technical team leadership in the matter of Duarte v. U.S. Army Corps of Engineers. Ripping and conversion of vernal depression, swale, and tributary stream waters/wetlands in northern California (August, 2014 – Settled - August 2017).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency, Region 9 – San Francisco. Provide expert services/technical team leadership in the matter of U.S. v. Greka Oil. This project focuses on documentation and restoration of the impacts of large-scale crude oil

discharges to waters of the U.S., including wetlands - (November 2008 – April, 2023). Won on court decision.

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency, Region 9, San Francisco. Provide expert services/technical team leadership in the matter of U.S. v. Anchordoguy. This project focuses on documentation and restoration of the impacts of earthwork and development in vernal pools and swales and other waters of the U.S., US Environmental Protection Agency Region IX, San Francisco, California. (May, 2012 – 2016 - Settled).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency Region 10, Seattle. Provide expert services/technical team leadership in the matter of U.S. v. Port of Tacoma. This project focuses on documentation and restoration of the impacts of earthwork in wetlands and other waters of the U.S. in Tacoma, Washington. (April, 2011 – December, 2013 - Settled).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency Region 6 – Dallas. Provide expert services/technical team leadership in the matter of U.S. v. Lipar. This project focuses on documentation and restoration of the impacts of earthwork and development in forested wetlands and other waters of the U.S. (June, 2011 – Present).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency Region 10 – Seattle. Provide expert services/technical team leadership in the matter of U.S. v. Rader Farms. This project focuses on documentation and restoration of the impacts of mechanical clearing, earthwork, drainage, and conversion of forested wetlands to blueberry production, Whatcom County, Washington. (November, 2012 – 2015 - Settled).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency Region 10 – Seattle. Provide expert services/technical team leadership in the matter of U.S. v. Klock. This project focuses on documentation and restoration of the impacts of mechanical clearing, earthwork, drainage, and conversion of forested wetlands to agricultural production, Snohomish County, Washington. (November, 2013 – Settled in 2021).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency, Region 10 – Seattle. Provide expert services/technical team leadership in the matter of U.S. v. Case. This project focuses on documentation and restoration of the impacts of levee construction in the North Fork Santiam River, Oregon. US Environmental Protection Agency Region X, Seattle, (October, 2015 – Settled in 2019).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency, Region 10 – Seattle. Provide expert services/technical team leadership to the U.S. Department of Justice in the matter of U.S. v. Alaska Department of Transportation, throughout the Kenai Peninsula,

Alaska (Court # A01-378 CV(RRB)). This project focuses on documentation of unauthorized hardening of several river and stream reaches and restoration of hardened reaches using bioengineering, installation of large wood jams, etc. (Outcome: Settled).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and US Environmental Protection Agency Region IV – Atlanta. Provide expert services / technical team leadership in the matter of U.S. v. Cundiff. This case focused on documentation and restoration of the impacts of large-scale mechanized land clearing in bottomland hardwood forested waters/wetlands in Muhlenberg County, Kentucky. U.S. Won in District Court (6th Circuit -480F. Supp. 2d 940 – 945) and in the 6th Circuit Court of Appeals (Nos. 65-5469/5905; 07-5630) (November 2007 - February 2009).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency Region 10 – Seattle. Provide expert services/technical team leadership to the Department of Justice in the matter of U.S. v. Abeldgaard *et al.,* Stariski Creek, Kenai Borough, Alaska (Court #: A01-378 CV(RRB). This project involves documentation of unauthorized filling in and restoration of large slope fen wetlands on the Kenai Peninsula. (Outcome: Pending; 2002 – 2015 - Settled).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency Region 9 – San Francisco. Expert witness and technical team leader for the U.S. Department of Justice in the matter of U.S. v Adams Brothers Farming, Inc. *et al.* (Case No. 10074522). Outcome: Trial bifurcated. U.S. won both jurisdictional and impact issues in 9th Circuit District Court, resulting in restoration orders and civil penalties in excess of $1,000,000 (2000 – 2004).

King County, Washington, **Griffin v. Anderson.** Represented the Griffin family in alleged manipulation of waters/wetlands at a horse farm in rural Washington. Outcome: Arbitrated settlement and restoration of waters/wetlands ditched and drained for water management (2000 – 2001).

Parviz Mohandessi in Mohandessi v. State of Washington, Department of Ecology and City of Sammamish. Represented Mohandessi family in requiring review of an ordinary high water mark determination on Lake Sammamish, Washington. Outcome: Washington State Coastal Commission ordered revision of State Determination(s) of Ordinary High Water mark on Lake Sammamish, Washington (2001).

Expert Witness, Environment and Natural Resources Defense Section, U.S. Department of Justice, Washington, D.C. and U.S. Environmental Protection Agency Region 9 – San Francisco. Provided expert services and technical team leadership in the matter of Borden Ranch Partnership vs. U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. This landmark case focused on documentation and restoration of the impacts of large-scale deep ripping of waters/wetlands in grazed pastures during conversion of these lands to vineyards. Outcome: Won in U.S. District Court, Won 9th Circuit Court of Appeals, and Won U.S. Supreme Court (1997 – 2000).

Washington State Attorney General. Expert testimony on behalf of Washington State v. 180th Associates, *et al.* Outcome: Settled in favor of Washington State (1993).

Expert Witness, Land and Natural Resources Defense Section, U.S. Department of Justice, Washington, DC and U.S. Environmental Protection Agency Region 2 – New York. Served as the U.S. Department of Justice, U.S. Army Corps, and US Environmental Protection Agency wetlands expert and technical team leader in the matter of Russo Development Corporation vs. Reilly (Civil No. 87-3916 (HLS)(D.N.J.). This case focused on filling of tidal "meadowlands" waters/wetlands adjacent to the Hudson River near Newark, N.J. Settled in 1990.

Expert Witness, Land and Natural Resources Division, U.S. Department of Justice, Washington, DC. And U.S. Environmental Protection Agency Region 3 – Philadelphia. Served as the U.S. Department of Justice, U.S. Army Corps and U.S. EPA wetlands expert in the matter of U.S. v. F. Wayne McLeskey, Jr. (Civil Action No. 89-54-N). (Jury Trial). This case focused on unauthorized clearing and filling of tidal wetland forests along a tributary to the Chesapeake Bay in Virginia Beach, VA. Outcome: Settled in favor of the U.S. prior to jury deliberation) (1989).

Expert Witness, Land and Natural Resources Division, U.S. Department of Justice, Washington D.C. and U.S. Environmental Protection Agency Region 4 – Atlanta. Served as the U.S. Department of Justice wetlands expert in the matter of Bayou Marcus Livestock & Agricultural Co. vs. US Environmental Protection Agency and US Army Corps of Engineers [(No. 88-30275-WEA (N.D. Florida)]. This case focused on mechanized clearing and drainage of bottomland hardwood forests near Pensacola, Fl. Outcome: Won on summary judgment) (1989).

C. Waters/Wetlands Ecosystem Functional Assessment Models, Methodologies, and Guidebook Development Programs and Publications

Leanne M. Stepchinski, Mark C. Rains, **Lyndon C. Lee**, Richard A. Lis, Wade L. Nutter, Kai C. Rains, and Scott R. Stewart. 2023. Hydrologic Connectivity and Flow Generation from California Vernal Pool, Swale, and Headwater Stream Complexes to Downstream Waters. Wetlands (2023) 43:34 [https://doi.org/10.1007/s13157-023-01678-3].

Lee, L.C., W.L. Nutter, M.C. Rains and S.R. Stewart. 2015 and revised 2018. Guidebook for Assessment of the Functions of Low Order Riverine, Slope, and Depressional Waters/Wetlands Situated on Pliocene and/or Pleistocene Sandstone, Shale, and Gravel Deposits in the North Central Valley, California. Prepared for the Environment and Natural Resources Defense Section, U.S. Department of Justice and the U.S. Army Corps of Engineers, Sacramento District.

Lee, L. C., K. L. Fetherston, A. K. Knox, and P. L. Fiedler. 2008. *Draft Guidebook to Assessment of Riverine, Slope and Depressional Waters/Wetlands in the City of Mount Vernon, Washington.* Prepared for the City of Mount Vernon by WSP Environment & Energy.

WSP Environment & Energy. 2007. *Operational Field Draft Guidebook to Assessment of Riverine, Slope and Depressional Waters/Wetlands Functions at the Chevron Tank Farm, San Luis Obispo, California***.** Consultant's report developed for Padre Associates, Inc. for use by Chevron EMC at San Luis Obispo, California Tank Farm. November 2007. (**L. C. Lee**, principal author).

Entrix, Inc. 2006. *Operational Field Draft Guidebook to Assessment of Estuarine Fringe Waters/Wetlands Functions at Shell Pond, Pittsburg, California***.** Consultant's report developed for Pacific Gas & Electric Company, San Ramon, California (**L. C. Lee**, principal author).

National Wetland Science Training Cooperative. 2004. *Guidebook to Hydrogeomorphic Functional Assessment of Riverine Waters/Wetlands in the Santa Margarita Watershed.* Peer Review Draft, (1977). Operational Draft, (2004). In cooperation with U.S. EPA, Region IX, California Coastal Conservancy, California Regional Water Quality Control Board (San Diego). (**L. C. Lee**, principal author).

Lee, L. C., Fiedler, P.L., Stewart, S.R., Curry, R.R., Partridge, D.J., Mason, J.A., Inlander, E.M., Almy, R.B., Aston, D.L., Spencer, M.E. 2001. *Draft Guidebook for Reference Based Assessment of the Functions of Riverine Waters/Wetlands Ecosystems in the South Coast Region of Santa Barbara County, California*. In cooperation with Santa Barbara County Water Agency, Santa Barbara, CA and U.S. EPA Region IX.

Brinson, M. M., R. D. Smith, D. F. Whigham, **L. C. Lee**, R. D. Rheinhart, W. L. Nutter. 1998. Progress in development of the hydrogeomorphic approach for assessing the functioning of wetlands. Pages 383- 406, in A. J. McComb and J. A. Davis, editors, *Wetlands for the Future*. Gleneagles Publishing, Adelaide, Australia.

Lee, L. C., M. L. Butterwick, J. L. Cassin, R. A. Leidy, J. A. Mason, M. C. Rains, L. E. Shaw, E. G. White. 1997. *Draft Guidebook for Assessment of the Functions of Waters of the U.S., Including Wetlands, on the Borden Ranch, Sacramento and San Joaquin Counties, California.* Seattle, Washington. In cooperation with U.S. Department of Justice and U.S. EPA Region IX.

National Wetland Science Training Cooperative. 1997. *Guidebook for the Hydrogeomorphic Assessment of Temporary and Seasonal Prairie Pothole Wetlands.* Operational Draft. In cooperation with Natural Resource Conservation Service Wetlands Institute, Wash. DC. (**L. C. Lee**, principal author).

National Wetland Science Training Cooperative. 1996. *Draft Guidebook for the Application of HGM Functional Assessments in Precipitation-Driven Wetlands in Interior Alaska*. In cooperation with State of Alaska, Department of Environmental Conservation and U.S. EPA Region X. (**L. C. Lee,** principal author).

National Wetland Science Training Cooperative. 1996. *Draft Regional Guidebook to Functional Assessments in Riverine Wetlands and Slope Wetlands in Southeast Alaska.* In cooperation with the State of Alaska, Department of Environmental Conservation, U.S. EPA Region X, Natural Resources Conservation Service. (**L. C. Lee**, principal author).

National Wetland Science Training Cooperative. 1996. *Draft Guidebook to Functional Assessments in 3rd and 4thOrder Riverine Waters/Wetlands of the Central California Coast.* In cooperation with California Coastal Commission, U.S. EPA Region IX and City of Pacifica, California. (**L. C. Lee**, principal author).

National Wetland Science Training Cooperative. 1995. *Draft Guidebook for Functional Assessment of Depressional Wetlands in the Pacific Northwest/Puget Sound Lowlands Region.* (**L. C. Lee**, principal author).

Brinson, M. M., F. R. Hauer, **L. C. Lee**, W. L. Nutter, R. D. Rheinhardt, R. D. Smith and D. Whigham. 1995. *Guidebook for Application of Hydrogeomorphic Assessments to Riverine Wetlands*. Technical Report TR-WRP-DE-11, Waterways Experiment Station, Army Corps of Engineers, Vicksburg, Mississippi. (L. C. Lee, principal author).

National Wetland Science Training Cooperative. 1995. *Draft Guidebook for Functional Assessment of Depressional Wetlands in the Mid-Atlantic Coastal Plain*. Natural Resource Conservation Service, Wetlands Institute. (**L. C. Lee,** principal author).

National Wetland Science Training Cooperative. 1995. *Draft Guidebook for Functional Assessment of Riverine Wetlands in the Inner Coastal Plain of Chesapeake Bay.* Natural Resource Conservation Service, Wetlands Institute. (**L. C. Lee**, principal author).

Brinson, M. M., W. Kruczynski, **L. C. Lee**, W. L. Nutter, R. D. Smith, and D. F. Whigham. 1994. *Developing an approach for assessing the functions of wetlands*. Pages 615-624, in W. J. Mitsch, editor, *Global Wetlands: Old World and New*. Elsevier Science B.V., Amsterdam.

Olsen, E. A. and **L. C. Lee.** 1992. *The use of hydrogeomorphic and vegetation data in differentiating functions among forested wetlands*. Prepared for Riverine Functional Assessment Group and R. Daniel Smith, Wetlands Section, Waterways Experiment Station, U.S. Army Corps Of Engineers, Vicksburg, Mississippi.

IV. HONORARIES, AWARDS, FELLOWSHIPS, PROFESSIONAL ORGANIZATIONS

Honoraries:

Xi Sigma Pi, Forestry Honorary (inducted 1976).
Sigma Xi, National Research Honorary (inducted 1983).

Academic Fellowships:

R.D. Merrill Fellowship, College of Forest Resources, University of Washington, Seattle, Washington (1983).

Graduate School Tuition Scholarship, University of Washington, Seattle, Washington (1983).

Northwest Scientific Association Research Fellowship (1983).

J.H. Bloedel Forestry Research Graduate Scholarship, College of Forest Resources, University of Washington, Seattle, WA (1982).

Professional Organizations:

Society for Ecological Restoration (2006 – 2010)

Society of Wetland Scientists (1984 - Present)
a. Bulletin Editor (1985 - 1991)
b. National Scientific Program Chairman (1987 & 1988)
c. Scientific Program Committee Member (1986, 1987, 1988, 1989, 1990)
d. Awarded lifetime membership (1998)
e. Professional Wetland Scientist Certification (1995): Registration #000385

Association of State Wetland Managers (1984 - 1989) - Science Advisory Board (1985 - 1989)
Ecological Society of America (1978 - 2003)
American Association for the Advancement of Science (1978 - 2003)
Northwest Scientific Association (1979 - 1995)
Society of American Foresters (1983 - 1995)

Project Awards:

U.S. Environmental Protection Agency, Region IX. "Outstanding Environmental Achievement, Earth Day 2000". (Calera Creek Restoration) (2000).

Assemblyman Lou Papan, State Senator Jackie Speirer, Congressman Tom Lantos, Congresswoman Anna Eshoo, and State Senator Byron Sher. Commendation from: San Mateo County Board of Supervisors (Calera Creek Restoration) (2000).
California Legislature Assembly Resolution #3110 – Congratulating the City of Pacifica for success of Calera Creek Water Recycling Facility (Calera Creek Restoration) (2000).

Construction Excellence Award (Team Member with Mortenson and Active Construction), University of Washington-Bothell / Cascadia Community College Co-located Campus – North Creek Restoration (1998).

Team of the Year, Project Management Institute, Puget Sound Chapter Project, Boeing Longacres Park (1995).

V. PUBLICATIONS, PRESENTED PAPERS, WORKSHOPS AND SYMPOSIA

A. Refereed Journal Articles

Hardwick, K.A., P. Fiedler, **L.C. Lee**, B. Pavlik, R.J. Hobbs, J. Aronson, M. Bidartondo, E. Black, D. Coates, M.I. Daws, K. Dixon, S. Elliott, K. Ewing, G. Gann, D. Gibbons, J. Gratzfeld, M. Hamilton, D. Hardman, J. Harris, P.M. Holmes, M. Jones, D. Mabberley, A. Mackenzie, C. Magdalena, R. Marrs, W. Milliken, A. Mills, E. nic Lughadha, M. Ramsay, P. Smith, N. Taylor, C. Trivedi, M. Way, O. Whaley and S.D. Hopper. 2011. The Role of Botanic Gardens in the Science and Practice of Ecological Restoration. Conservation Biology 25:265-275

Gosselink, J. G., G. P. Shaffer. **L. C. Lee,** D. M. Burdick, D. L.Childers, N. C. Liebowitz, S. C. Hamilton, R. Boumans, D. Cushman, S. Fields. M. Koch, and J. M. Visser. 1990 . Can we

manage cumulative impacts? Landscape conservation in a forested wetland watershed. *Bioscience*, Vol *40, (8); 588 - 600.*

Shaffer, G. P., D. M. Burdick, J. G. Gosselink, and **L. C. Lee**. 1992 A cumulative impact management plan for the Tensas Basin, Louisiana. *Wetlands Ecology and Management, Vol. 1, (4): 199 – 210*

Day, F. P., P. Megonigal, and **L. C, Lee**. 1989. Cypress root decomposition in experimental wetland mesocosms. *Wetlands* 9(2):263-282.

Leitch J. A., T. Golz, and **L. C. Lee.** 1988. Profile of Society of Wetland Scientists Membership, 1986. *Bulletin of the Society of Wetland Scientists* 5:6-8.

Lee, L. C. and J. G. Gosselink. 1988. Cumulative impact assessment in bottomland hardwood forests: linking scientific assessments with regulatory alternatives. *Environmental Management* 12(5):591 - 602.

Cooper, D. J. and **L. C. Lee**. 1987. Rocky Mountain wetlands: ecosystems in transition. National Wetlands Technical Council and the Environmental Law Institute. *National Wetlands Newsletter* 9:2-6.

Wolf, R. B., **L. C. Lee**, and R. R. Sharitz. 1986. Wetland creation and restoration in the United States from 1970 to 1985: an annotated bibliography. *Wetlands* 6:1-88.
Lee, L. C., T. M. Hinckley, and M. L. Scott. 1985. Plant water status relationships among major floodplain sites of the Flathead River, Montana. *Wetlands* 5:15-34.

Scott, M. L., R. R. Sharitz, and **L. C. Lee**. 1985. Disturbance in a cypress-tupelo wetland: an interaction between thermal loading and hydrology. *Wetlands* 5:53-68.

Lee, L. C. and C. J. Jonkel. 1981. Grizzlies and wetlands. *Western Wildlands* 7(4):26-30.

B. Books, Book Chapters & Theses

Mitsch, W. J., P. L. Fiedler, **L. C. Lee** and S. R. Stewart. 2001. Wetlands. *McGraw Hill Encyclopedia of Science and Technology*, 9th Edition. McGraw Hill, New York, NY.

Brinson, M. M., R. D. Smith, D. F. Whigham, **L. C. Lee**, R. D. Rheinhart, and W. L. Nutter. 1998. Progress in development of the hydrogeomorphic approach for assessing the functioning of wetlands. Pages 383-406, in A. J. McComb and J. A. Davis, editors. *Wetlands for the Future.* Gleneagles Publishing, Adelaide, Australia.

Brinson, M. M., W. Kruczynski, **L. C. Lee**, W. L. Nutter, R. D. Smith, and D. F. Whigham. 1994. *Developing an approach for assessing the functions of wetlands*. Pages 615-624 in W.J. Mitsch, editor. *Global Wetlands: Old World and New.* Elsevier Science B.V., Amsterdam.

Gosselink, J. G., **L. C. Lee**, and T.A. Muir, editors. 1990. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems.* Lewis Publishers, Chelsea, Michigan. 708 pp.

Sharitz, R. R. R. L. Schneider, and **L. C. Lee.** 1990. Composition and regeneration of a disturbed floodplain wetland in South Carolina. Pages 195-218, in J. G. Gosselink, L. C. Lee, and T.A. Muir, editors. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems.* Lewis Publishers, Chelsea, Michigan.

Gosselink, J. G., M. M. Brinson, **L. C. Lee**, and G. T. Auble. 1990. Human activities and ecological processes in bottomland hardwood ecosystems: the report of the ecosystem workgroup. Pages 549-598, in J. G. Gosselink, L. C. Lee, and T.A. Muir, editors. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems.* Lewis Publishers, Chelsea, Michigan.

Gosselink, J. G., **L. C. Lee** and T. A. Muir. 1990. The regulation and management of bottomland hardwood forest wetlands: implications of the EPA-sponsored workshops. Pages 638-671, in J. G. Gosselink, L. C. Lee, and T.A. Muir, editors. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems.* Lewis Publishers, Chelsea, Michigan.

Gosselink, J. G. and **L. C. Lee.** 1989. Cumulative impact assessment in bottomland hardwood forests. *Wetlands* Volume 9, Special Issue. Society of Wetland Scientists, Wilmington, N.C. 174 pp.

Lee, L. C. 1983. The floodplain and wetland vegetation of two Pacific Northwest river ecosystems. Ph.D. Dissertation, College of Forest Resources, University of Washington, Seattle, WA. 268 pp.

Lee, L. C. 1979. A study of plant associations in upland riparian habitats in western Montana.. Master's Thesis, School of Forestry, University of Montana, Missoula, MT. 250 pp.

C. Published Reports and Proceedings

Fiedler, P. L., **L. C. Lee** and S. D. Hopper. 2007. Gnammas as rare wetlands in the Southwest Australian Floristic Region. In "Proceedings of the MEDECOS XI 2007 Conference, 2-5, September, Perth, Australia." Eds. D. Rokich, G. Wardell-Johnson, C. Yates, J. Stevens, K. Dixon, R. McLelland, and G. Moss, pp. 85-86. Kings Park and Botanic Garden, Perth, Australia.

Brinson, M. M., F. R. Hauer, **L. C. Lee,** W. L. Nutter, R. D. Rheinhardt, R. D. Smith and D. Whigham. 1995. *Guidebook for Application of Hydrogeomorphic Assessments to Riverine Wetlands*. Technical Report TR-WRP-DE-11, Waterways Experiment Station, U.S. Army Corps of Engineers, Vicksburg, Mississippi.

Lee, L .C. and F. E. Gross. 1989. Restoration, creation, and management of wetland and riparian ecosystems in the American West: a summary and synthesis of the symposium. Pages 201 - 219, K. M. Mutz, D. J. Cooper, M. L. Scott, and L. K. Miller, editors. *Proceedings of the Symposium on Restoration, Creation, and Management of Wetland and Riparian Ecosystems In The American West.* Rocky Mountain Chapter of the Society of Wetland Scientists, Denver, Colorado.

Gosselink, J. G., G. P. Shaffer, **L .C. Lee**, D. M. Burdick, D. L. Childers, N. Taylor, S. C. Hamilton, R. Boumans, D. Cushman, S. Fields, M. Koch, and J. M. Visser. 1989. *Cumulative Impact Assessment and Management in a Forested Wetland Watershed in the Mississippi River Floodplain*. Marine Sciences Department And Coastal Ecology Institute (LSU-CEI-89-02), Center For Wetland Resources, Louisiana State University, Baton Rouge, LA. 131 pp.

Lee, L. C., R. R. Johnson, and T. A. Muir. 1989. Riparian ecosystems as essential habitat for raptors in the American West. Pages 15-26, in B. G. Pendleton, C. E. Ruibal, D. L. Krahe, K. Steenhof, M. N. Kochert, and M. N. LeFranc, editors. 1989. P*roceedings of the Western Raptor Management Symposium and Workshop.* Institute For Wildlife Research, National Wildlife Federation, Scientific and Technical Series No. 12.Washington, D.C. 320 pp. National Wildlife Federation Raptor Management Symposium Series, Washington, D.C.

Lee, L. C. 1989. Mitigation for wetland loss: how much is appropriate? Pages 189-195 in N. A. Robinson, editor. 1989. *Proceedings of a Conference on the Preparation and Review of Environmental Impact Statements*, November 1987. President's Council On Environmental Quality and the Environmental Law Section of the New York State Bar Association. West Point, New York.

Brinson, M. M. and **L. C. Lee.** 1989. In-kind mitigation for wetland loss: statement of ecological issues and evaluation of examples. Pages 1069 – 1085, R. R. Sharitz and J. W. Gibbons, editors. *Freshwater Wetlands and Wildlife*. Proceedings of a symposium held at Charleston, South Carolina, March 24-27, 1986. U.S. Department Of Energy Office of Health & Environmental Research, Washington, D.C.

Magistro, J. L. and **L. C. Lee**. 1988. Association of Superfund sites with wetlands. Pages 136 – 140, in J. A. Kusler, S. Daly, and G. Brooks, editors. 1988. *Proceedings of the National Wetlands Symposiu*m, Urban Wetlands, Oakland, CA. Association of State Wetland Managers, Berne, New York.

Muir, T. A., **L. C. Lee,** and S. Sarason. 1987. The Environmental Protection Agency's initiative on bottomland hardwood ecosystems: a status report. Pages 27-31, K. M. Mutz and L. C. Lee, editors. 1987. *Wetland and Riparian Ecosystems of the American West*. Proceedings of the eighth annual meeting of the Society of Wetland Scientists. Society of Wetland Scientists - Western Chapter. Denver, Colorado.

Mutz, K. M. and **L. C. Lee**, editors. 1987. *Wetland and Riparian Ecosystems of the American West*. Proceedings of the eighth annual meeting of the Society of Wetland Scientists. Society of Wetland Scientists - Western Chapter. Denver, Colorado. 349 pp.

McCort, W. D., **L. C. Lee,** and G. R. Wein. 1987. Mitigating for large-scale wetland loss: a realistic endeavor? Pages 359-367, in J. A. Kusler, M.L. Quammen, and G. Brooks. 1987. Proceedings of the National Wetland Symposium On Mitigation Of Impacts And Losses, October 8-10, 1986, New Orleans, Louisiana. Association of State Wetland Managers, Berne, New York.

Gosselink, J. G. and **L. C. Lee**. 1987. Cumulative impact assessment principles. Pages 196-203, in J. A. Kusler, M. L. Quammen, and G. Brooks, editors. 1987. Proceedings of the National

Wetland Symposium on Mitigation Of Impacts And Losses, October 8-10, 1986, New Orleans, Louisiana. Association of State Wetland Managers, Berne, New York.

Sharitz, R. R. and **L. C. Lee**. 1985. Recovery processes in Southeastern riverine wetlands, in R. R. Johnson, C.D. Ziebell, D.R. Patton, P.F. Folliott, and R.H. Hamre, editors. 1985. *Riparian Ecosystems and Their Management: Reconciling Conflicting Uses.* Proceedings of the First North American RiparianConference. USDA Gen. Tech. Rpt. RM-120:499-501.

Sharitz, R. R. and **L. C. Lee**. 1985. Limits on regeneration processes in Southeastern riverine wetlands. Pages 139 - 143 in, Johnson, R. R., C. D. Ziebell, D. R. Patton, P. F. Folliott, and R. H. Hamre, editors. *Riparian Ecosystems and Their Management: Reconciling Conflicting Uses*. Proceedings of the First North American Riparian Conference. USDA Forest Service Gen. Tech. Rpt. RM-120: 139-143.

Chapman, R., **L. C. Lee**, R. O. Teskey, and T. M. Hinckley. 1982. Impact of water level changes on woody riparian and wetland communities, Vol. X - index and addendum to Volumes I - VIII. U.S. Fish and Wildlife Service Office of Biological Services FWS/OBS-82/23. USDI, Washington, D.C. 111 pp.

Lee, L. C. and T. M. Hinckley. 1982. Impact of water level changes on woody riparian and wetland communities, Vol. IX - Alaska. U.S. Fish and Wildlife Service Office of Biological Services FWS/OBS -82/23. U.S.D.I., Washington, D.C. 213 pp.

Lee, L. C. and R. D. Pfister. 1978. *A Training Manual for Montana Forest Habitat Types.* Montana Forest and Conservation Experiment Station, University of Montana, Missoula, MT. 142 pp.

D. Selected Oral Presentations Of Technical Papers, Invited Seminars, and Posters

Lee, L.C., J. Hanson, and D.B. Largen. 2008. Management of Waters/Wetlands Buffers In Urbanizing Landscapes: Do Big Passive Buffers Always Make Sense? 8th International Wetlands Conference (INTECOL), July 20-25, 2008, Cuyaba, Brazil.

Fiedler, P. L., **L. C. Lee** and S. D. Hopper. 2007. Gnammas as rare wetlands in the Southwest Australian Floristic Region. MEDECOS XI 2007 Conference, 2-5, September, Perth, Australia.

L. C. Lee, P. L. Fiedler, J. Gage, M. Keever, A. E. Launer, and S. Anderson. 2003. Restoration of breeding habitat for the California tiger salamander (*Ambystoma californiense*) on Stanford University lands - I. Design & implementation. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003, Oakland, California.

S. Anderson, A. E. Launer, P. Oliveira, **L. C. Lee,** P. L. Fiedler, J. Gage, and M. Keever. 2003. Restoration of breeding habitat for the California tiger salamander (*Ambystoma californiense*) on Stanford University lands - II. Performance criteria and assessment. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003, Oakland, California

Lee, L. C. and D. M. Spada. 2002. Working Buffer: Enhancement and Restoration as Compensatory Mitigation in a Chronically Degraded Wetland. Annual meeting of the Society of Wetland Scientists. June 2-7, 2002., Lake Placid, New York.

Fiedler, P. L., **L. C. Lee**, and S. Holmes. 1999. Continuity in urban stream restoration. Meeting of the Association of State Wetland Managers, October 25-27, 1999, Annapolis, Maryland. Cassin, J., Fiedler, P. L., and **L. C. Lee**. 1999. The importance of weeds control in wetland restoration. Meeting of the Association of State Wetland Managers, October 25-27, 1999, Annapolis, Maryland.

Fiedler, P. L., L. C. Ellis, **L. C. Lee,** and M. C. Rains. 1997. Development of a monitoring plan for restored riverine waters/wetlands along the central California coast using HGM wetland functional assessment: The Calera Creek Project. Meeting of the Association of State Wetland Managers, March 10-13, 1997, Annapolis, Maryland.

Ellis, L. R., **L. C. Lee,** P. L. Fiedler, and M. C. Rains. 1995. Use of the hydrogeomorphic approach to assess wetland functions and design restoration of riparian wetlands along the central California coast. 1995 Annual Meeting, Society for Ecological Restoration, September 14-18. Seattle, Washington.

Lee, L. C. 1989. Approaches for Impact Assessment In Jurisdictional Wetlands: The American Experience. Invited paper at the European Community Workshop on Wetland Functions and Values. April 27-30, 1989, University of Exeter, United Kingdom.

Lee, L. C. and J. G. Gosselink. 1988. Cumulative impact assessment in bottomland hardwood forests of the Southeastern U.S. Third International Wetlands Symposium, September 18 -23, 1988, Rennes, France (Published Abstract).

Gosselink, J. G. and **L. C. Lee**. 1988. Cumulative impact assessment in bottomlands of the Tensas River basin, Louisiana. Third International Wetlands Symposium, September 18 - 23, Rennes, France. (Published Abstract).

Megonigal, J. P., W. H. Patrick, S. P. Faulkner, W. B. Parker, R. R. Sharitz, and **L. C. Lee.** 1988. Relationships among vegetation, soils and hydrology as they relate to wetland delineation. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, DC (Published Abstract).

Smith, R. D. and **L. C. Lee.** 1988. Effects of assessment area boundary selection on functional ratings of the Wetland Evaluation Technique: how to drive WET wild. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, DC (Published Abstract).

Burdick, D. M., G. P. Shaffer, J. G. Gosselink, and L. C. Lee. 1988. Planning for cumulative impact management using landscape pattern and principles of conservation biology. International Association of Landscape Ecologists, March 16-19, 1988, Albuquerque, NM. (Published Abstract).

Magistro, J. L. and **L. C. Lee**. 1988. Association of wetlands with Superfund sites: a pilot study. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, D.C. (Published Abstract).

Gosselink, J. G., **L. C. Lee**, R. Boumans, D. Burdick, D. Cjilders, D. Cushman, S. Fields, S. Hamilton, M. Koch, G. Shaffer, N. Taylor, and J. Visser. 1988. Cumulative impact assessment and management in bottomlands of the Tensas basin, Louisiana. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, DC. (Published Abstract).

Muir, T. A., **L. C. Lee,** and S. Sarason. 1987. The EPA initiative on bottomland hardwood ecosystems: a status report. 9th Annual Meeting of the Society of Wetland Scientists, May 26-29, 1987, Seattle, WA. (Published Abstract).

Megonigal, J. P., W. H. Patrick, S. P. Faulkner, R. R. Sharitz, and **L. C. Lee**. 1987. Wetland boundary delineation in the southeast using vegetation, soils, hydrology, soil aeration/reduction-oxidation status. 9th Annual Meeting of the Society of Wetland Scientists, May 26-29, 1987, Seattle, WA. (Published Abstract).

Lee, L. C. 1987. Scoping wetland mitigation projects: where to begin, when to stop, and what to expect. National Wildlife Federation Symposium on "Preserving Our Wetland Heritage", October 4-7, 1987, Washington, D.C.

Lee, L. C. 1987. Riparian ecosystems as essential habitat for raptors in the American West. Paper presented to the National Wildlife Federation and the Idaho Chapter of the Wildlife Society, Western Raptor Management Symposium, October 26-28, 1987, Boise, ID.

Lee, L. C. 1987. Mitigation for wetland loss: how much is appropriate? President's Council On Environmental Quality, National Symposium On The Preparation And Review Of Environmental Impact Statements, November 3-4, 1987, West Point, NY.

Lee, L. C. 1986-1987. Cumulative impacts in bottomland hardwood forests: linking scientific assessments with regulatory approaches. A series of six seminars given by invitation at Indiana University, Western Illinois University, Smithsonian Environmental Research Laboratory, University of Vermont, George Mason University, US EPA Region IV (Atlanta) 2nd Annual Wetlands Meeting.

Brinson, M. M. and **L. C. Lee.** 1986. In-kind mitigation for wetland loss. Savannah River Ecology Laboratory's Ninth Symposium: Freshwater Wetlands and Wildlife, March 24-27, 1986, Charleston, SC. (Published Abstract).

Lee, L. C. and T. A. Muir. 1986. Wetland forestry in the American West: approaches for silviculture in intricate ecosystem mosaics. International Symposium for Wetland Ecology and Management, U.S. Forest Service, Charleston, SC.

Lee, L. C. and M. M. Brinson. 1986. Scientific perspectives on mitigation for wetland loss. Plenary address presented to the Association of State Wetland Managers National Symposium On Wetlands Mitigation, October 8-10, 1986, New Orleans, LA.

Gosselink, J. G. and **L. C. Lee.** 1986. Cumulative impact assessment principles. Association of State Wetland Managers National Symposium On Wetlands Mitigation, October 8-10, 1986, New Orleans, LA.

McCort, W. D., **L. C. Lee**, and G. R. Wein. 1986. Mitigating for large-scale wetland loss: a realistic endeavor? Association of State Wetland Managers National Symposium On Wetlands Mitigation, October 8-10, 1986, New Orleans, LA.

Lee, L. C. 1986. Measurement of moisture gradients in floodplain wetland ecosystems of the Pacific Northwest. Moisture Gradient Workshop, Wetland Ecology Group, National Ecology Research Center, U.S. Fish and Wildlife Service, Ft. Collins, CO.

Lee, L. C. 1986. The floodplain and wetland vegetation of two Pacific Northwest river ecosystems. Invited seminar to the Center For Wetlands, University of Florida, Gainesville, FL.

Lee, L. C. 1985. Environmental effects of the L-Reactor restart at the Savannah River Plant, South Carolina. Invited paper, January 30, 1985 meeting of the South Carolina Chapter of the Wildlife Society, Columbia, South Carolina.

Sharitz, R. R. and **L. C. Lee.** 1985. Limits on regeneration processes in Southeastern riverine wetlands. First North American Riparian Conference: "Riparian Ecosystems And Their Management", April 16-18, 1985, Tucson, Arizona (Published Abstract).

Sharitz, R. R. and **L. C. Lee.** 1985. Recovery processes in Southeastern riverine wetlands. First North American Riparian Conference: "Riparian Ecosystems And Their Management", April 16-18, 1985, Tucson, Arizona (Published Abstract).

Lee, L. C., M. L. Scott, and T. M. Hinckley. 1985. Plant water status relationships among major floodplain sites of the Flathead River, Montana. 6th Annual Meeting of the Society of Wetland Scientists, July 29 - August 2, 1985, Durham, New Hampshire (Published Abstract).

Scott, M. L. and **L. C. Lee.** 1985. Biomass and production dynamics along a disturbance gradient in a cypress-tupelo forested wetland. 6th Annual Meeting of the Society of Wetland Scientists, July 29 - August 2, 1985, Durham, NH. (Published Abstract).

Sharitz, R. R., Schneider, R L., and **L. C. Lee**. 1984. Composition and regeneration of a disturbed floodplain wetland in South Carolina. US Environmental Protection Agency Bottomland Hardwood Ecosystem Characterization Workshop, December 3-7, 1984, St. Francisville, Louisiana.

Lee, L. C. 1984. Floodplain and wetland vegetation in western Montana. Invited Seminar to the Montana Forest and Conservation Experiment Station, University of Montana, Missoula, Montana.

Lee, L. C. 1984. Floodplain and wetland plant communities of the North Fork Flathead River, Montana. Northwest Scientific Association 57th Annual Meeting, March 21-24, 1984, Missoula, Montana (Published Abstract).

Lee, L. C. 1984. The floodplain and wetland vegetation of two Pacific Northwest river ecosystems. Society of Wetland Scientists 5th Annual Meeting, San Francisco, California (Published Abstract).

Lee, L. C. 1984. Water balance and leaf area relationships in floodplain plant communities in two Pacific Northwest river ecosystems. Annual Meeting of the Ecological Society of America, Ft. Collins, Colorado (Published Abstract).

Lee, L. C., C. C. Grier, and T. M. Hinckley. 1983. Water balance and leaf area relationships in floodplain plant communities of two Pacific Northwest river ecosystems. Paper presented at the Northwest Scientific Association 56th Annual Meeting, March 24-26, Olympia, WA. (Published Abstract/Best Student Paper award).

Lee, L. C. 1983. Definition, classification, and description of riparian wetlands in the Pacific Northwest. Invited seminar to the School of Landscape Architecture, University of Washington, Seattle, Washington.

Lee, L. C. 1981 - 1984. Nine formal oral and written declarations and testimonies before hearings of the King and Snohomish County Building and Development Divisions regarding assessment of impacts of proposed or existing developments in wetland or riparian habitats.

Lee, L. C. 1981. Gradient modeling of riparian and wetland vegetation. Invited paper presented to the Annual Meeting of the Association of American Geographers, Los Angeles, California (Published Abstract).

Jonkel, C. J., **L. C. Lee**, P. Zaeger, C. W. Servheen, and R. Mace. 1981. Grizzly bear - livestock competition in riparian ecosystems. Paper presented at the Coeur d'Alene Regional Wildlife Symposium, Coeur d'Alene, Idaho (Published Abstract).

Lee, L. C. 1980. The role of low elevation wetlands in the ecology of free ranging grizzly bears in Montana. Invited seminar presented to the Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Corvallis, Oregon.
Lee, L. C. 1980. Plant associations in montane riparian habitats in western Montana. Invited seminar presented to the Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Corvallis, Oregon.

VI. SELELCTED WORKSHOPS AND SYMPOSIA ATTENDED BY INVITATION

Law Seminars International - Clean Water & Stormwater Continuing Legal Education. May 5, 2014, Seattle, Washington. Waters/Wetlands Jurisdictional Issues – Key Elements In Recent Scientific Studies.

Law Seminars International, Continuing Legal Education Seminar, Wetlands In Washington, October 2, 2013, Seattle, Washington. “Practical Tips For Assessing The Financial Impacts Of Waters/Wetlands Issues - Managing Smooth Sailing Through Permitting Processes”

Law Seminars International - Continuing Legal Education - “Wetlands In Washington”, Seattle, Washington, October 10, 2012.

Lorman Education Services - Continuing Legal Education - “SEPA” (Wetlands Section Speaker) Seattle, Washington. 2007.

Lorman Education Services - Continuing Legal Education - “SEPA” (Wetlands Section Speaker) Tacoma, Washington. 2007.

Law Seminars International. – Continuing Legal Education - “Successful Permitting Strategies.” Seattle, Washington. 1999.

Institute for Wetland Science and Public Policy: The Association of State Wetland Managers, Inc. “*Wetlands ‘99*” (Plenary Speaker – “Design, Implementation and Monitoring For Successful Ecosystem Restorations”) Annapolis, Maryland. 1999.

Wetlands Biological Assessment and Criteria Development Workshop. Association of State Wetland Managers. Boulder, Colorado. “The Hydrogeomorphic Approach To Assessment of Waters/Wetlands Ecosystem Functioning. 1996.

Alaska Association of Environmental Professionals Eighth Annual Meeting. “The Hydrogeomorphic Approach To Assessment of Waters/Wetlands Ecosystem Functioning In Discontinuous Permafrost Landscapes.” Anchorage, Alaska. 1996.

Living Waters Symposium, Bass Anglers Sportsman's Society, Montgomery, Alabama. Offered perspectives on eco system impacts of flow regulation/reservoir management in the southeastern U.S. 1990.

Wet Environments: RCRA Subtitle D Monitoring Guidance. Office of Research and Development, U.S. Environmental Protection Agency Systems Laboratory. Tallahassee, Florida.April 17-19, 1989.

Restoration, Creation, and Management Of Wetland And Riparian Ecosystems in the American West. Lakewood, Colorado. (Plenary Speaker – “Restoration, creation, and management of wetland and riparian ecosystems in the American West: A summary and synthesis of the symposium”). November 14 - 15, 1988.

Cumulative Impacts Workshop. Wetlands Ecology Program, U.S. Environmental Protection Agency Environmental Research Laboratory, Corvallis, Oregon. Summarized Gosselink and Lee work on cumulative impact assessment in bottomland hardwood forests of the southeastern U.S. 1987.

Restoration of Bottomland Hardwood Wetlands. Division of Wetlands Ecology, Savannah River Ecology Laboratory, Aiken, South Carolina. Follow-up symposium on lessons learned in the design, construction and monitoring of the L-Reactor Lake wetlands. 1987.

National Wetlands Technical Council Great Basin Desert and Montane Wetlands Workshop, Logan, Utah. ("Food Chain Support/Habitat" Workgroup Chairman). February 27-28, 1986.

Moisture Gradient Workshop. Wetland Ecology Group, National Ecology Research Center, U.S. Fish and Wildlife Service, Ft. Collins, Colorado. Summarized site water balance work in the North fork of the Flathead Valley (LCL Ph.D. Dissertation). 1986.

National Wetlands Technical Council Pacific Region Workgroup, San Francisco, California. ("Food Chain Support" workgroup Chairman). April 14-16, 1985.

US Environmental Protection Agency "Bottomland Hardwood Ecosystem Characterization Workshops". St. Francisville, Louisiana (December 3-7, 1984); Lake Lanier, Gerogia (July 15-19, 1985); and, Savannah, Georgia (January 13-17, 1986). Cumulative Impacts Workgroup Chairman. 1984, 1985, and 1986.

VII. ORGANIZATION OF PROFESSIONAL MEETINGS, TRAINING PROGRAMS AND SYMPOSIA

A. Meetings and Symposia

Session Chairman, "*Global Habitat Assessment*." MEDECOS XI: The International Mediterranean Ecosystems Conference, Perth, Australia. September 2 - 5, 2007.

Panel Organizer & Moderator, "*No Net Loss: Approaches for Implementing Policies To Sustain Wetland Area And/Or Function*." Society of Wetland Scientists Tenth Annual Meeting, Orlando, Florida. May 30 - June 3, 1989.

Meeting Co-Coordinator, *Pocosins and Associated Wetlands Of The Carolina Coastal Plain*. Workshop Organized for US Environmental Protection Agency Region IV, Atlanta, Georgia and Duke University Center for Wetlands. 1989.

Scientific Program Chairman, "*The Chesapeake and Its Landscape: Perspectives On The Science, Management, and Protection Of Freshwater and Estuarine Wetlands*" - the Society of Wetland Scientists 9th Annual Meeting. Washington, DC. Responsible for development and organization of all aspects of the SWS scientific for the 9th Annual Meeting. May 31 - June 3, 1988.

Session Chairman, "*Assessment and Management of Contaminants In Wetland Ecosystems*". Technical Session held at the 9th Annual Meeting of the Society of Wetland Scientists, Washington, DC. May 31 - June 3, 1988.

Session Chairman, "*Management of Contaminants in Saturated Media.*" Technical Session held at the Annual Meeting of the Association of State Wetland Managers, Oakland, California. June 26 - 29, 1988.

Scientific Program Chairman, "*Wetland and Riparian Ecosystems of the American West*." The Society of Wetland Scientists 8th Annual Meeting, Seattle, Washington. Responsible for development and organization of all aspects of the SWS scientific program for the 8th Annual Meeting. May 26 - 29, 1986.

Scientific Program Committee Manager, National Symposium, *Freshwater Wetlands and Wildlife: Perspectives On Natural, Managed, and Degraded Ecosystems*. University of Georgia Savannah River Ecology Laboratory, Ninth Symposium, Charleston, South Carolina. Responsible with Dr. R. R. Sharitz for (a) organization of all wetland technical sessions, (b) selection and coordination of plenary speakers, and (c) leadership of Freshwater Wetlands field trip. March 24 - 27, 1986.

Session Chairman "*Approaches For Mitigation Of Forestry Impacts To Wetlands*", Technical Session held at the National Symposium On Wetlands Mitigation, Association of State Wetland Managers, New Orleans, Louisiana. October 8 - 10, 1986.

B. Training Programs

Courses taught through Elkhorn Slough National Estuarine Research Reserve Coastal Training Program – Director and Lead Instructor. *2008 - Present*.

April 2008: *Jurisdictional Delineation of Waters of the U.S., Including Wetlands On the California Coast: Legal and Ecological Protocols for Diverse and Changing Landscapes.* Elkhorn Slough, California.

November 2008: *Jurisdictional Delineation of Waters of the U.S., Including Wetlands On the California Coast: Legal and Ecological Protocols for Diverse and Changing Landscapes.* Elkhorn Slough, California.

Courses taught through National Wetland Science Training Cooperative (under L.C. Lee & Associates, Inc.) – Director and Lead Instructor. *1989 - 2005*.

April 1989: *Jurisdictional Delineation of Wetlands in the Southeastern US.* Mobile, Alabama.

May 1989: *Jurisdictional Delineation of Wetlands in the Mid-Atlantic States*. New Brunswick, New Jersey.

July 1989: *Best Management Approaches for Silviculture in Non-Tidal Wetlands of Maryland*. Salisbury, Maryland. Taught in cooperation with the Maryland Department of Natural Resources, Maryland Forest, Park & Wildlife Service, and Society of American Foresters.

August - November 1989: *Jurisdictional Delineation of Wetlands in the Chesapeake Bay Region* (Seven 1-week courses offered in cooperation with US EPA Region III, the US Army Corps of Engineers, US Fish And Wildlife Service, and US Soil Conservation Service - Federal Ad Hoc Wetlands Group - Chesapeake Bay Program) - Harrisburg, PA; State College PA; Pittsburgh, PA; Annapolis, MD; Easton, MD; Laurel, MD; Richmond, VA.

May 1990. *Jurisdictional Delineation of Wetlands in The Mid-Atlantic States*. Annapolis, Maryland.

May 1990. *Jurisdictional Delineation of Wetlands in Pennsylvania*. State College, Pennsylvania.

June 1990. *Jurisdictional Delineation of Wetlands in the Pacific Northwest*. Seattle, Washington.

August 1990. *Jurisdictional Delineation of Wetlands in the Southeastern United States*. Charlotte, NC.

August 1990. *Jurisdictional Delineation of Wetlands in the American West*. Reno, Nevada.

May 1991. *Jurisdictional Delineation of Wetlands in the Pacific Northwest*. Seattle, Washington.

November 1991. *Jurisdictional Delineation of Wetlands in the Pacific Northwest*. Course taught for King County Building and Land Development), Seattle, Washington.

October 1991. *Restoration and Construction of Wetlands for Storm Water Management in the Pacific Northwest*. Seattle, Washington.

February 1992. Beyond WET: *Functional Assessment of Wetlands in the Southeastern US.* Course taught in cooperation with US EPA, Region IV. Atlanta, Georgia.

April 1992. *An Overview of Jurisdictional Delineation of Waters of the U.S., Including Wetlands on National Forests*. Course taught for the US Forest Service National Hydrology Workshop, Phoenix, Arizona.

June 1992. *Jurisdictional Delineation of Wetlands in the State of Minnesota.* Course taught in cooperation with the State of Minnesota and U.S, EPA Region V. Minneapolis, MN.

July 1992. *Jurisdictional Delineation of Wetlands in the State of Minnesota*. Course taught in cooperation with the State of Minnesota and U.S, EPA Region V. Bemidji, MN.

July 1992. *Jurisdictional Delineation of Wetlands in the State of Minnesota*. Course taught in cooperation with the State of Minnesota and U.S, EPA Region V), Alexandria, MN.

February 1993. *Jurisdictional Delineation of Wetlands in American Samoa*. Course taught in cooperation with the Government of Samoa and EPA Region IX. Pago Pago, American Samoa.

March 1993. *Jurisdictional Delineation of Wetlands in the American West*. Course taught in cooperation with American Fisheries Society. San Francisco, CA.

August 1993. *Advanced Jurisdictional Delineation of Wetlands in Michigan*. Course taught in cooperation with Michigan Department of Natural Resources and Michigan State University and US EPA, Region V. Kellogg Biological Station, Michigan.

August 1994. *Jurisdictional Delineation of Wetlands in Guam*. Course taught in cooperation with EPA Region IX. Guam and Republic of Palau.

October 1994. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Mid-Atlantic States, Annapolis, Maryland.* Course taught in cooperation with US EPA, Region III and the Smithsonian Environmental Research Laboratory.

November 1994. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Santa Margarita Watershed, San Diego, California*. Course taught in cooperation with US EPA, Region IX.

July 1995. *Jurisdictional Delineation of Wetlands in the Caribbean, San Juan, Puerto Rico*. Course taught in cooperation with US EPA Region II and Puerto Rico Department of Natural Resources. San Juan, Puerto Rico

August 1995. The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Pacific Northwest. Course taught in cooperation with Natural Resource Conservation Service Wetlands Institute. Seattle, Washington.

September 1995. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Mid-Atlantic States*. Course taught in cooperation with the Natural Resource Conservation Service Wetlands Institute. Annapolis, Maryland.

April 1996. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands of the Central California Coast*. Course taught in cooperation with Natural Resource Conservation Service Wetlands Institute. San Francisco, California.

May 1996. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in Alaska*, Course taught in cooperation with the State of Alaska Department of Environmental Conservation and US EPA, Region X. Fairbanks, Alaska.

March 1997. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Kenai River Watershed*. Course taught in cooperation with the State of Alaska Department of Environmental Conservation and US EPA, Region X. Soldotna, Alaska.

May 1997. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Prairie Pothole Region*. Course taught in cooperation with the Natural Resource Conservation Service, Wetlands Institute, Washington, DC. Jamestown, North Dakota.

May 1999. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in Interior Alaska*. Course taught in cooperation with the State of Alaska Department of Environmental Conservation and US EPA, Region X.

December 2001. *The Hydrogeomorphic Approach to Functional Assessment of Riverine Waters/Wetlands in the South Coast Region of Santa Barbara County, California*. Course taught in cooperation with Santa Barbara County Flood Control & Water Conservation District, Santa Barbara County Water Agency and US EPA, Region IX. Santa Barbara, California.

November 7 – 9, 2005: *Growing Wetlands – Advances in Wetland Conservation and Restoration Workshop*. Invited by the Botanic Garden & Parks Authority, Kings Park & Botanic Garden to develop and teach a workshop on wetland ecosystem restoration. **L. C. Lee** & P. L. Fiedler, instructors. Western Australia Ecology Center, Perth, Western Australia

Program director and lead instructor for the U.S. Environmental Protection Agency Headquarters Office of Wetlands Protection, "National Wetlands Training Program". National 1-week field-based

training courses offered by the Office of Wetlands Protection, U.S. Environmental Protection Agency, Washington, D.C. *1987 – 1989.*

June 1987. *Jurisdictional Delineation of Wetlands and Riparian Ecosystems in the American West*. Reno, Nevada.

July 1987. *Functional Assessment of Bottomland Hardwood Ecosystems in the Southeastern United States: Introduction to the "Bottomland Hardwood Wetland Evaluation Technique" and "Cumulative Impact Assessment in Bottomland Hardwood Forests."* Charleston, South Carolina.

October 1987. *Jurisdictional Delineation of Wetlands in the Southeastern United States.* University of Georgia Marine Institute, Sapelo Island, Georgia.

November 1987. *Functional Assessment of Wetland and Riparian Ecosystems in the American West.* Ft. Collins, Colorado.

March 1988. *Jurisdictional Delineation of Wetland and Riparian Ecosystems in the Southwestern United States*. Tucson, Arizona.

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June 1988. *Jurisdictional Delineation of Wetlands in the Mid-Atlantic States. New Brunswick, New Jersey.* (Private Sector Only)

August 1988. *Jurisdictional Delineation of Wetlands in the State Of Virginia*. Virginia Institute of Marine Science, Gloucester Point, Virginia.

August 1988. *Functional Assessment of Wetlands in the Southeastern US: The National And Bottomland Hardwood Wetland Evaluation Techniques.* Galveston, Texas.

September 1988. *Jurisdictional Delineation of Wetlands in the North-Central US*. Kellogg Biological Station, Hickory Corners, Michigan.

October 1988. *Best Management Approaches for Silviculture in Southeastern Forested Wetlands*. Savannah, Georgia.

October 1988. *Cumulative Impact Assessment in Southeastern Wetland Ecosystems: The Pearl River.* Slidell, Louisiana.

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT E

John M. Rybczyk, Ph.D. Coastal Sciences Estuarine Ecologist & Professor Western Washington University Expert Opinion Public Comment re: Mud Bay Estuarine Wetlands

EXHIBIT E

John Rybczyk, Ph.D. Expert Opinion
Mud Bay Estuarine Wetlands

December 14, 2023 Email from John Rybczyk, Ph.D.

Dear Mr. Horowitz,

I am an estuarine ecologist and professor at Western Washington University. I have a Ph.D. in Oceanography and Coastal Sciences from Louisiana State University. My work involves modeling the non-linear feedbacks that allow coastal wetlands to maintain a dynamic equilibrium with sea-level. I use those models to predict the resiliency of estuarine systems to rising water levels and to guide the course of restoration and mitigation efforts.

I am very familiar with Mud Bay, I have been taking my Wetlands Ecology students there for the past 23 years. According to the U.S. Fisheries and Wildlife Service's National Wetland Inventory, the entirety of Mud Bay is designated as the following kinds of estuarine wetlands.

1) The vast majority of the bay, including all the shoreline immediately below the proposed subdivision is classified as Estuarine, Intertidal, Unconsolidated Shore, Regularly Flooded.

2) A small area centering around the delta of Chuckanut Creek is classified as Estuarine, Intertidal, Emergent, Persistent, Regularly Flooded. (note: emergent and persistent refer to the type of vegetation found there).

3) A small area adjacent to the railroad tracks and the bridge, is classified as Estuarine, Subtidal, Unconsolidated Bottom, Subtidal.

In my expert opinion, I concur with the National Wetland Inventory designations. I have also observed the native eelgrass, *Zostera marina*, growing in Mud Bay. This would perhaps change the designation of region one above, from Estuarine, Intertidal, *Unconsolidated Shore*, Regularly Flooded, to Estuarine, Intertidal, *Aquatic Bed*, Regularly Flooded. However, the USFW wetlands inventory requires 30% aerial coverage of aquatic vegetation to change the designation from Unconsolidated Shore to Aquatic Bed. I don't have any data regarding the exact % coverage. Nonetheless, both designations are wetland designations.

This opinion is not to be construed as my own support for, or against, the activities of the Protect Mud Bay Cliffs organization, Jones Subdivision, or the Woods at Viewcrest.

Sincerely,

John M. Rybczyk
Professor
Academic Director, Marine and Coastal Science
Department of Environmental Science
Western Washington University
Bellingham, WA 98225

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT F

Brent J. Woodland
BS Mechanical Engineering / Project Management Specialty
Project Management Assessment of *The Woods at Viewcrest* Application
On Behalf of *Protect Mud Bay Cliffs*

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 20, 2024

Blake Lyon, Planning & Community Development Department Director
Kurt Nabbefeld, Development Services Manager & SEPA Responsible Official
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner

City of Bellingham
210 Lottie Street
Bellingham, WA 98225
Sent Via Email

Copy Via Email:
Mayor Kim Lund
Renee LaCroix, Public Works Natural Resources
Bellingham City Council

Re: ***The Woods at Viewcrest***

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin:

Protect Mud Bay Cliffs (PMBC) is a community group sponsored by *Responsible Development*. PMBC was formed in 2021 out of the public's concern regarding the significant adverse environmental impacts *The Woods at Viewcrest* subdivision proposal is likely to impose. PMBC appreciates the opportunity to provide public comment.

Upon review of the March 25, 2024 *Woods and Viewcrest* application materials, the City should determine that due to errors, omissions, and lack of sufficient detail, the proposal is likely to impose significant adverse environmental impacts that cannot be adequately mitigated. The Geotechnical study provided in the application is limited to a "feasibility-level" analysis of site conditions. Furthermore, the Stormwater Management Report is "preliminary" in both title and content, especially regarding the significance of stormwater flow into Mud Bay buffer zone and estuary.

Attached to this letter is a Project Management Assessment of the *October 2022 Geotechnical Investigation & Geohazard Report* in combination with the *December 2023 Preliminary Stormwater Management Report* as they relate to construction industry risk management best practices and State/City Critical Area Ordinances. The Assessment is based on my professional experience of more than 40 years in domestic and international project engineering and

management. My professional credentials include a BS in Mechanical Engineering and specialized training in Project Management.

Following are key points of the Assessment:

1. The Geotechnical and Stormwater Reports do not fully address necessary Critical Area significant adverse impacts.
2. BMC 16.55.180 requires the use of best available science, including quantitative analysis, in Critical Area reports.
3. WAC 197-11 SEPA Rules require applicants to provide adequate information on Critical Area significant adverse impacts.
4. Applicants should follow Project Management best practice to identify, quantify, and mitigate Risks early in the project lifecycle.
5. The Woods at Viewcrest application does not qualify for a Mitigated Determination of Nonsignificance (MDNS). Consequently, the City should issue SEPA threshold **Determination of Significance** (DS) and prepare an **Environmental Impact Statement** (EIS).

I appreciate that the City's land development and planning processes may not normally require rigorous design details as part of the permit application process. However, due to the significant geotechnical and stormwater hazards -- within the proposed plat and the adjacent Mud Bay estuary and shoreline buffer -- it is important that both the Applicant and City Planning Department understand the limits, errors, and missing details in the submitted documents.

Thank you for the opportunity to provide public comment on The Woods at Viewcrest application. Please do not hesitate to contact me if you have any questions or would like additional information.

Sincerely,
Brent J. Woodland

On behalf of Protect Mud Bay Cliffs
A *Responsible Development* Program

Brent.Woodland@gmail.com / Info@MudBayCliffs.org
(360) 595-3804

Related Links:
10/06/2022 Geotechnical Investigation and Geohazard Report
https://cob.org/wp-content/uploads/exhibit-e-geotechnical-investigation-geohazard-report.pdf

12/14/23 Preliminary Stormwater Management Report
https://cob.org/wp-content/uploads/exhibit-f-stormwater-management-2023-12-04.pdf

Project Management Assessment – The Woods at Viewcrest Application

Protect Mud Bay Cliffs (PMBC) – April 20, 2024

Executive Summary

The *October 2022 Geotechnical Investigation & Geohazard R*eport is a "***feasibility-level***" evaluation of the proposed residential subdivision. The use of *Feasibility* as a construction industry project term implies that further study or examination is expected prior to project commitment/implementation. This is made clear in the Cover Letter as well as within numerous sections of the report.

The *December 2023 Preliminary Stormwater Management Report* is ***"preliminary"*** in both title and content. The report lacks sufficient detail to assess and address potential significant stormwater impact on developed areas, shoreline buffer, or Mud Bay.

Washington State and Bellingham City regulations require applicants to provide quantifiable, scientific information on significant adverse impacts to Critical Areas.

Due to the missing assessments and mitigation details regarding significant geohazard and stormwater adverse impact risks, both within the proposed Woods at Viewcrest plat and the adjacent shoreline buffer zone and Mud Bay estuarine wetland, the City should issue a SEPA Determination of Significance and commence an Environmental Impact Statement.

Proceeding without an independent Environmental Impact Statement will potentially expose the Applicant, future residents, and the local ecosystems/habitats to poorly mitigated economic, safety, and ecological hazards.

A. Assessment Focus

This Project Management Assessment addresses two primary reports submitted with the Woods at Viewcrest application effective March 25, 2024:

1. *Geotechnical Investigation & Geohazard Report – Element Solutions, November 2021 and October 2022; Woods at Viewcrest Exhibit E*
2. *Preliminary Stormwater Management Report – Pacific Surveying and Engineering Services, December 2023; Woods at Viewcrest Exhibit F*

These documents contain many pages of discussion material with numerous charts and maps. In general, a high level of technical content is conveyed. However, the focus of this Project Management assessment concerns how the available technical content relates to both construction industry risk management best practices and State/City Critical Area Ordinances.

B. Background Discussion – Project Phases and Risk Management

Project Phases. Numerous Project Management Institute[1] and Construction Industry Institute[2] studies cite poor/incomplete planning as the top reason for project failures. Best practice standards in Project Planning and Execution have therefore been developed and implemented across numerous industries to facilitate more successful outcomes.

In multi-phase project planning and execution, *feasibility* is considered the very first early/preliminary step (or phase) in a project life cycle. To illustrate, the Construction Industry Institute[2] lists the following sequence in key project development from Feasibility at Phase 0 to Construction at Phase 5:

Figure 1. Project Development Phases

"Phase 0" is intentionally applied to ***Feasibility*** due the broad, pre-project nature of the work. Many ideas do not pass beyond this phase. Subsequent project phases, while some overlap is expected, depend on successful completion each of the prior phase(s).

Regulatory permitting and project funding should depend on thorough completion of the appropriate phases – typically at conclusion of the ***Detailed Scope*** phase. As such, many project ideas do not move forward due to financial or regulatory constraints.

Risk Management. Effective Risk Management is another key factor in project success or failure. Guidance on this process is also detailed in Project Management Institute and Construction Industry Institute case studies and procedures. These best practices in project risk management include detailed quantitative evaluation of the Impacts and Probabilities of incidents and/or hazards throughout a project lifecycle. Figure 1 illustrates the principle with a simplified 5 by 5 Risk Matrix of Probability vs Impact, including a quantified scoring system used to prioritize project risks.

Impact
How severe would the outcomes be if the risk occurred?

What is the probability the risk will happen? **Probability**

	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

Figure 2. Risk Matrix Example

The Impacts typically include quantified data ranges for cost, schedule, safety, environmental, ecological, and society impacts. Probabilities are typically set with quantified time ranges to enable prioritizing (risk ranking) each evaluated Impact. In practice, a prioritized Risk Register of potential Impacts, with probabilities, and mitigation plan for each item is then kept up-to-date as the project passes project phases through completion.

C. Geotechnical Report - Purpose and Limitations

The *Geotechnical Investigation & Geohazard Report*[3] issued by Element Solutions in November 2021 and re-issued October 2022 is a "feasibility-level" study. The purpose and limitations of the study are laid out in the Cover Letter, included throughout the body, and emphasized again the Conclusions and Recommendations.

For reference, the term "feasibility" is used more than 15 times within the document. <u>The need for additional lot-specific assessment is also repeated</u>. A collection of important statements and limitations from the October 2022 Geotechnical investigation are listed below (bold emphasis added):

- *"This report is intended to provide the project team with site-wide geologic information, **project feasibility commentary**, and relevant geotechnical recommendations to inform project decisions, conceptual planning, and engineering design considerations for the proposed plat at the Jones-Edgemoor Estate property."* (Cover Letter)
- "*The site-wide geohazard review completed to date represents an overview of site features with specific attention paid to potential hazards identified along the boundaries of or intermittently within the large hilly property. **It is not intended to serve as a detailed examination of the conditions on individual lots to advise on lot designs**."* (Section 4.4.3 Need tor Lot-Specific Reviews, p. 23).
- "*Detailed work done at a later date by Element Solutions or another qualified geotechnical consultant **may supersede the <u>broadly based recommendations</u> of this report***."(Section 5.1, Conclusions and Recommendations-Project Feasibility Discussion, p. 24)
- ***"This study was conducted as a feasibility-level evaluation for the plat and is not intended to present detailed information for individual lot constructions***." (Section 5.1 Conclusions and Recommendations – Project Feasibility Discussion, p. 24)
- "***We recommend conditions be confirmed and systems be best fit on individual lots proposed for infiltration at the time of future lot development**. The results of this feasibility-level review are suitable for general planning purposes, but are not intended to provide final design recommendations for individual lots without further review*." (Section 5.7 Stormwater Infiltration, p. 34)

In addition to the limited feasibility-level scope of the report, the following points illustrate the need for further information to support a SEPA determination of adverse impacts on the proposed site as well as the Mud Bay buffer zone, estuary, and wetland habitats (bold emphasis added):

- *"**Test pits were observed on June 30 and July 1, 2020, at locations dispersed throughout the upland areas of the site interior <u>as current access allowed</u>.**"* (Cover Letter)
- *Groundwater conditions are likely to vary seasonally, and may also differ between locations within the site.* ***The reported groundwater conditions are valid only for the date and location of exploration****. If necessary for design, additional targeted explorations or seasonal monitoring of groundwater should be completed.* (Section 1.4 Assumptions and Limitations)
- *"To some degree,* ***further lot-specific review and critical area documentation can be completed supplementally to this report****. Some portions of the site can also be addressed in kind (such as lots at the base of the northwest hill, and lots lining the top of the southern slope."* (Section 4.4.3 Need for Lot-Specific Reviews, p. 23)
- *"**Development drainage features and stormwater controls should be implemented in a manner that does not lead to an increased potential for erosion or instability on the site slopes, nor places downgradient properties at risk**."* (Section 5.12.1 Stormwater Management, p. 42)
- "*With exception of localized lot-scale infiltration at areas of the property fronting Viewcrest Road, and possibly pervious pavement driveways at some other lots to be determined,* ***the site is generally considered infeasible for infiltration****. The combination of small lot sizes and sloping topography also appears to limit use of individual lot dispersion systems within most of the building lots*." (Section 5.12.1 Stormwater Management, p. 42)
- *"**Element Solutions should be retained to consult on the placement and design on-site dispersion systems**, if incorporated. ES can assist in identifying optimal locations, and perform field reconnaissance for verification of suitability at proposed dispersion areas." (*Section 5.12.1 Stormwater Management, p. 48)

D. Preliminary Stormwater Management Report – Purpose and Limitations

The Preliminary Stormwater Management Report[4] issued in December 2023 uses the above "feasibility-level" Geotechnical study as the basis for the "preliminary" overview of stormwater best management practices intended for the project. Below are key points of missing information that are required for a SEPA determination of adverse impacts on the proposed site as well as the Mud Bay buffer zone, estuary, and wetland habitats (bold emphasis added):

- *"This report is provided as a **general overview of the stormwater best management practices** that that will be implemented. This report has been prepared to support the to the Preliminary Plat application review process*." (Section 3.1 Purpose and Objectives, p. 4)
- "***Stormwater runoff from TDA 2 directly discharges into Chuckanut Bay, which a considered a flow control exempt saltwater body**. Therefore, this TDA is exempt from flow control requirements per BMC 15.42*." (Section 5.2 Flow Control, p. 6)
- *"**Development on or above steep slopes could impact slope stability by changing surface or groundwater flow on the slopes**. In addition, **risk of landslides could be impacted by construction near or on steep slopes** because of grading disturbance or additional load application from structures such as buildings, road fill embankments, topographic alterations or retaining walls*." (Appendix 8.3 December 2009 Geologic Feasibility Investigation by Pacific Surveying and Engineering)
- It is important to note that the Application documents tend to avoid any references to either Mud Bay or at least Northeast Chuckanut Bay and its shoreline buffer, "***Bellingham's richest and most biologically diverse estuary***", and its **well-known characteristics as an intertidal estuarine wetland with unique mudflat biology as well as a valuable salmonoid and aviary habitat**. Instead, the preferred use of Chuckanut Bay as a saltwater body ignores significant impact details required for a thorough evaluation in a SEPA determination. (See City of Bellingham parks guide https://cob.org/services/recreation/parks-trails/parks-guide/chuckanut-bay-shorelands)
- Also note that the stormwater treatment method and sizing calculations are not included in the report as stated. **Section 5.5 is missing from the report**. "*The site improvements will meet Enhanced Treatment for this project with the use of modular wetland devices. **The treatment method and sizing calculations are detailed in Section 5.5***". (Section 6.6 Requirement No. 6 Runoff Treatment, p. 17)

E. Woods at Viewcrest - Risk Management/Hazard Mitigation

The October Geotechnical Investigation & Geohazard Report includes recommendations to guide hazard mitigation. The Preliminary Stormwater Management Report with accompanying attachments also makes recommendations regarding implementation of required Best Management Practices.

While the reports make various recommendations to mitigate potential hazards or to comply with regulation, they are not specifically quantified and prioritized by Impact and Probability in a well-documented risk management process. Furthermore, evaluation and mitigation of the significant impact on Mud Bay estuary and buffer zone are missing from the reports.

See below for examples from the Geotechnical Investigation (bold emphasis added):

- *"For instance, homes should be carefully sited and designed in areas where steep grades are present or proximal to ensure long-term stability of slopes and structures. Local adjustments may*

be necessary to avoid small-scale features not fully evaluated in the scale of the current work. ***Foundations on or near slopes will require embedment and suitable placement on stable subgrades to avoid unacceptable risk*** (Section 4.4.2, Preliminary Building Setback & Avoidance Recommendations, p. 21)

- *The recommended setbacks should be reviewed and adjusted as necessary during future individual lot design.* (Section 4.4.2, Preliminary Building Setback & Avoidance Recommendations, p. 21)
- *We recommend ample avoidance or protective measures be incorporated for areas immediately downslope of cliff exposures* (Section 4.4.2, Preliminary Building Setback & Avoidance Recommendations, p. 21)
- "*The site-wide geohazard review completed to date represents an overview of site features with specific attention paid to potential hazards identified along the boundaries of or intermittently within the large hilly property.* ***It is not intended to serve as a detailed examination of the conditions on individual lots to advise on lot designs****."* (Section 4.4.3 Need for Lot-Specific Reviews, p.23).
- *"We anticipate conventional design and construction practices will be suitable for this project,* ***assuming a typical level of risk is acceptable***." (Section 5.1, Project Feasibility Discussion)
- *"We recommend a contingency plan of off-site disposal be available in the event that infiltration is found to be nonviable upon further review on a per-lot basis. The current proposed plat stormwater plan, with stormwater conveyance pipes following roads, appears to provide such an alternative for off-site disposal along the frontage of the lots".* (Section 5.1.3 Stormwater Infiltration Design Feasibility, p. 25)
- ***"****Development drainage and stormwater controls should be implemented in a manner that does* ***not lead to an increased potential for erosion or instability on the site slopes, nor places downgradient properties at risk.*** *On-site stormwater release systems (infiltration or dispersion) for lots or roadways are not considered viable among areas on or proximally above steep slopes."* (Section 5.12.1 Stormwater Management, p. 42)

F. Compliance with Safety and Environmental Regulations

The following sections of the Bellingham Municipal Code[5] (BMC) and Washington Administrative Code[6] (WAC) are applicable to this Project Management Assessment. Decisions on Critical Areas require detailed scientific assessments on impacted areas using **Best Available Science**. The statistical and quantitative Risk Management approach discussed above is an industry standard process for compliance with regulations and codes. See example code references below (bold emphasis added):

- "***Critical area reports and decisions to alter critical areas shall rely on the best available science*** *to protect the functions and values of critical areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish, such as salmon, steelhead, cutthroat trout and their habitat*." (BMC 16.55.180 A).

- "*Quantitative Analysis. **The data have been analyzed using appropriate statistical or quantitative methods**. Data collection locations are accurately mapped or surveyed.*" (BMC 16.55.180 C.3).
- "***Absence of Valid Scientific Information***. *Where there is an absence of valid scientific information or incomplete scientific information relating to a critical area leading to uncertainty about the risk to critical area function of permitting an alteration of or impact to the critical area, the director shall take a "precautionary approach," that strictly limits development and land use activities until the uncertainty is sufficiently resolved."* (BMC 16.55.180 D).
- *"**Incomplete or unavailable information**. (1) If information on significant adverse impacts essential to a reasoned choice among alternatives is not known, and the costs of obtaining it are not exorbitant, agencies shall obtain and include the information in their environmental documents. (2) When there are gaps in relevant information or scientific uncertainty concerning significant impacts, agencies shall make clear that such information is lacking or that substantial uncertainty exists*." (WAC 197-11-080)

Conclusions/Recommendation

The Geotechnical Investigation & Geohazard and associated Preliminary Stormwater Management reports are limited to "feasibility-level" and "preliminary" studies regarding potential significant impact on the proposed development. In summary:

- Reported groundwater conditions are valid only for dry season, whereas significantly different and high impact conditions will likely occur during the wet season.
- The need for "lot-specific" or other detailed geotechnical and stormwater analysis is highlighted throughout the report
- Critical Area Impacts are not fully assessed with best available science, including quantified impact calculations.
- Project risks are not prioritized with mitigation details using Risk Management best practices. An assumed "typical level of risk" for design and construction is conveyed without articulating either risk tolerance criteria or the Impacts and Probabilities of such risks.
- Evaluation and mitigation of the significant impacts on the Mud Bay estuary and buffer zone is completely missing from the reports.

Conclusions:

1. The Geotechnical and Stormwater Reports do not fully address necessary Critical Area significant adverse impacts.
2. BMC 16.55.180 requires the use of best available science, including quantitative analysis, in Critical Area reports.
3. WAC 197-11 SEPA Rules require applicants to provide adequate information on Critical Area significant adverse impacts.

4. Based on Project Management best practices, the Application lacks adequate scientific information to determine if significant impact on Critical Areas can be appropriately mitigated.
5. An independent Environmental Impact Statement (EIS) can evaluate and quantify the nature, severity, and duration of expected impacts of proposals, including direct, indirect, and cumulative impacts.
6. Because of Application errors, lack of quantified impact and mitigations, and significant omissions in Critical Areas, the Woods at Viewcrest application does not qualify for a Mitigated Determination of Nonsignificance (MDNS).

Recommendations:

The recommended action by the City is a **SEPA Determination of Significance** (DS) and commencement of an independent **Environmental Impact Statement** (EIS).

An independent EIS can help provide the required information for the City's formal review of the Woods at Viewcrest permit applications.

Sources:

1. Project Management Institute
https://www.pmi.org/

2. Construction Industries Institute
https://www.construction-institute.org/about-cii

3. 10/06/2022 Geotechnical Investigation and Geohazard Report
https://cob.org/wp-content/uploads/exhibit-e-geotechnical-investigation-geohazard-report.pdf

4. 12/14/23 Preliminary Stormwater Management Report
https://cob.org/wp-content/uploads/exhibit-f-stormwater-management-2023-12-04.pdf

5. Bellingham Municipal Code, Title 16 Environment, Ch. 16.55 Critical Areas
https://bellingham.municipal.codes/BMC/16.55.180

6. Washington Administrative Code, Title 197 Ecology, Ch. 11 SEPA Rules
https://app.leg.wa.gov/WAC/default.aspx?cite=197-11

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT G

Protect Mud Bay Cliffs Organizing Committee
Public Comment Letter re:
Traffic

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 22, 2024

Blake Lyon, Planning & Community Development Department Director
Kurt Nabbefeld, Development Services Manager & SEPA Responsible Official
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
City of Bellingham
210 Lottie Street
Bellingham, WA 98225
Via Email

Copy Via Email:
Mayor Kim Lund
Renee LaCroix, Public Works Natural Resources

RE: The Woods at Viewcrest –
Existing Traffic Safety Issues and Substandard Edgemoor Streets Make Addition of Large Number of New Residences Unsafe; Applicant's Traffic Impact Analysis is Insufficient and Flawed

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin,

We write on behalf of the Protect Mud Bay Cliffs all-volunteer, community grassroots program, to bring your attention to multiple serious issues with how the proposed subdivision development on Mud Bay Cliffs would significantly negatively impact Public Safety related to traffic and transportation. The information provided by the applicant to date is insufficient for the city to assess adverse impacts to the community and to public safety. Moreover, existing unremedied public safety issues related to traffic, and unique substandard infrastructure in this area, require remedying city actions be taken before such a project might responsibly be attempted.

Unique features of this neighborhood necessitate better assessment of traffic impacts. These unique features include: substandard streets for public safety; inadequate emergency access and egress including evacuation; surrounding unique and hazardous features which can result in neighborhood evacuation needs, including increasing wildfire risk at this location, and higher railway incidents risk at this location (the Edgemoor neighborhood is edged by the railway to the north, west, and south).

OVERVIEW OF ISSUES

1. The applicant's Transportation materials fail to fulfill the Washington SEPA checklist guidance. The issues with the materials are so substantial and extensive that they are tracked for the reader's convenience in **APPENDIX A: SUBSTANTIVE ISSUES WITH "SEPA CHECKLIST Section B Environmental Elements: Transportation"**.
    a. In Appendix A, first the SEPA checklist guidelines are provided without commentary, and with color-coded highlighting of guidelines text to show where the issues with the guidelines exist.
    b. This is then followed with specific descriptions of the issues associated with each of the color-coded heighted guidelines text.
2. The applicant's **Traffic Impact Analysis is inadequate and flawed** due to issues with scope and timing of data collection, and methodology. These issues are of a magnitude such that they cannot be compensated for by making adjustments to, or extrapolations from, the data provided, while at the same time protecting the public's interests in traffic safety. For example:
    a. Traffic data collection occurred on just one weekday during the COVID pandemic when Phase 2 "stay-home" orders were in effect and nonessential travel was limited[1]; traffic was extremely different due to highly unusual conditions.
    b. The assumption that traffic data should be collected for just one of the multiple impacted streets and intersections is profoundly flawed because it is likely subdivision-related traffic would utilize safer alternate streets with similar drive times.
    c. It is based on 38 single-family units; however, the project has the capacity for 38 quadplexes totaling 152 multi-family units. Because the traffic data collected is so aberrant and flawed, it would be inappropriate to simply "scale up" that data in an attempt to account for this oversight in analysis scope and methodology.
3. **Level of Service for Public Amenities will be negatively impacted**. The setting of the proposed subdivision development is unique: it is a natural public amenity, and it is surrounded by natural public amenities including a Scenic Byway, City and State Parks, and tourist attractions. The Level of Service assessment provided by the applicant uses both flawed data and a methodology unsuited to this unique location, including lack of primary data from the streets which will be impacted. As noted above, the data provided for one intersection is not credible.
4. **Edgemoor Streets are Substandard – Development Proposal Would Amplify Existing Dangers**. The location of the proposed subdivision development is unique: the surrounding **neighborhood has hazardous, substandard streets which will not safely support further increase in traffic**. The substandard streets the development traffic would utilize were never intended to support the current level of development and traffic. The public safety includes substandard streets encompassing the Middle School in this neighborhood, with

[1] Whatcom County Health Department, "State Approves Whatcom County's Move to Phase 2, BELLINGHAM, WA"; https://www.whatcomcounty.us/CivicSend/ViewMessage/message/114661

those streets being the primary streets to access the proposed subdivision development. Unless and until the city remediates known safety issues, no further development of this magnitude can safely be contemplated.

5. **Problematic Emergency Access and Egress**: Severe public safety issues currently exist uniquely in this area because emergency access and egress are already severely constrained, and the neighborhood has unique hazards (including substandard streets, wildfire risk, railroad incident risk). Edgemoor neighborhood evacuation due to wildfire or railway incident could result in foreseeable traffic gridlock on the few substandard escape streets, and thereby potentially result in injury and even loss of life. Subdivision developments in this neighborhood should not be approved by the city until the significant infrastructure issues have been addressed.
6. The lack of on-street **parking** coupled with narrow road widths would create unsafe conditions and not allow for any visitor parking in the subdivision. Importantly, the substandard streets around the proposed subdivision also fail to meet standard Parking requirements and would be unsafe and inadequate for "spillover" parking from the proposed subdivision.
7. **Unnecessary burdens** on residents of Viewcrest Road and other impacted substandard streets: Given the document public safety issues with substandard Viewcrest Road and other impacted substandard streets, the traffic arising from up to 152 housing units (including the construction phase large trucks and equipment) would impose readily foreseeable unnecessary burdens on residents. Edgemoor residents would face significant negative impacts as they attempt to safely navigate substandard streets which lack standard Driving Lanes, Parking, and Sidewalks. These negative impacts include the increased safety hazards for drivers, pedestrians, and bicyclists of: obstructed line of sight, as well as obstructed Driving Lanes, which are often the pedestrian and bicyclist 'paths.'
8. **Cumulative Impacts Assessment**: There is no analysis or assessment of the cumulative traffic impacts from all other significant developments in the area, where such developments' added traffic will further exacerbate the existing public safety issues. Especially in light of the unique issues outlined above and discussed in more detail below, public safety requires the city consider the negative cumulative impacts on the area, which the community will have to endure ongoing.

ISSUES – with Application Information, and Unique Features and Setting of the Proposed Project which Prohibit Further Development of this Magnitude

As summarized in the above overview, there are multiple significant problems with the proposed project as it would impact traffic and public safety. If the project were to proceed as proposed, it is clear that public safety would be significantly negatively impacted. We next discuss these problems in greater detail.

1. **Inadequate, Flawed "SEPA CHECKLIST Section B Environmental Elements: Transportation"**

   The applicant's Transportation materials fail to fulfill the Washington SEPA checklist guidance. The issues with the materials are so substantial and extensive that they are tracked for the reader's convenience in **APPENDIX A: SUBSTANTIVE ISSUES WITH "SEPA CHECKLIST Section B Environmental Elements: Transportation"**.

   In Appendix A (pages 17 – 21 of this letter), first the SEPA checklist guidelines are provided without commentary and with highlighting of guidelines text to show where the issues with the guidelines exist. This first section is then followed with specific descriptions of the issues associated with each of the color-coded heighted guidelines text, provided in turn as they occur in the guidelines.

2. **Inadequate, Flawed Traffic Impact Analysis**

   The applicant's September 29, 2022 "Exhibit G – Traffic Impact Analysis"[2] (TIA) for the Jones – Edgemoor Residential Plat is entirely inadequate for the city to make decisions that need to factor in the likely negative traffic impact of the proposed project. Some of the deficiencies are outlined below. The magnitude of the individual deficiencies, and the cumulative aspects and breadth of the aggregated deficiencies, **necessitate a replacement Traffic Impact Analysis be provided the city** which addresses the public safety concerns unique to this location. The deficiencies are of a magnitude that no "adjustments" to, or extrapolations of, the provided data can reasonably or feasibly be made while at the same time protecting public safety interests and needs. The purpose of a Traffic Impact Analysis includes as a primary consideration public safety; it would be irresponsible of the city to accept, adjust, and/or extrapolate from the provided flawed data. This is especially imperative in light of the unique features of this neighborhood: substandard streets for public safety; inadequate emergency access and egress; surrounding unique and hazardous features which can result in neighborhood evacuation needs, including increasing wildfire risk and higher railway incidents risk (the Edgemoor neighborhood is edged by the railway to the north, west, and south).

   Importantly, it is unclear whether the applicant could submit a "limited scope traffic impact analysis" instead of a full TIA after corrections to the methodology, data collection, analysis, and assessments are made.

[2] The Woods at Viewcrest, Exhibit G – Traffic Impact Analysis; https://cob.org/wp-content/uploads/exhibit-g-trans-impact-analysis-20230620-1.pdf

a. **Inadequate Data Collection and Analysis**: The TIA data collection and analysis are inadequate for this unique location – it is unique because this subdivision would utilize substandard streets, which are access routes for multiple public amenities including a Scenic Byway, City and State Parks, and numerous other amenities, and moreover, which are severely constrained for emergency access and egress.
    i. The only traffic data collected for the TIA came from just one day's observations (Wednesday, August 26, 2020). Some of the issues with this limited data include that it was gathered:
        1. during the COVID pandemic when Phase 2 "stay-home" orders were in effect and nonessential travel was limited[3]; traffic was extremely aberrant to usual conditions;
        2. outside of Fairhaven Middle School academic attendance (which was not even in-person in 2020);
        3. during a peak vacation season, when many residents are out of town (indeed, some sheltering from COVID elsewhere);
        4. during a weekday, which is a low-traffic period for people visiting public amenities including Clark's Point, Hundred Acre Woods (trailhead at the intersection of Viewcrest Road and Chuckanut Drive), and the Chuckanut Scenic Byway (which itself is the sole access to multiple public parklands, trail systems, and public natural amenities).
    ii. Trip Generation estimates are based on outdated Trip Generation Manual information (10th Edition instead of the current 11th Edition).
    iii. The abstract, high-level "Trip Generation Estimates" do not reflect the unique features and functions of the impacted streets. The Land Use Codes utilized are inappropriate for the unique aspects of this location, as described above and below. Moreover, such blanket-assumption estimates are entirely inappropriate to use in a location where streets are substandard (for example, making cycling hazardous and less likely), and where easy access to public transportation is impaired.
    iv. The Level of Service estimates are derived from the Trip Generation Estimates, the flaws of which are outlined above, and so cannot be relied on and should be revised after full data from the impacted roads across appropriate time frames is gathered.
    v. Traffic estimates do not include pedestrian, bicycle, and truck data, all of which is of particular importance given the impacted streets are substandard for Driving Lanes, Parking, and Sidewalks.
    vi. Parking generation assessments are not included, which is of particular importance given the impacted streets are substandard for Driving Lanes, Parking, and Sidewalks.

[3] Whatcom County Health Department, "State Approves Whatcom County's Move to Phase 2, BELLINGHAM, WA"; https://www.whatcomcounty.us/CivicSend/ViewMessage/message/114661

Therefore, the traffic analysis was improperly conducted, and its data clearly flawed to a degree that it cannot reasonably nor feasibly be adjusted or extrapolated from. Any traffic analysis meant to help make decisions about public safety must be performed during the times when the development's construction and resident traffic will have the greatest impacts on the area's streets. It should include representative periods of time for peak traffic in the area, including weekend days, and high-visitor seasons and times (such as holidays). All residents of this area know first-hand how variable the traffic patterns for visiting public amenities are, as they shift weekly (weekends vs weekdays), monthly (holidays), and seasonally.

b. **Inadequate Streets Scope**: The TIA wrongly assumes primary vehicular access to the site would be provided by was conducted on only a small portion of the streets which will be negatively impacted by this project. See **map** at the end of this letter for additional streets and associated intersections which will certainly be negatively impacted due to driving routes which can reasonably be expected residents will take, and even prefer. For just a few examples:

    i. Many drivers avoid the hilltop low-visibility, tight-turn intersection of Viewcrest Road and Chuckanut Drive (the only intersection included in the TIA), and instead preferentially use the wider, higher-visibility intersection of Willow and Chuckanut, and/or use 16th and Chuckanut. This brings traffic onto Willow Road, Clark Road, Fieldston Road, and 16th Street.
    ii. Many drivers avoid Chuckanut Drive altogether, and instead use Hawthorn Road and Fieldston Road.
    iii. The complex and already dangerous set of road intersections in front of Fairhaven Middle School will be impacted by additional traffic.
    iv. The narrow two-lane 12th Street Bridge will be affected by both construction and residential traffic.
    v. Many drivers avoid Viewcrest Road when it is feasible to do so, because of several hazardous limited-visibilty sections (notably 'blind' hilltops and curves) combined with the extremely narrow driving lane.

    Therefore, the traffic analysis should include the likely roads which will be negatively impacted from both construction vehicle traffic and from residents' traffic. The assessment should include the affected roadways used for work, school, recreation, tourist, and everyday residential activities.

c. **Inadequate Project Phases Scope**: The TIA fails to address how neighborhood traffic will be generally impacted during development construction phases. Construction traffic is completely different, and can be more dangerous, than residential traffic. Because of the unique element of Edgemoor's **substandard streets** (see section 3 below), public safety will be negatively impacted when large-sized vehicles and construction equipment traverse the substandard streets. Therefore, the project

must adequately assess and then work with the city to mitigate these public safety issues.

d. **Missing Emergency Access Analysis**: The TIA fails to address how emergency access will be impacted: (i) during construction phases, when numerous large trucks and construction equipment will be traversing and parking on multiple substandard streets; and (ii) once homes are built and occupied. Emergency access is of vital concern to residents and neighbors for fire, medical, police, and other emergency response. Therefore, the assessment must address this key concern.

e. **Missing Emergency Egress Assessment**: The TIA fails to address how emergency egress will be impacted during construction phases, and after homes are occupied. In the event of fire, earthquake, landslides, railway incidents, etc., residents of Edgemoor and South Neighborhoods as well as county residents along Chuckanut Drive will gridlock the few narrow escape routes (see section 4 below). Therefore, the project's impact on this public safety need for emergency egress must be addressed by the analysis before any decision can be made about a large subdivision such as this.

f. **Inadequate Scope of Likely Development**: The TIA only accounts for 38 units when the potential build-out is 152 units (a result of state regulations that allow quadplexes on single-family lots). Such additional volume of traffic would put pedestrians, cyclists, children at play, and motorists in Edgemoor at even greater risk on an everyday, ongoing basis, especially with the unique factor of Edgemoor's many substandard streets (see section 3 below). In an emergency egress situation, this increase in units could put hundreds of additional vehicles on the already inadequate escape routes (see section 4 below). When people flee approaching wildfires, it is common to take multiple vehicles, in hopes of saving pets and valuables (including valuable vehicles).

3. **Level of Service for Public Amenities – Negative Impacts**:

Viewcrest Road and the roadways it intersects provide unique access to important public amenities. These amenities tend to have more visitors seasonally and on weekends.

Viewcrest's intersection with State Route 11 (SR11), a Washington State Scenic Byway known as Chuckanut Drive, is significant as an access point to public amenities including Clark's Point, The Hundred Acre Wood (trailhead at the intersection), and the rest of Chuckanut Scenic Byway to the south (which is the sole access to multiple public parklands, trail systems, and public natural amenities)[4].

In addition, according to the city's Community Planning, Edgemoor Neighborhood website[5], the area of the proposed subdivision development and its surroundings is designated "**a natural resource amenity**":

> "A large, steep, heavily wooded peninsula, commonly known as Clark's Point, extends into Bellingham Bay, forming the western boundary of Chuckanut Bay. Clark's Point is protected from further development with a conservation easement. City-owned greenway and tidelands provide public access to Chuckanut Bay. Steep slopes follow the edges of Chuckanut Bay, paralleling Viewcrest Road, and, together with Clark's Point, provide a natural resource amenity."

The level of service for all of the above public amenities would be negatively affected by the proposed subdivision development. Particularly in light of the substandard Edgemoor streets, including Viewcrest Road, it is necessary for the city to have an objective and complete assessment of the likely impacts to Levels of Service before it makes any decision regarding potential subdivision of the four lots.

The hilltop intersection of State Route 11 (Chuckanut Drive) with Viewcrest Road is particularly challenging to public safety (see pictures below). This intersection is the location of The Hundred Acre Wood trailhead and parking area. This intersection is hazardous due to poor visibility at the crest of the hill of oncoming traffic and of pedestrians and cyclists. Even when motorists follow the 35 MPH speed limit (traffic frequently moves 45 to 50 MPH), left turns from northbound Chuckanut Drive west onto Viewcrest Road, the route taken to the Clark's Point trails and natural public amenity, are particularly hazardous due to poor visibility of oncoming traffic.

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[4] Scenic Washington, Chuckanut Drive; https://www.scenicwa.com/chuckanut-drive

[5] City of Bellingham, Community Planning, Edgemoor Neighborhood; https://cob.org/services/planning/neighborhoods/edgemoor-2

The intersection of Viewcrest Road and Chuckanut Drive, at the hilltop, with The Hundred Acre Wood trailhead / parking area; note bicyclist – this is a popular tourist bicycling and also motorcycling route

Pedestrians making the hazardous crossing of Chuckanut Drive from Viewcrest Road, to access The Hundred Acre Wood trails (no crosswalk, no signs, no light):

Chuckanut Drive is marked 35 MPH at the intersection with Viewcrest Road,
yet traffic frequently moves at 45 to 50 MPH;
visibility for drivers at this hilltop is poor even when moving at 35 MPH:

In light of these facts, the Level of Service estimates provided by the applicant are flawed in both data and approach, and therefore, cannot be relied on by the city. They are derived from the TIA's flawed Trip Generation Estimates, and so cannot be relied on as-is, and should be revised after full data from the impacted roads across appropriate time frames is gathered.

- Trip Generation Estimates are based on outdated Trip Generation Manual information (10th Edition instead of the current 11th Edition).
- The abstract, high-level Trip Generation Estimates do not reflect the unique features and functions of the streets impacted by the subdivision and utilized by the subdivision residents, and their visitors and service vehicles.
- The Land Use Codes utilized are inappropriate for the unique aspects of this location, as described throughout this letter.
- Moreover, such blanket-assumption estimates are entirely inappropriate to use in a location where streets are substandard (for example, changing residents' propensity to bicycle), and where easy access to public transportation is impaired.

4. **Edgemoor Streets are Substandard – Development Proposal Would Amplify Existing Dangers**:

The City has yet to address the multiple traffic safety issues which have been formally raised by citizens multiple times over the years, for all the impacted streets. For example, on February 15, 2017, a letter signed by nearly 100 Edgemoor residents was hand-delivered to Mayor Kelli Linville. This letter requested Mayor Linville to escalate the need to address the dangerous pedestrian safety conditions that exist "before someone is seriously injured – or worse." Additionally, the 14-page, April 5, 2017 Edgemoor Pedestrian Safety Questionnaire was shared with Mayor Linville, then Public Works Director Ted Carlson and Eric Johnston. The 35 responses detail the safety issues experienced by pedestrians, cyclists, pets and wildlife on a daily basis.

- February 15, 2017 pedestrian safety letter from Edgemoor residents to Mayor Linville
- April 5, 2017 Edgemoor Pedestrian Safety Questionnaire

These well-recorded issues persist, unaddressed – and if anything, have worsened in recent years, with increased delivery vehicle activity. It is clear that any additional traffic will exacerbate an already dangerous, well-known, and formally documented situation of significant public safety issues.

Many Edgemoor streets are **substandard relative to Municipal Code** (noted as "substandard" in this document) in ways which make them less safe for vehicles, cyclists, and pedestrians. **All the streets which would be routinely utilized by residents of the proposed subdivision are substandard. They have much narrower Driving Lanes, they lack the required eight feet of Parking on both sides, and they lack the required Sidewalks on both sides.** All of these deficiencies, plus others, create public safety issues under the current level of housing development.

Bellingham Municipal Code for Neighborhood Collectors[6] and Residential Access Streets[7] requires:

"**13.04.060 Neighborhood collectors.**
C. *Driving Lanes.* Thirty-six feet minimum, with 40 feet desirable width for pavement with eight feet of parking on both sides
F. *Sidewalks.* Five-foot-wide minimum width on both sides"

"**13.04.070 Residential access streets.**
Standards for residential access streets are as follows:
C. *Driving Lanes.* Thirty-six feet of side pavement with eight feet of parking on both sides
F. *Sidewalks.* Five-foot-wide minimum sidewalks on both sides"

[6] Bellingham Municipal Code; https://bellingham.municipal.codes/BMC/13.04.060
[7] Bellingham Municipal Code; https://bellingham.municipal.codes/BMC/13.04.070

In addition, Fairhaven Middle School is located at an unusual five-way intersection, and the intersecting roads are substandard to Bellingham Municipal Code[8]. Because this intersection is the primary entry and exit to the Edgemoor neighborhood from the rest of the city, it is a uniquely substandard and hazardous traffic nexus:

> "**13.04.040 Secondary arterials.**
> C. *Driving Lanes.* Twenty-eight feet minimum, with 38 feet desirable plus eight-foot parking on both sides
> F. *Sidewalks.* Five-foot minimum width on both sides"

We understand that the Edgemoor neighborhood streets' substandard Driving Lanes, Parking, and Sidewalk conditions are "grandfathered." At the same time, the current Municipal Code requirements are in place because they are essential to public safety. The Edgemoor neighborhood street infrastructure was never designed nor intended to support the current level of development, let alone support large expansion of units and vehicles, such as this proposed subdivision.

Some of the streets most likely to be relied on by residents of the proposed subdivision are among these substandard Edgemoor streets: Viewcrest Road, Clark Road, Fieldston Road, Hawthorn Road, and 12th Street, including the narrow 12th Street Bridge. (There are others, also substandard, not included in this letter for conciseness.)

Some of the substandard streets which this proposed subdivision development would be adding traffic to include these below, with measurements to demonstrate the degree of some of the substandard features (the sidewalk features are also substandard for all). Note that the "zero feet of Parking" means the Driving Lanes are often obstructed by work vehicles, delivery vehicles, and visiting vehicles, making the Driving Lanes even more hazardous for vehicles, bicycles, and pedestrians (lacking sidewalks, pedestrians walk in the Driving Lanes).

- **Viewcrest Road**:
  - **19'** (and as narrow as **18.5'**) Driving Lanes toward Chuckanut Drive
  - **Zero** feet of Parking on both sides
- **Clark Road** (where the proposed development's road would intersect, or almost intersect):
  - **18.5'** Driving Lanes between Linden and Willow
  - **26'** Driving Lanes between Viewcrest and Linden
  - **Zero** feet of Parking on both sides
- **Fieldston Road**:
  - **20.7'** Driving Lanes
  - **Zero** feet of Parking on both sides
- **Hawthorn Road**:
  - **22.5'** Driving Lanes
  - **Zero** feet of Parking on both sides

[8] Bellingham Municipal Code; https://bellingham.municipal.codes/BMC/13.04.030

- In addition, just before and at the intersection with Fieldston Road, there is a hazardous curved hilltop posted at **10 MPH** due to hazardous condition, as the picture below shows:

- **12th Street Bridge**:
  - The Driving Lanes are approximately **25 to 30'**, with **zero** Parking and no shoulder. (Note that it was hazardous to attempt measurements due to traffic conditions.)
  - This is the primary Bellingham-connecting entrance and egress into the Edgemoor neighborhood and also for the Chuckanut Village and Chuckanut Ridge neighborhoods, as well as serving as the gateway to and from all the natural public amenities accessed from Chuckanut Drive.

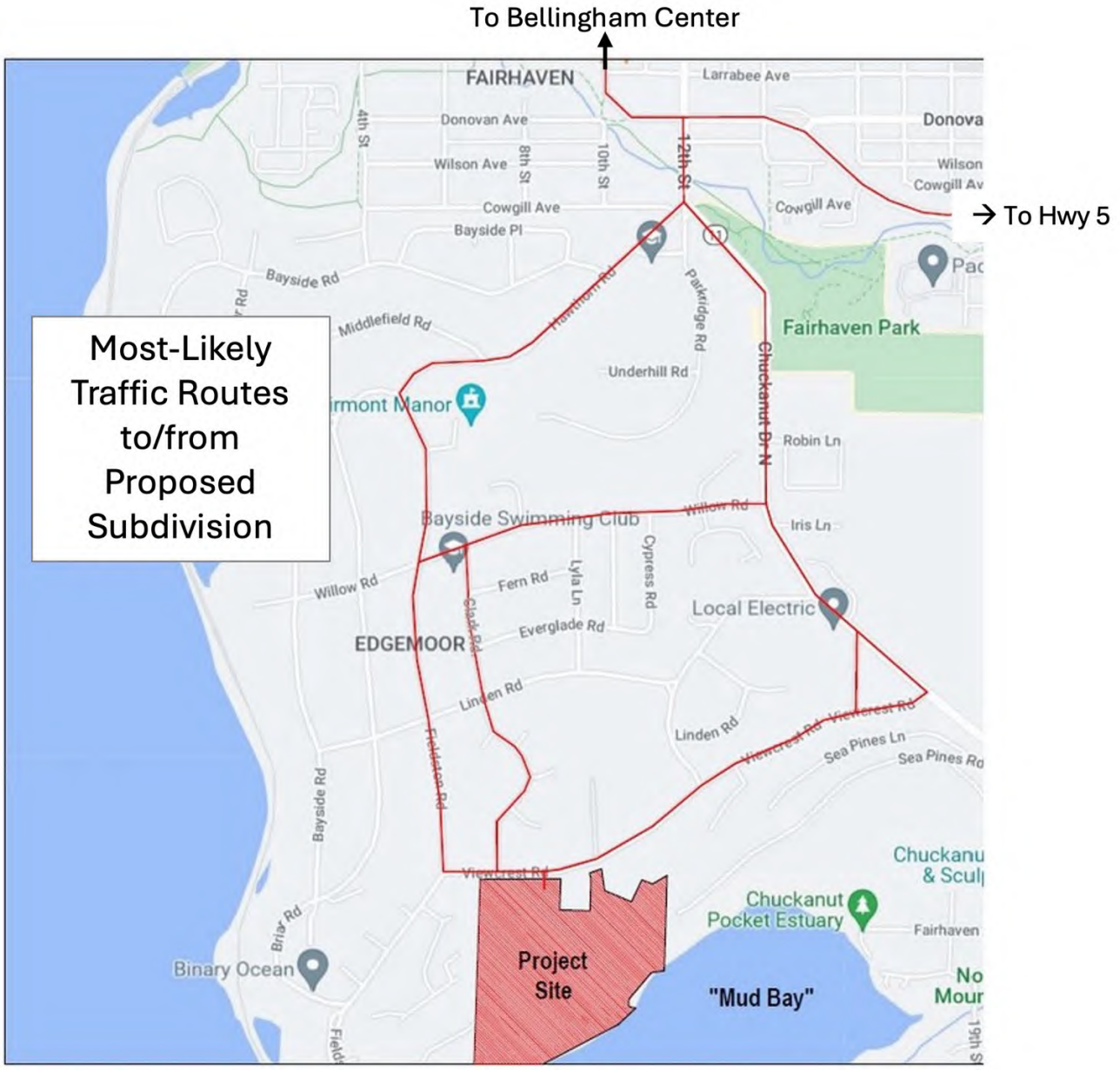
The picture below shows the complex **five-way intersection of substandard streets in front of Fairhaven Middle School**. During the academic year, particularly in the hour before and the hour after class times or other campus events, this busy location is extremely hazardous for pedestrians and bicyclists – including the middle school students – and for drivers.

The 12th Street Bridge is the substandard north-south street at the top of the intersection. Chuckanut Drive is the street to the lower right of the picture. Fairhaven Middle School is located at the immediate bottom of this picture, just out of frame.

The **map** below shows the most likely routes which would be used driving to and from the proposed subdivision housing units. Traffic currently preferentially uses these routes to access sections of Viewcrest Road when feasible, because even though they are also substandard, they are less hazardous than Viewcrest Road.

- The Edgemoor neighborhood is most commonly reached via the 12th Street Bridge, whether coming from Bellingham center to the north, or from Highway 5 to the east.
- Many residents avoid Viewcrest Road unless absolutely necessary, because of the visibility issues, hazardous Chuckanut Drive intersection, and extremely narrow driving lanes – preferring to use the also substandard yet still better-visibility and slightly wider driving lanes of Fieldston Road and Clark Road.
- These preferred routes are about the same length and drive time to reach the subdvision's proposed road, which will be located almost at the intersection of Clark Road and Viewcrest Road.
- Routes preferentially used currently include:
    - 12th St. Bridge to Hawthorn to Fieldston to Viewcrest
    - 12th St. Bridge to Hawthorn to Willow to Clark to Viewcrest
    - 12th St. Bridge to Chuckanut to Willow to Clark to Viewcrest

- Note that 16th Street is often used as a somewhat less hazardous intersection with Chuckanut than is the Viewcrest Road intersection, so 16th Street will be impacted also.
- Traffic exiting the site of the proposed subdivision development can be expected to follow current traffic patterns, and might avoid Viewcrest even more due to the development road's near-intersection with Clark Road and proximity to Fieldston Road.



5. **Problematic Emergency Access and Egress**:

Significant public safety issues currently exist in this area because emergency access and egress are already severely compromised. This is especially dangerous at high-traffic times of day, including: morning commute times; afternoon and evening commute times; Fairhaven Middle School drop-off and pick-up times. For example, the two-lane substandard 12th Street Bridge is often jammed during these times already, presenting an impassable

barrier to emergency vehicles (the primary route for emergency vehicles is over the 12th Street Bridge).

There are only four routes to enter and exit the Edgemoor neighborhood. During emergency situations, each of these currently can be extremely problematic. Each of the routes is a substandard, narrow two-lane road, with ditches, drop-offs, trees, bridge barriers or other features along significant sections that prevent vehicles from being able to pass stopped traffic. These are old roads built before much development occurred or was envisioned, and they were never designed to handle emergency access or egress in current high-traffic circumstances. Such high-traffic circumstances arise routinely today, after extensive development over the intervening decades.
The four roads are:

- 4th Street – egress to the north
- 12th Street – egress to the north
- Chuckanut Drive – egress to the south
- Old Samish Road – egress to the south and east (note: accessed by first driving south on Chuckanut Drive)

No analysis has been done by the applicant of how the already extremely hazardous neighborhood egress situation will be worsened. The developer's TIA is silent on emergency egress considerations, even though the proposed subdivision would significantly worsen neighborhood emergency egress.

In the event of emergency **evacuation** of all or some of the Edgemoor neighborhood, such as wildfire or toxic spill/cloud from a railway incident[9], people will likely be trapped in traffic gridlock as they attempt to flee. In such circumstances, it is well-documented that injuries can occur and lives can be lost.[10,11] This dangerous evacuation situation for all of Edgemoor and potentially the neighborhoods south of Edgemoor is longstanding and well-known, and has yet to be addressed by the city through mitigating infrastructure improvements.

- Note that if attempting to escape danger from the south, there are only two routes available (4th Street and 12th Street), not four, to handle all the evacuation traffic.
- Similarly, if attempting to escape danger from the north, there are only two routes available (Chuckanut Drive and Old Samish Drive, itself accessed via Chuckanut Drive), not four, to handle all the evacuation traffic.
- The setting is unique: this area is currently already at greater and increasing risk from wildfire due to its proximity to nearby woodlands.[12] Indeed, the biggest natural

[9] KUOW NPR Network, "*Washington oil-train disaster*" June 7, 2021; https://www.kuow.org/stories/sabotage-caused-washington-state-oil-train-disaster-rail-union-says
[10] Associated Press, "*In deadly Maui fires, many had no warning and no way out*" August 24, 2023; https://apnews.com/article/hawaii-fires-timeline-maui-lahaina-road-block-c8522222f6de587bd14b2da0020c40e9
[11] New York Times, "'*Hell on Earth': The First 12 Hours of California's Deadliest Wildfire*" (Paradise, California), November 18, 2018; https://www.nytimes.com/interactive/2018/11/18/us/california-camp-fire-paradise.html
[12] The Bellingham Herald, "*Wildfire risk is increasing in Whatcom County*" June 2022; https://www.bellinghamherald.com/news/local/article262498577.html

disaster risk in this specific area is from wildfire.[13] With climate change making wildfire conditions increasingly likely, the question is not whether but when Edgemoor and Chuckanut Village residents will need to evacuate the neighborhoods to escape wildfire.

- The Edgemoor neighborhood is currently at unique risk of railway incidents, because the Edgemoor neighborhood is edged by the railway to the north, west, and south. Railway incidents occurring along any of these lengths around the three compass directions could require neighborhood evacuation. Such evacuations can and do occur, including a Whatcom County incident in 2020.[14] The trains on this rail line routinely carry crude oil and other dangerous substances, and given the potential severity of the risk, the city should have neighborhood evacuation plans in the event of such emergencies.

The Edgemoor neighborhood already has uniquely substandard, inadequate city infrastructure for emergency egress including evacuation, and uniquely significant risk factors which could necessitate large-scale evacuation. The routes for residents to escape natural disaster such as wildfire, and man-made disaster such as railway incidents, are insufficient because they are few (at most four, and potentially only two routes) and they are narrow (two lanes in all four cases, and lacking shoulders for most of their length). When escaping to the north there are only two potential routes; when escaping to the south there are only two potential routes.

Already, too many residences have been built without improvements to city streets commensurate with public safety risk. Edgemoor residents and south-of Edgemoor residents live with a public safety ticking time bomb which requires fixing NOW. If the city allows further development before these issues are fixed, the city will be derelict in its duty to ensure public safety. The city is aware of the current hazards, and aware of the compounded danger which this proposed project's construction vehicles and residents' vehicles would create. The proposed subdivision will impose a severe adverse impact on already unacceptable public safety hazards.

[13] Risk Factor, Climate Risk Data; https://riskfactor.com/city/bellingham/5305280_fsid/fire
[14] The Bellingham Herald, "*Evacuations ordered as train carrying crude oil derails, burns near Custer*"; https://www.bellinghamherald.com/news/local/article248035100.html

6. **Parking Issues – Impacts to Public Safety and the Environment**:

In the subdivision, the plans for substandard street and private drive create readily foreseeable and significant public safety and environment issues.

The proposed plan fails to provide adequate on-street **Parking** in the development; indeed the proposed street is substandard to current municipal code requirements for parking. The substandard plan results in lack of on-street Parking coupled with narrow Driving Lanes, which would create unsafe conditions, and not allow for visitor parking.

The applicant fails entirely to consider the substandard Parking of Viewcrest Road, which is where residents and visitors (including delivery trucks, etc.) will park:

- In front subdivision development homes fronting Viewcrest Road itself;
- For overflow parking when the parking inside of the subdivision development is overtaxed. Such overtaxing of parking is reasonably foreseeable for events held at homes within the subdivision, and for visitors to the proposed subdivision's public trail amenity.

All of the substandard streets around the proposed subdivision also fail to meet standard Parking requirements and would be unsafe and inadequate for overflow parking from the proposed subdivision. Closest to the proposed subdivision, Viewcrest Road has no Parking space, and its Driving Lanes are significantly below standard:

- It was never intended nor designed to handle on-street parking from the proposed new housing units fronting Viewcrest.
- It was never intended nor designed to handle overflow parking from within the proposed subdivision.
- It was never intended nor designed to handle the current level of neighborhood development: it currently presents an unacceptable level of documented public safety issues; these are issues for both residents and visitors to the neighborhood – including visitors to the Clark's Point natural amenity and trails.

The Parking on Viewcrest Road is substandard on both sides of the streets (there are no Parking widths provided at all), and the Driving Lanes are also substandard. This means that when vehicles park on Viewcrest Road, they block the narrow, substandard Driving Lanes. When vehicles park on both sides of Viewcrest Road, the Driving Lanes become at best a single Driving Lane which is barely passable by vehicles, and which puts bicyclists and pedestrians at even greater risk than they already are from the substandard Viewcrest Road.

Importantly, more than public safety would likely, foreseeably be significantly negatively impacted. The lack of street parking – in the development, and along substandard Viewcrest Road, and along nearby substandard streets – makes it foreseeably probable that residents of this proposed subdivision would devote larger-than-average portions of their lots to parking. Such **reasonably foreseeable increases to average hardscaping will further**

negatively impact likely tree retention, and stormwater and hydrology of the development.

At minimum, the city should require analysis of the readily foreseeable negative impacts to public safety and the environment from the proposed subdivision development's lack of on-street parking coupled with its narrow road widths, including impacts to surrounding substandard streets likely to be impacted, and including impacts to tree retention, stormwater and hydrology.

7. **Unnecessary burdens** on residents of Viewcrest Road and other impacted substandard streets: Given the documented public safety issues with substandard Viewcrest Road and other substandard access streets likely to be impacted, the traffic arising from up to 152 housing units (including the construction phase large trucks and equipment) would impose readily foreseeable unnecessary burdens on residents. Edgemoor residents would face significant negative impacts as they attempt to safely navigate substandard streets with significant volumes of both new traffic and parking. These substandard streets lack standard Driving Lanes, Parking, and Sidewalks, and are documented to be unacceptably hazardous.

   These negative impacts include the increased safety hazards for drivers, pedestrians, and bicyclists of: obstructed line of sight, as well as obstructed Driving Lanes, which are often the pedestrian and bicyclist 'paths.' These unnecessary burdens become especially dangerous – potentially deadly – in the event of emergency neighborhood evacuation.

   There is no compelling public or community need to build 38 to 152 high-income housing units at this location, however there **is** compelling community need to not further burden the public who use these substandard streets, by making the streets even more hazardous.

8. **Cumulative Impacts Assessment**:

   There is yet to be an analysis and assessment of the cumulative traffic impacts from all other developments in the area, where such developments' added traffic will affect this proposal's TIA. For any kind of decision like this to be safely made, it must factor in additional traffic from other developments which will compound traffic concerns and issues. Such other developments, whether approved or not, or built or not, will further strengthen the objections we have raised above.

   Developments affecting the same roadways cannot sensibly, practically, nor safely be considered in siloed decision vacuums – especially in light of the traffic safety issues discussed above. We expect that you will analyze these cumulative impacts, to ensure traffic safety for all residents and visitors, current and future. At a minimum the cumulative traffic impacts of all developments for which the city has received Completed Applications must be assessed in a coherent analysis. This should include Fairhaven, Edgemoor, Chuckanut communities, and any others which will compound the effects on shared roadways for work, school, recreation, tourist, and everyday activities.

> For example, we understand a project in this area, which will also impact many of these roadways, is in the Design Review stage: Fairhaven Sycamore Hotel, Parcel 370201124012 / 1111 Donovan Ave. There may be multiple other projects which we are unaware of, and if so, we expect you are aware of these and will include them in your decisions processes.

In closing, it is well established that a primary role of government is to protect public health and safety. The community has formally alerted the city to existing traffic safety risks here multiple times in the past and asked for these risks to be mitigated.

The information provided by the applicant to date is insufficient for the city to assess adverse impacts to the community and to public safety. Moreover, existing unremedied public safety issues related to traffic, and unique substandard infrastructure in this area combined with unique risks in this neighborhood, **require remedying city actions be taken** before such a project might responsibly be attempted.

Certainly for this unique location – with its unique infrastructure issues, and unique risks due to its setting – the city should require **comprehensive traffic data collection, analysis, and assessment** before making any decisions about subdividing these four lots. It is clear that the as proposed, the subdvision development would significantly, negatively impact public safety beyond acceptable levels.

Sincerely,

Paul Brock · Ava Ferguson · Larry Horowitz · Wendy Larson
Janet Migaki · Elizabeth Paley · Gary Ranz · Brent Woodland

Protect Mud Bay Cliffs Steering Committee Members
Info@MudBayCliffs.org

APPENDIX A:

SUBSTANTIVE ISSUES WITH "SEPA CHECKLIST Section B Environmental Elements: Transportation"

The applicant's Transportation materials fail to fulfill the Washington SEPA checklist guidance.[15]

The checklist guidance is copied below, with guidelines text highlighted in red where information provided is inaccurate and/or missing. (Following this, each of these areas of significant deficiencies are addressed in turn.)

> **"SEPA checklist guidance, Section B Environmental Elements: Transportation**
>
> **14. Transportation**
>
> **a. Identify public streets and highways serving the site or affected geographic area, and describe proposed access to the existing street system. Show on site plans, if any:**
>
> "Review agencies need information to determine if a proposal will contribute to existing safety, noise, dust, maintenance, or other transportation problems. This includes increasing road use. Describe site access roads and provide a public street or vicinity map showing access to the site. Highways or other listed major arterials don't need to directly access the site, but these roads are likely to be used by employees, customers, or residents, as well as transport materials or goods on and off the project. "Traffic hazards" also is an element of the environment under SEPA. It is necessary to evaluate the existing environment and the proposed project in terms of transportation safety.
> There could be a need to include data such as the following:
> - What is the crash history on streets affected by the project?
> - Will changes in the street or traffic operations affect the crash history?
> - Are there new risks being introduced that could be mitigated? (Consider operating characteristics of general-purpose vehicles, trucks, transit riders, pedestrians, and bicyclists.)"
>
> **"c. Will the proposal require any new — or improvements to existing — roads or streets, or pedestrian, bicycle, or state transportation facilities, not including driveways? If so, give a general description and indicate whether it's public or private."**
>
> **"e. How many vehicular trips per day would the completed project or proposal generate? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What**

[15] SEPA checklist guidance, Section B: Transportation; https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-14-Transportation

data or transportation models were used to make these estimates?

Measure the number of vehicle trips directly associated with the proposal, as well as indirect results of structural or facility uses. Identify the number of trips to and from the project site during a given 24-hour period. In addition, identifying information about peak-hour trips can speed the review of a project.

- **Direct effects:** Occur at the same time and location as the proposal occurs.
- **Indirect effects:** Occur later, but are still reasonably foreseeable. Indirect effects can include those related to changes in land use, population density or growth rate, and related environmental impacts.

Describe the availability of public transportation, car or van pooling, flexible work schedules, telecommuting, and other measures to decrease traffic generated by the project. Other issues include:

- Is the study area large enough to include all indirect impacts?
- Does the study area include critical intersections?
- Are traffic counts recent?
- Were counts taken during critical time periods?
- Have assumptions used in the technical analysis been clearly identified?
- Do calculated levels of service seem reasonable?
- Does the community have acceptable service standards?
- Does the proposed site agree with the submitted site plan?
- Have trip rates been adjusted to account for public transportation, pedestrians, or pass-by trips?
- Does the directional distribution of the site traffic seem reasonable?
- Has pedestrian circulation been accommodated?
- Is parking adequate to meet demand?"

To consider these significant "SEPA Section B Environmental Elements: 14. Transportation" deficiencies in turn, below are highlighted some of the issues with each:

- **Identify public streets and highways serving the site or affected geographic area, and describe proposed access to the existing street system.** Describe site access roads and provide a public street or vicinity map showing access to the site.
  - The applicant's SEPA ENVIRONMENTAL CHECKLIST 14.a. response identifies a subset of streets and highways serving the site, but completely omits the likely neighborhood access streets / routes equally or more likely to be used by residents of the proposed subdivision, with the exception of stating "The project site is served by Viewcrest Road." *(Note: the neighborhood streets which are as or more likely to be used are described in this letter.)*
  - In the Traffic Impact Analysis report, the applicant provided a vicinity map, however it does not show (mark) the most likely access routes to the site, nor are those routes described. The applicant has provided no description of the likely access streets beyond Viewcrest Road, and failed to fully describe Viewcrest Road. *(Note: these are mapped in this letter.)*

- "Traffic hazards" also is an element of the environment under SEPA. It is necessary to **evaluate the existing environment** and the proposed project in terms of transportation safety.
    - The applicant provides no description of the substandard, hazardous neighborhood access streets, nor provides evaluation of the documented hazards of this existing environment. All of these access streets/routes are substandard to current municipal code (as described in this letter), and all of which are known and documented to be hazardous for vehicles, bicyclists, and pedestrians. The applicant has provided no description of these known and documented traffic hazards, and instead only provided crash history. **The good fortune of a low incidence of reported crash incidents is not the same thing as acceptably safe public streets and intersections.** *(Note: the hazards of these substandard neighborhood streets which are as as or more likely to be used are described in this letter.)*
- **c. "Will the proposal require any new — or improvements to existing — roads or streets, or pedestrian, bicycle, or state transportation facilities, not including driveways? If so, give a general description and indicate whether it's public or private."**
    - The applicant's SEPA ENVIRONMENTAL CHECKLIST 14.a. response mentions only the addition of "pedestrian facilities" "along Viewcrest Road on the frontage side of the road."
        - It does not mention bringing that section of Viewcrest Road into either Driving Lanes compliance or Parking compliance with applicable Municipal Code.
        - Further, because the applicant ignores the likely access routes which the development will use, there is no mention of making the necessary improvements to bring them into compliance with applicable standard municipal code requirements, or to mitigate the hazards of any of those existing substandard streets – including Viewcrest Road.
- Measure the number of vehicle trips directly associated with the proposal, as well as indirect results of structural or facility uses. Identify the number of trips to and from the project site during a given 24-hour period. In addition, identifying information about peak-hour trips can speed the review of a project.
    - The substantive flaws and issues with the applicant's Traffic Impact Analysis vehicle trips measurement (severely flawed data; flawed estimating assumptions) are described in this letter. Because of all of these issues, the applicant's SEPA ENVIRONMENTAL CHECKLIST 14.e response is therefore inadequate, non-credible, and misleading.
- **Indirect effects:** Occur later, but are still reasonably foreseeable. Indirect effects can include those related to changes in land use, population density or growth rate, and related environmental impacts.
    - It is reasonably foreseeable that the neighborhood will add housing units to formerly single-family-only lots, now that state law permits up to four units per lot in most circumstances. Neither the applicant's SEPA ENVIRONMENTAL CHECKLIST, nor the applicant's Traffic Impact Analysis, consider the extremely likely increase in neighborhood traffic due to development of new housing units across the neighborhood. Other neighborhoods which use Chuckanut Drive should also be included in such an assessment.
    - As described in this letter, it is reasonably foreseeable that the neighborhood will be evacuated due to various environmental risks which are uniquely higher-probability in

this neighborhood, and such evacuations would rely on the substandard and hazardous access/egress streets, which would be likely to become gridlocked as a result of this substandard infrastructure. As described in this letter, the neighborhood's access/egress streets were never designed nor intended to handle the volume of housing units already in the neighborhood, let alone to support additional traffic from significant new subdivision development such as is proposed here.

- It is reasonably foreseeable that the cumulative negative impacts on the substandard access/egress of other approved developments will further put public safety at risk. Such approved developments, and pending developments, should be considered for the cumulative environmental impacts on traffic hazards and traffic safety.
- **The applicant's SEPA ENVIRONMENTAL CHECKLIST 14.e response does not address any of these reasonably foreseeable environmental impacts, which should be considered before approving any significant increase in housing in this <u>uniquely risky neighborhood</u>.**

- Is the study area large enough to include all indirect impacts?
  - The study area did not include several preferable access and egress routes to the site, which have similar distances and drive times to Viewcrest Road, with better visibility and sometimes better Driving Lanes, Parking, and Sidewalks than Viewcrest. These streets and routes are currently often preferably used by Viewcrest Road residents when feasible. The proposed subdivision development's access road to Viewcrest places it extremely close to Clark Road and very close to Fieldston Road, which are both much closer than Chuckanut Drive. Therefore the study area omitted significant direct impacts and indirect impacts.
- Does the study area include critical intersections?
  - The study area failed to include critical intersections for access and egress. These include: the hazardous five-way intersection of substandard streets in front of Fairhaven Middle School; Chuckanut Drive and Willow Road; Chuckanut Drive and Broad Street ; Chuckanut Drive and 16th Street; Hawthorn Road and Fieldston Road; Feildston Road and Viewcrest Road; Clark Road and Viewcrest Road.
- Are traffic counts recent? **<u>and</u>** Were counts taken during critical time periods?
  - The traffic counts are of poor recency and quality, as described in this letter. The only traffic data collected for the TIA came from just one day's observations (Wednesday, August 26, 2020). Some of the issues with this limited data include that it was gathered:
    - during the COVID pandemic when Phase 2 "stay-home" orders were in effect and nonessential travel was limited[16];
    - outside of Fairhaven Middle School academic attendance (which was not even in-person in 2020);
    - during a peak vacation season, when many residents are out of town (indeed, some sheltering from COVID elsewhere);
    - during a weekday, which is a low-traffic period for people visiting public amenities including Clark's Point, Hundred Acre Woods (trailhead at the intersection of Viewcrest Road and Chuckanut Drive), and the Chuckanut Scenic

[16] Whatcom County Health Department, "State Approves Whatcom County's Move to Phase 2, BELLINGHAM, WA"; https://www.whatcomcounty.us/CivicSend/ViewMessage/message/114661

Byway (which itself is the sole access to multiple public parklands, trail systems, and public natural amenities).

- Is parking adequate to meet demand?
  - The proposed plan fails to provide adequate on-street parking in the development; indeed the proposed street is substandard to current municipal code requirements for parking.
  - The applicant fails entirely to consider the substandard Parking of Viewcrest Road, which is where residents and visitors (including delivery trucks, etc.) will park:
    - In front subdivision development homes fronting Viewcrest Road itself;
    - For overflow parking when the parking inside of the subdivision development is overtaxed. Such overtaxing of parking is reasonably foreseeable for events held at homes within the subdivision, and for visitors to the proposed public trail amenity.
  - The Parking on Viewcrest Road is substandard on both sides of the streets (there are no Parking widths provided at all), and the Driving Lanes are also substandard. This means that when vehicles park on Viewcrest Road, they block the narrow, substandard Driving Lanes. When vehicles park on both sides of Viewcrest Road, the Driving Lanes become at best a single Driving Lane which is barely passable by vehicles, and which puts bicyclists and pedestrians at even greater risk than they already are from the substandard Viewcrest Road.

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT H

Protect Mud Bay Cliffs Organizing Committee
Public Comment Letter re:
Wildlife & Wildlife Habitat

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 22, 2024

Blake Lyon, Planning & Community Development Department Director
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
Renee LaCroix, Assistant Director Public Works – Natural Resources
Kim Lund, Mayor, City of Bellingham

City of Bellingham
210 Lottie Street
Bellingham, WA 98225

Sent via email

Subject: Wildlife and Wildlife Habitat – Subdivision Proposal is Likely to Cause Significant Adverse Impact; an EIS is Necessary Before ANY Development Decisions Can Be Made

Dear Mr. Lyon, Ms. Bell, Mr. Sundin, Ms. LaCroix, and Mayor Lund,

We write on behalf of the Protect Mud Bay Cliffs all-volunteer, community grassroots program, to bring your attention to multiple serious issues with how the proposed subdivision development on Mud Bay Cliffs would significantly and negatively impact Wildlife and Wildlife Habitat on and around the proposed subdivision.

SUMMARY

The Bellingham Planning Department is currently reviewing the application for a proposed new subdivision, *The Woods at Viewcrest*. Based on multiple substantial factors which we discuss below, an Environmental Impact Statement is necessary before the city considers approval of any development on this designated *Important Habitat Hub and Area*, which is itself the center part of an important *Wildlife Corridor*[1], and which drains into a Category 1 estuarine wetlands and mudflats habitat, Mud Bay. The wildlife habitat Technical Memorandum provided by the subdivision applicant is incorrect, insufficient, and fails to meet Bellingham Municipal Code

[1] *City of Bellingham "Wildlife Corridor Analysis," July 13, 2021;* https://cob.org/services/environment/restoration/wildlife-corridor-analysis

requirements, such that the city has insufficient information about wildlife habitat impacts to make informed decisions about the proposed project.

The applicant's November 16, 2022 Technical Memorandum (TM)[2], submitted as "Exhibit D – Wildlife Habitat Assessment", is both incomplete and misleading. Given its failure to follow SEPA checklist guidance, its wrongfully constrained and incomplete scope of assessment, the limitations of its one-day site visit, the lack of quantitative data, and it's omission of readily available Wildlife Habitat information about this site, it would be clearly erroneous and derelict for the Planning Department to rely on this TM to determine the adverse wildlife habitat impacts of the proposed subdivision.

Subdivision development disturbances are likely to cause significant adverse habitat impacts on:

- The site itself, which is a designated *Important Habitat Hub*, and is a rare, valuable mature forested shoreline habitat.
- The *Wildlife Corridor* this site is the center part of.
- The surrounding wildlife *Habitat Network*, all of which is protected/conserved, and most of which are public assets protecting terrestrial and aquatic wildlife.
- The adjacent Mud Bay Estuarine Wetlands and Mudflats habitats, which receives the drainage from this site, including polluted stormwater and likely increased erosion impacts.
- The shoreline ecology of this location: Bellingham's Shoreline Master Program has shoreline jurisdiction at this location. Clearly this proposed subdivision development would result in "net loss of shoreline ecological function on a reach and watershed scale," and development thereon would "compromise the ability to restore" "critical saltwater habitats," and would therefore violate the SMP Municipal Code.

WAC 197-11-080 states that a SEPA threshold determination must be based on adequate information. The applicant has not provided quantitative empirical data nor scientifically adequate, credible wildlife habitat studies. It is documented that Bellingham has previously failed to require adequate wildlife habitat information prior to SEPA threshold determinations, and given this site's ecological unique value, such an oversight would be unconscionable here. From the City of Bellingham Wildlife Habitat Assessment (2003)[3]:

> "*Despite SEPA requirements for full disclosure of impacts on "flora and fauna" at project sites, casual observations and duplication of lists containing those species expected to or thought to occur at the site in question, have sufficed for the majority of EIS's prepared for projects inside the city limits. The lack of required on-site study's or quantified biological assessments in the SEPA process has resulted in the actual impacts on existing*

[2] Subdivision Proposal Application, Reports, Exhibit D – Wildlife Habitat Assessment, Technical Memorandum; https://cob.org/wp-content/uploads/exhibit-d-habitat-assessment-20230620.pdf

[3] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf

wildlife left unaddressed. This is a serious gap in the SEPA process locally and can be easily remedied with the lead agency requiring an assessment of impacts based on site specific data prior to issuing its threshold determination."

This development, as proposed, will likely undermine previous **significant investments by the city and community** to protect the fragile, valuable, rare and unique habitats all around this site – terrestrial and aquatic. These significant investments and the ongoing significant community interest and activity underscores why more analysis of environmental impacts to this entire network of interconnected terrestrial and aquatic ecosystems and habitats is so crucial.

Therefore, a SEPA Determination of Significance is more than warranted, and an independent, objective, and comprehensive Environmental Impact Statement (EIS) is necessary before <u>any decisions</u> regarding development are made.

Any development on this ecologically sensitive site is likely to harm this designated *Important Habitat Hub and Area* and the *Wildlife Corridor and Network* that it is part of. Moreover, the proposed subdivision development is likely to harm surrounding, interconnected protected lands and wetlands which provide rare and important wildlife habitat, including: the Mud Bay estuarine wetlands and mudflats; Clark's Point; Chuckanut Bay Shorelands; Chuckanut Village Marsh; Chuckanut Bay Open Space; Chuckanut Creek; and other designated terrestrial Wildlife Areas connected to this location's Wildlife Corridor and Network.

In addition, the public asset protecting Bellingham's only Great Blue Heron nesting site, the Post Point Heron Colony, will be harmed because: the location proposed for subdivision development is an important <u>sheltering site</u> for the Post Point Great Blue Herons, and the adjacent public shoreline and estuarine wetlands and mudflats of Mud Bay are a preferred, important <u>feeding site</u> for this colony.

Subdivision development disturbances can be expected from the beginning of subdivision infrastructure work, and to continue for years as the proposed multiple phases of development would persist. The disturbances' negative impacts on wildlife habitat can be expected to last for decades to come – and in many cases, the consequences would worsen over time. Some of the subdivision development disturbances likely to cause significant adverse habitat impacts include:

- Polluted drainage directly into the Mud Bay Estuarine Wetlands and Mudflats and Chuckanut Bay Shorelands park, which will directly affect the interconnected Chuckanut Village Marsh and Chuckanut Creek fish and wildlife habitats
- Fragmentation of the terrestrial Wildlife Corridor and Wildlife Network
- Habitat destruction and degradation on and around this site's rare natural forested shoreline habitat, both within the proposed 200' "Buffer" from the high water mark, and upland of the Buffer
- Sound and activity disturbances (e.g. from road building, bulldozing, piledriving, rock breaking, blasting, ongoing residential activities)
- Landslides / mass wasting once the site's hydrology and stability is significantly altered by roads, massive retaining walls, driveways, structures, and other hardscaping; this has

the likelihood of both polluting the Category I estuarine wetlands, and degrading/destroying the exceptional, valuable coastal forest habitat

PUBLIC HARMS

If the Planning Department fails to determine that the proposed subdivision is likely to have Significant Adverse Environmental Impacts, then it is probable the Public will suffer significant increasingly harmful consequences once development begins, and then ongoing and increasing over time. The Public harm can be expected in the probable habitat and ecology degradation this proposed subdivision would cause on adjacent and nearby protected and public lands and unique, rare estuarine wetlands, and the adjacent salmon habitat marsh and creek.

Public and private conservation investments of millions of dollars have been made to protect the wildlife across this Wildlife Network, which the site is currently a vital, functioning component of. Subdivision development destruction and degradation of habitat – and therefore harm to the public's interest and assets – can be expected to be ongoing and increasing for many reasons. For example, it will be ongoing and increasing:

- as the subdivision's pollutants increase and accumulate over time, and spread via drainage and erosion to the downslope habitats;
- as aquatic, terrestrial, and avian wildlife's responses to the disturbances accrue over time;
- as habitat fragmentation effects build over time;
- as on-site habitat destruction increases over time due to multi-factorial interacting disturbances including: ongoing tree removal and loss, hydrological changes which increase erosion and runoff, ongoing landscaping and hardscaping by lot owners, etc.;
- as on-site habitat destruction increases over time, it will in turn negatively affect adjacent interconnected habitat, including the proposed 200' shoreline "Buffer" and adjacent terrestrial and aquatic habitats.

SHORELINE MASTER PROGRAM – MUNICIPAL CODE ISSUES

Bellingham's Shoreline Master Program (SMP)[4] has shoreline jurisdiction at this location, which is designated in the SMP as "Natural, Urban Conservancy, Pocket Estuary Shoreline." **This specific location is highlighted in the SMP for both conservation and restoration.** Clearly this proposed subdivision development would result in "net loss of shoreline ecological function on a reach and watershed scale," and would therefore violate the SMP Municipal Code. A subdivision of these four lots into 38 lots (with up to 152 residences), and the proposed infrastructure of roads, driveways, massive retaining walls, widespread hardscaping, and structures will certainly significantly and adversely impact the ecology of the shoreline here – during construction phases, and ongoing. After the proposed infrastructure is in place, development of the lots will follow in phases, with further removal of forest habitat, vegetation, and new pollutants introduced ongoing from roads, drives, driveways, yards, and

[4] Bellingham Municipal Code, Title 22, Shoreline Master Program; https://bellingham.municipal.codes/BMC/22

lot-owner activities. The narrow, steep and mostly rocky terrain of the 200' "Buffer" will be significantly negatively impacted by upslope development activities, as outlined above.

As the SMP notes and requires:

> **"22.09.090 Residential development.**
>
> Residential development includes subdivisions of large parcels, multifamily housing and condominiums and single-family residences. Under the Shoreline Management Act, owner occupied single-family residences are a preferred use on the shorelines. However, residential uses can cause significant damage to the shoreline area through cumulative impacts resulting from vegetation loss, shoreline armoring, increased amount of impervious surfaces and resulting stormwater runoff, septic system failure, and additional vehicular trips.
>
> A. *Policies.*
>
> 1. Development of residential units should result in no net loss of ecological function."

The city has a clear duty to require development plans meet the SMP's Goals and Objectives; this subdivision proposal is clearly at odds with the Goals and Objectives of habitat Restoration and Conservation at this unique, valuable, and rare forested shoreline habitat. A large housing development of up to 152 units upslope from the 200' "Buffer" proposed in the project will likely result in significant negative impacts to the ecological function of the Buffer, the public Shoreline, the estuarine wetlands and mudflats habitat that the site drains to, and therefore the interconnected marsh and creek salmon and wildlife habitat.

The city has an obligation to understand the Environmental Impacts of the proposed project with empirical, best-science based, quantitative assessment and analysis. Vague, high-level empty assurances from the applicant are insufficient to meet SMP requirements.

Once such data and analysis is obtained, the city then has an obligation to require the project be revised at this Restoration and Conservation location to ensure no loss of ecological functions can occur:

> "Restoration and conservation should occur via comprehensive restoration planning, public land acquisition, placing of conservation easements, site design and as development/redevelopment occurs. Activities that restore and enhance ecological functions of our shorelines should be emphasized. This master program's regulations and policies are required to achieve no net loss of shoreline ecological function on a reach and watershed scale."[5]

[5] Bellingham Municipal Code, Title 22, Shoreline Master Program 22.02.020; https://bellingham.municipal.codes/BMC/22.02.020

In addition, the SMP requires that any permitted uses adjacent to critical saltwater habitats should not compromise the ability to restore these features in the future[6]:

> "A. Policies
>
> 3. Permitted uses adjacent to or within critical saltwater habitats should not compromise the ability to restore these features in the future."

Because the Mud Bay estuarine wetlands provide critical saltwater and freshwater habitat[7], because this is a rare and valuable habitat in Bellingham, and because the habitat has undergone and is undergoing significant efforts to restore the shellfish[8] and salmon habitat[5], no development adjacent to, and draining into, these estuarine wetlands can be allowed which could compromise the ecological functioning of these features. The subdivision development as proposed would introduce pollutants into Mud Bay which would compromise the critical saltwater habitats of both the estuarine wetlands and the marsh. These pollutants would be introduced via stormwater outflow/discharge, drainage downslope, erosion, mass wasting, and also likely future lot owner activities.

WILDLIFE HABITAT CONSERVATION AREA DESIGNATION

Bellingham Municipal Code 16.55.470 designates this site as "wildlife habitat conservation area," because it is "land useful or essential for preserving connections between habitat blocks and open spaces"[9] and "regardless of any formal identification" is "hereby designated (a) critical area" and "shall be managed consistent with the best available science."[10]

> "**16.55.470 Designation of fish and wildlife habitat conservation areas.**
>
> A. Fish and wildlife habitat conservation areas include:
>
> 7. Land useful or essential for preserving connections between habitat blocks and open spaces.
>
> B. All areas within the city meeting one or more of these criteria, regardless of any formal identification, are hereby designated critical areas and are subject to the provisions of this chapter and shall be managed consistent with the best available science."

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[6] Bellingham Municipal Code, Title 22, Shoreline Master Program 22.08.040; https://bellingham.municipal.codes/BMC/22.08.040

[7] City of Bellingham, Chuckanut Village Marsh Restoration Project Overview: EN0031; https://cob.org/wp-content/uploads/Chuckanut-Village-Marsh-EN-0031.pdf

[8] Whatcom Marine Resources Council, pilot Olympia oyster restoration project; https://www.whatcomcountymrc.org/projects/pilot-olympia-oyster-restoration/

[9] City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; https://cob.org/services/environment/restoration/wildlife-corridor-analysis

[10] Bellingham Municipal Code, 16.55.470; https://bellingham.municipal.codes/BMC/16.55.470

The applicant has failed to provide a scientifically credible Wildlife Habitat assessment, having instead provided a summary of cursory one-day observations, with unrealistic statements regarding habitat retention by future lot owners that are at striking odds with actual current neighborhood property owners' behavior. Therefore, the city lacks the information at this time to make decisions "consistent with the best available science." See below for details on the inadequacies of the applicant's fish and wildlife habitat information and assessments.

INSUFFICIENT HABITAT ASSESSMENT BY APPLICANT

The applicant's November 16, 2022 Technical Memorandum (TM)[11], submitted as "Exhibit D – Wildlife Habitat Assessment", is both incomplete and misleading. Given its failure to follow SEPA checklist guidance, its wrongfully constrained and incomplete scope of assessment, the limitations of its one-day site visit, the lack of quantitative data, and it's omission of readily available Wildlife Habitat information about this site, it would be clearly erroneous and derelict for the Planning Department to rely on this TM to determine the adverse wildlife habitat impacts of the proposed subdivision. The TM provides at best a cursory, gap-filled, optimistic view of the impacts the proposed subdivision would have on wildlife habitat on the property, and on valuable, fragile wildlife habitats across adjacent and nearby public lands and waters.

Before approving any development plans, per SEPA checklist guidance, the Planning Department must be provided with an objective and sufficient assessment of the likely wildlife impact both on this site, and on the terrestrial and aquatic wildlife network which this site is a well-documented and integral part of.

The substantive ways in which this Technical Memorandum (TM) is glaringly insufficient as an adequate assessment of Wildlife Habitat include the following thirteen issues:

1) **Failure to follow "SEPA checklist guidance, Section B: Animals"**[12] (highlight added):
   a) "c. Is the site part of a migration route?
      i) Consider birds, fish, and other wildlife when identifying affected migration routes. Your proposal could have an adverse impacts *(sic)* if the affected area includes rare or unique habitat, wildlife corridors, fish-bearing rivers and streams, lakes, ponds, or other areas where migrating birds are likely to stop."
   b) The TM fails to recognize that:
      i) The site itself is a designated Bellingham **Important Habitat Hub and Area**, and as such,
      ii) it is also a vital part of a documented Bellingham **Wildlife Corridor** and larger **Wildlife Network**.
      iii) Development of this site will affect adjacent habitats which are **rare and unique habitats**; these include: the adjacent fish-bearing Mud Bay estuarine wetlands

[11] Subdivision Proposal Application, Reports, Exhibit D – Wildlife Habitat Assessment, Technical Memorandum; https://cob.org/wp-content/uploads/exhibit-d-habitat-assessment-20230620.pdf

[12] Department of Ecology, State of Washington, *SEPA checklist guidance, Section B: Animals*; https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-5-animals

and shellfish-rich shoreline and mudflats; Chuckanut Village Marsh; Chuckanut Creek; Clark's Point; Chuckanut Bay Open Space; and Hundred Acre Wood.

c) See part I of this letter for details.

2) Failure to explain how this proposed subdivision development could possibly comply with the requirements of the Bellingham Shoreline Master Program requirement to "result in no net loss of ecological function" of the shoreline and shorelands (BMC 22.09.090), given the significant disturbances to land, hydrology, and drainage from development activities, followed by likely disturbances from future lot owner activities.
3) Failure to explain how this proposed subdivision development could possibly comply with BMC 22.08.040, given the likelihood it's polluted drainage would "compromise the ability to restore" "critical saltwater habitats." Polluted stormwater and drainage from the development would enter the estuarine wetlands and mudflats. Further, pollutants from stormwater outlets (a new outlet and an existing outlet) would be concentrated at the location of the proposed outlets, especially during low and lower tides. These concentrated pollutants would then be carried up to Chuckanut Marsh and Chuckanut Creek by incoming shallow tidal water.
4) Failure to consider how development on this Wildlife Habitat Hub would impact the fragile, ecologically important, and unique **Mud Bay estuarine wetlands and mudflats habitat**, which is especially alarming in light of the project proposal's non-compliant and dangerously inadequate Stormwater Management Plan.
   a) This oversight is glaring since the TM does document that "An estuarine and marine wetland is mapped along the shoreline of the project site."
   b) See part VI of this letter for details, and also parts I, II, and V.
5) Failure to consider the site's current well-documented ***Wildlife Habitat Hub and Area* designation and role**, and how subdivision development would impact that status and role – including significant negative fragmenting impacts, and also how establishment of new "landscape resistance" (such as the roads, driveways, and housing of this development) will further channelize wildlife flow.
6) Failure to consider the site's current, well-documented **status and role in the local terrestrial *Wildlife Network***, its role as part of a city "**natural resource amenity**," and how subdivision development would impact those statuses and roles, as it fails to consider the site's **unique setting** and **habitat characteristics** to provide refuge and connectivity for many species across this unique network of public and private lands.
7) Failure to consider how the development activity would be likely to disturb the feeding and on-site roosting behavior of Bellingham's **Great Blue Herons** – the Post Point colony favors this nearby, rich feeding ground for their young, and it is documented that their former Chuckanut Bay colony was abandoned as a result of subdivision development activity.
   a) See part II of this letter for details.
8) Failure to consider how the development activity would be likely to significantly, negatively impact the **Shellfish and Salmon** habitat of the adjacent and interconnected shoreline, Mud Bay Category 1 estuarine wetlands and mudflats, Chuckanut Village Marsh, Chuckanut Creek.
   a) See part III of this letter for details.
9) **Incomplete, inadequate on-site wildlife survey** (only 23 species of birds and mammals are documented, from observations made on just one day in July) – the information

provided is cursory, non-quantitative, and incomplete. For example, it is missing multiple species known to traverse, shelter, and reside on this site, including seasonal species and difficult-to-observe species[13].

a) See part V of this letter for details.

10) Failure to note that the rare, mature coastal forest habitat on this site has been assessed in the "Bellingham Habitat Restoration Technical Assessment"[14] to have the "Highest" rating across all analyzed habitat functions and attributes except "System Maturity" which has a rating of "Higher." In this same assessment, this site rated highest for taking Protection Actions to preserve the habitat.

a) The TM makes multiple questionable assertions about the level of tree habitat retention on the site; a more realistic expectation for tree retention by the ultimate lot owners is **51%**, which is the current neighborhood canopy coverage[15] (that figure includes protected forested and greenspace areas), not the **81%** the applicant predicts. In this neighborhood, owners of view lots aggressively remove trees between the homes and the views, or aggressively prune trees which often ultimately leads to impaired habitat function and even loss of such trees. The TM's optimism that trees will be retained at a high level do not match the reality of the neighborhood. Habitat destruction can reasonably be expected to be severe: half or more of this "best natural forested shoreline in the city," as the city's 2003 Wildlife Habitat Assessment describes it, would likely be lost.

b) The TM's assessment of the coastal forest habitat, trees and vegetation, is cursory, high-level, and non-quantitative. It fails to provide details of the current coastal forest habitat features and functions, including specifics such as forest density in different areas, quantitative data of species use, seasonal use patterns, and wildlife passage use. Given the site's current features and function as critical habitat, without data on the current coastal forest habitat and its current uses by wildlife, combined with assessment of how the likely significant coastal forest habitat will most probably be impacted by the subdivision development from inception through probable, reasonably foreseeable lot owner hardscaping and landscaping, critical information needed to make a SEPA threshold determination is missing.

c) See part IX of this letter for details.

11) Failure to assess how the proposed development's tree removal would affect wildlife habitat, wildlife presence, and wildlife behaviors. Indeed, such assessment would be challenging, given: the applicant has failed to map the site's trees of significance, nor plan for protection of such trees; the applicant has failed to describe or document the probable end-state forest habitat degradation once all construction and landscaping is completed.

a) Failure to observe or to address the fact that the proposed "200-foot forested buffer along the shoreline of Chuckanut Bay *(sic)*" is made up largely of steep, often near-vertical, cliffs and unvegetated large boulders. The steep, inhospitable terrain makes

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[13] City of Bellingham, Appendix A; https://cob.org/wp-content/uploads/HundredAcre-Master-Plan-Final-9-12-22.pdf

[14] City of Bellingham, Bellingham Habitat Restoration Technical Assessment; https://cob.org/wp-content/uploads/final-bhrta-12-15-15.pdf

[15] City of Bellingham, "Urban Forestry Management Plan – Canopy and Forest Structure Analysis Summary report"; https://cob.org/wp-content/uploads/210823-Bellingham-Canopy-and-Forest-Structure-Report-1acd.pdf

the so-called "forested buffer" dramatically less functional as habitat for many terrestrial species. Indeed, the loss of high-value-habitat in the narrow bench and toe sections of the property's complex topography – where the bulk of development would occur – would be challenging to overcome simply by establishing substantially inferior and less-functional "buffers" on the steep slopes above the Mud Bay estuarine wetlands.

b) For just one example of loss of functionality due to the topographical uniqueness of this site, it will be challenging for much terrestrial wildlife to even traverse the ostensible "buffer" safely. While some species can and do traverse this forbidding terrain, only fit, agile individual specimens of those species currently can be observed to willingly do so.

12) All on-site wetlands-related wildlife habitat findings in this Technical Memorandum are unreliable and insufficient because:

c) The wetlands-related findings are based on observations made on a single dry-season day (July 21, 2021) just after one of the hottest June/July periods on record[16,17], which would have dramatically affected and altered the habitat;

d) The TM apparently relied on the applicant's submitted Wetland Delineation & Critical Areas assessment and mapping; however, that report is itself highly questionable (because its site visits were conducted during the driest part of the year, on three days in June 2020 and August 2021 which was just after a record-setting heat wave), and therefore this TM's findings are plainly undercut as well; and

e) In addition to wetlands, the site is full of seasonal seeps, springs, and other wet areas which are important habitat to multiple species of animals, fungi, and plants, all of which are key participants in the overall wildlife habitat. None of these were observed, recorded, or reported on, which establishes another glaring gap in the TM.

13) Apparent self-recognition that the TM is cursory and its scope is constrained, as the TM itself calls for more assessment and analysis, stating that "the conclusions of this report should be reviewed by the appropriate regulatory agencies." Ecology and other agencies will likely find the TM insufficient and inadequate for reasons including the ones above, which are further described below.

For decades, the Bellingham community has worked collaboratively with the city, the county, and multiple local environmental organizations to protect the habitats of public lands and estuarine wetlands adjacent to this site, which together comprise a vital, rare terrestrial and estuarine Wildlife Network. **Investments of millions of dollars**, and untold hours of effort, have gone into the protection and restoration of these tightly interconnected wildlife habitats, for the benefit of today's residents and future generations.

[16] Washington Post, Heat Records Pacific Northwest; https://www.washingtonpost.com/weather/2021/06/27/heat-records-pacific-northwest

[17] 2021 Western North America heat wave, Wikipedia; https://en.wikipedia.org/wiki/2021_Western_North_America_heat_wave

These **public assets and amenities** notably include:

> Clark's Point natural public amenity; Chuckanut Bay Shorelands park; Chuckanut Village Marsh; Chuckanut Bay Open Space (North and South); Hundred Acre Wood; Woodstock Farm; Arroyo Park; Chuckanut Creek; and the Post Point Heron Colony.

Together these sites, either contiguously or via connecting Wildlife Corridors and flight patterns, comprise a fragile and already partially fractured Wildlife Network unique to Bellingham. The subject site is a crucial part of this Network.

The Public has made it resoundingly clear that their substantial investment in this hard-won Wildlife Network, a public asset, is of tremendous public value. Because a subdivision at this location would further fracture this fragile public asset, a more comprehensive, empirical, accurate, and objective Wildlife Assessment must be completed before the city can credibly state it has sufficient information to issue anything other than a SEPA Determination of Significance.

Figure 8 from the City of Bellingham "Wildlife Corridor Analysis," July 13, 2021, shows the unique setting of this coastal forest habitat:

The *City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; Figure 8, Terrestrial Wildlife Habitat Network* shows **the site of the proposed subdivision is a designated terrestrial Important Habitat Hub and Important Wildlife Habitat Area** as outlined by bright green line. We have highlighted the site by a **pink oval** to orient the reader.

The site is the **center part** connecting two other Important Habitat Hubs and Areas:

- The site is linked to the west (gold line) by an **Important Wildlife Corridor** to **Clark's Point**, itself also an Important Habitat Hub and Important Wildlife Habitat Area (outlined in bright green line).
- The site is linked to the east (gold line) by an **Important Wildlife Corridor** to **Chuckanut Village Marsh and Chuckanut Bay Open Space**, also Important Habitat Hubs and Areas (outlined in bright green line)

All three of which are part of a larger **Wildlife Network** that includes, for example, The Hundred Acre Wood to the north and east.

This map does not indicate non-terrestrial habitats.

Source: City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; Figure 8, Terrestrial Wildlife Habitat Network; https://cob.org/services/environment/restoration/wildlife-corridor-analysis

SUPPORTING DETAIL

Below, more detail is provided on several of the issues outlined above, to support the necessity of a SEPA Determination of Significance, and to further illustrate key deficiencies with the applicant's inadequate and misleading Technical Memorandum (TM).

I. FAILURE TO FOLLOW "SEPA CHECKLIST GUIDANCE, SECTION B: ANIMALS"

SEPA checklist guidelines exist to help ensure applicants provide government officials with sufficient information to make a SEPA threshold determination. In this application, the only materials provided to address Wildlife Habitat are this Technical Memorandum (TM).

The SEPA checklist guidance, Section B: Animals, asks applicants to, in part, address the following:

> "c. Is the site part of a migration route?
>
> Consider birds, fish, and other wildlife when identifying affected migration routes. Your proposal could have an adverse impacts *(sic)* if the affected area includes rare or unique habitat, wildlife corridors, fish-bearing rivers and streams, lakes, ponds, or other areas where migrating birds are likely to stop."

The TM mentions merely one "adjacent biodiversity area and corridor." It is silent on the following major facts:

- The site itself a designated Bellingham **Important Habitat Hub**.
- The site is a vital part of a documented Bellingham **Wildlife Corridor** and **Wildlife Network**. Indeed, this site is the center piece connecting the Clark's Point wildlife reserve and public spaces to the Chuckanut Village Marsh and Chuckanut Bay Open Space.
- Development of this site will affect adjacent habitats which are both **rare and unique habitats**: the adjacent fish-bearing Mud Bay estuarine wetlands and shellfish-rich shoreline; salmon-bearing Chuckanut Marsh; salmon-bearing Chuckanut Creek; Clark's Point; Hundred Acre Wood.

These omissions are material and they are glaring, in light of state and county emphasis on protection of wildlife corridors, plus **the strong city and public demonstrated interest to protect this specific unique habitat corridor**.

The following figures clearly show this site's designation and role as an **Important Habitat Hub and Area**, and as such, its status and role as part of the Wildlife Corridors and Network spanning: Clark's Point, this site, Chuckanut Village Marsh, Hundred Acre Wood, and the interconnected Wildlife Habitat Areas, Hubs, and Corridors mapped in

the City of Bellingham "Wildlife Corridor Analysis"[18]. These maps below show Important Habitat Hubs and Areas in green, with the document explaining that these "illustrate the most important terrestrial habitat areas in the City." The site proposed for subdivision is clearly designated an ***Important Habitat Hub*** and ***Important Wildlife Habitat Area***, with ***Important Wildlife Corridors*** connecting it directly to Clark's Point and to Chuckanut Village Marsh and Chuckanut Bay Open Space. (Note these maps cover terrestrial habitat only, and so the Mud Bay estuarine wetlands and mudflat habitats are omitted from the mapping.) Moreover, these maps show the site's importance in the designated ***Wildlife Network*** in this area.

City of Bellingham Wildlife Corridor Analysis

3.4 Multi-species Overlap Areas

The important habitat hubs for all species were overlaid (Figure 7) to identify hubs important for habitat connectivity to two or more of the focal species. Overlapped important habitat hubs were sites of high functional connectivity and high conservation priority for the focal species.

This combined map provides a high-level output to illustrate the most important terrestrial habitat areas in the City. Marine and freshwater habitat are not represented in this analysis and therefore corridors that extend to the marine foreshore rated as lower importance for the terrestrial species represented in the model.

City of Bellingham Wildlife Corridor Analysis

3.5 Terrestrial Wildlife Habitat Network

The outputs from this analysis were used to identify a Terrestrial Wildlife Habitat Network Map for the three focal species. Larger important habitat hubs that are expected to support the greatest diversity and number of wildlife species have been grouped together. These hubs tend to include areas that have a variety of habitat types and provide natural areas away from the influences of urban development.

Wildlife movement corridors were identified to connect these larger hubs together. Corridors are generally narrow with lower habitat value, however they could support the movement of a diversity of wildlife species. There are however a variety of barriers to movement that exist along many of these proposed corridors. These include non-natural features such as roads and developed properties, as well as natural barriers to many terrestrial species such as rivers. Wildlife species will respond differently to these barriers depending on their tolerances and capabilities. Interstate 5 is considered a significant movement barrier because it is wide and supports a high volume of traffic. Known locations of wildlife conflicts along this interstate were considered.

This Terrestrial Wildlife Habitat Network Map (Figure 8) is based on the outputs for the terrestrial focal species modeled. However, these species do represent a broader range of terrestrial wildlife species that are expected to make use of these corridors and habitat areas. This analysis does not consider habitat and movement corridors for aquatic species.

[18] City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; https://cob.org/services/environment/restoration/wildlife-corridor-analysis

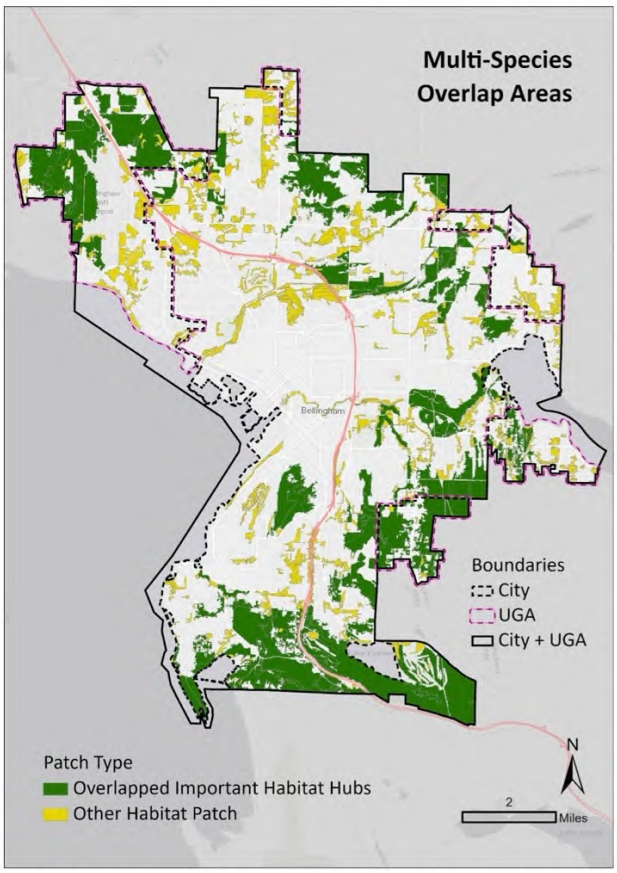
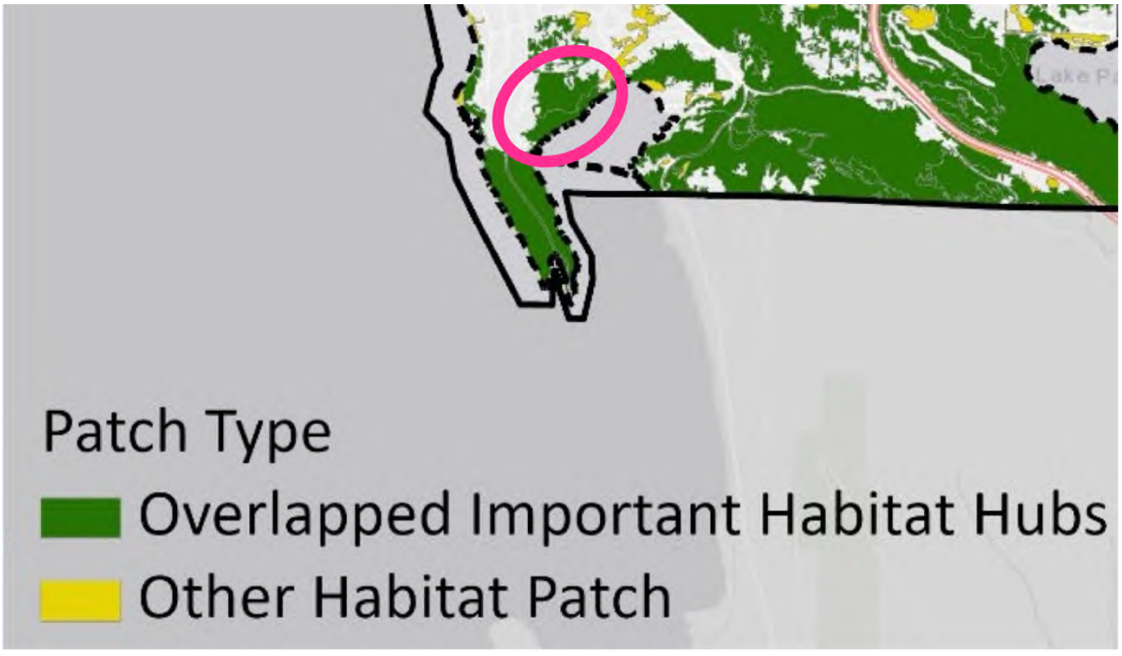


Figure 7. Multi-species overlap areas of important habitat hubs. The habitat areas not identified as important are shown as "Other habitat patches" for reference.



City of Bellingham "Wildlife Corridor Analysis" Figure 7: Important Habitat Hubs.
*Note: Mud Bay Cliffs is highlighted by a **pink oval** in this section of Figure 7, to orient the reader.*

Figure 8. Terrestrial Wildlife Habitat Network. This analysis does not consider habitat extending outside of the City boundary, or habitat for marine or freshwater fish.

City of Bellingham "Wildlife Corridor Analysis" Figure 8: Terrestrial Wildlife Habitat Network.
*Note: Mud Bay Cliffs is highlighted by a **pink oval** in this section of Figure 8, to orient the reader.*

Note that this site is also documented as part of existing Wildlife Corridors in other city-posted/provided documentation. For example, it is clearly mapped as part of the Bellingham Wildlife Corridors on page 20 of the City of Bellingham – Public Work's "Bellingham Habitat Assessment," March 2003, Draft.[19] Also in this document, the habitat of this site is clearly described as a key part of a larger block of habitat, Habitat Block 7. This description includes the following excerpts (emphasis added):

> "Block 7 contains the mouth of Chuckanut Creek. It encircles the east and north sides of inner Chuckanut Bay. This block contains contiguous forest, a large salt marsh and estuary. It provides a steep, narrow connection between Clark's Point (block 9) and block 4. It is bordered by Chuckanut Drive on the east, Viewcrest Drive and the Edgemoor neighborhood on the north and west and Chuckanut Bay to the south and west. The northern upland is dry Douglas fir forest with large cliffs and steep hillsides."
>
> "Wildlife found commonly here include, bald eagle, osprey *(Pandion haliaetus),* great blue heron, red fox, deer, western tanager *(Piranga ludoviciana),* kingfisher, red-legged frog and a variety of salamanders. Chuckanut Creek flows for approximately 2,400 feet through block seven and contains spawning and rearing habitat for coho, chum, chinook and steelhead salmon and searun cutthroat trout."
>
> "This block provides a good connector between upland and shoreline habitats."
>
> "Block 7 has the best natural forested shoreline in the city."

Note: This "**best natural forested shoreline in the city**" is largely comprised of this site's mature woodlands. This habitat description, and the mapping of the site as part of Bellingham's Wildlife Corridor, is readily publicly available. Yet no mention of it occurs in the applicant's TM.

Looking beyond Bellingham official and public emphasis on protecting and preserving such sites, Whatcom County also fully recognizes the vital importance of **Wildlife Habitat Connectivity**, and the profoundly destructive impacts of habitat fragmentation.

From Whatcom County, "Wildlife Habitat Connectivity in Whatcom County, Washington"[20]:

> "Wildlife habitat connectivity – the ability of a landscape to facilitate the movement of wildlife species across it – is critical for wildlife to thrive and ecosystems to function. Animals move to find resources, migrate across seasons, avoid dangerous disturbances, or find new mates and habitats. Even stationary species like plants and fungi move across generations as habitats shift and environments change. The ability to move through a connected landscape with intact habitat and limited human impact is

[19] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf

[20] Whatcom County, "Wildlife Habitat Connectivity in Whatcom County, Washington" February 2023; https://www.whatcomcounty.us/DocumentCenter/View/74594/Wildlife-Habitat-Connectivity-Wildlands-Network-2023

> necessary for many species to survive, thrive, and evolve. This is especially true in the face of the growing impacts of climate change, which will cause species' ranges to shift."
>
> And found that "landscape resistance" (such as roads and housing) in urban areas means that "…wildlife flow is often channelized into tight corridors between the remaining, fragmented natural areas."

Washington State also has myriad documented exhortations to take special care when contemplating development on or near important habitat hubs and corridors. Moreover, terrestrial habitat connectivity is vital for the functioning of the ecosystems so connected, including aquatic environments. From WSDOT "Wildlife habitat connectivity - Projects & progress" [21] (emphasis added):

> "**The concepts of fish passage and terrestrial wildlife habitat connectivity are linked**. Riparian corridors (where aquatic and terrestrial environments meet) comprise small portions of the landscape but **provide disproportionately important ecosystem functions**. These areas are commonly used by wildlife to travel between patches of suitable habitat, and in highly fragmented urban landscapes, represent some of the last remaining travel routes available."

This site is notably unique in its physical setting adjacent to the Mud Bay estuarine wetlands and mudflats. The city and community have invested public resources to restore Chuckanut Village Marsh habitat, with a key driver being recognition that Mud Bay is ecologically rare and of special importance to Bellingham. As documented in the city's Chuckanut Village Marsh Restoration Project Overview (emphasis added):

> "Cumulatively, pocket estuaries are very important to several life history stages of juvenile chum salmon and federally listed juvenile Chinook and steelhead salmon. Chuckanut Bay and adjacent lands also provide habitat for many species of wildlife, including Great Blue Heron."
>
> "Chuckanut Village Marsh restoration was proposed based on an understanding of the ecological importance of this type of habitat and its scarcity locally."[22]

Part of the Wildlife Hub Network closely connected to this site, the Hundred Acre Wood (formerly Chuckanut Community Forest) has also benefitted from an investment of public resources to protect habitat. As documented in the city's Chuckanut Community Forest (CCF) Park District Stewardship Plan[23] (emphasis added):

> "The CCF is positioned between several fish-bearing streams: Padden Creek, Hoags Creek, and **Chuckanut Creek**; and multiple wetlands are on site (Figure 1). The nearby

[21] WSDOT "Wildlife habitat connectivity - Projects & progress" 2022; https://wsdot.wa.gov/about/data/gray-notebook/gnbhome/environment/wildlifehabitatconnectivity/projectprogress.htm
[22] City of Bellingham, Chuckanut Village Marsh Restoration Project Overview: EN0031; https://cob.org/wp-content/uploads/Chuckanut-Village-Marsh-EN-0031.pdf
[23] City of Bellingham, Chuckanut Community Forest Park District Stewardship Plan, Chuckanut Community Forest; https://cob.org/wp-content/uploads/21-07740-000_StewardshipPlan_ChuckanutCF_20220810_Reduced.pdf

> Chuckanut Pocket Estuary and Mud Bay, located approximately 2,000 linear feet (LF) to the southwest of the CCF, provides valuable marine nearshore habitat for many species. The CCF provides terrestrial connectivity for species dependent on forested habitats and large contiguous migratory corridors. The CCF's **unique** landscape setting and **habitat characteristics** to provide refuge and connectivity for many species within the greater community has been the impetus for advocating for its protection through Public Process (Ballot Measure 2013)."

Moreover, cursory wildlife assessments such as the Technical Memorandum provided by the applicant are highly problematic. As was noted in the City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft [24], Bellingham has relied on incomplete casual observations despite SEPA requirements for full disclosure of impacts at project sites:

> "Review of the existing Environmental Impact Statements and planning documents revealed a lack of reports based on empirical data; particularly lacking are past scientifically credible wildlife studies. Despite SEPA requirements for full disclosure of impacts on "flora and fauna" at project sites, casual observations and duplication of lists containing those species expected to or thought to occur at the site in question, have sufficed for the majority of EIS's prepared for projects inside the city limits. The lack of required on-site study's or quantified biological assessments in the SEPA process has resulted in the actual impacts on existing wildlife left unaddressed. This is a serious gap in the SEPA process locally and can be easily remedied with the lead agency requiring an assessment of impacts based on site specific data prior to issuing its threshold determination. As stated in the SEPA rules *When there are gaps in relevant information or scientific uncertainty concerning significant impacts, agencies shall make clear the such information is lacking or that substantial uncertainty exists* (WAC 197-11-080 (2)*), If information on significant adverse impacts essential to the reasoned choice among alternatives is not known and the costs of obtaining it are not exorbitant, agencies, shall obtain and include the information in their environmental documents* (WAC 197-11-080 (1)) ... *The lead agency may require field investigation or research by the applicant reasonably related to determining a proposal's environmental impacts* (WAC 197-11-100(2)), *the lead agency shall make its threshold determination based upon information reasonably sufficient to evaluate the environmental impact of* a *proposal* (WAC197-11-335)."

Given the role this site plays in its surrounding setting of terrestrial and aquatic ecosystems, and given its designated role as an Important Habitat Hub and Area, a thorough, quantified on-site biological assessment is necessary before a SEPA threshold determination can be properly made.

Note: The '*City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft*' document is relied on by city officials for ongoing habitat and planning purposes, even though it was not

[24] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf

finalized beyond final draft stage. The document contains information missing from other assessments, the scopes of which were constrained because this document already covered them and so was relied on. For example, the Forest Blocks the city uses in planning are the Habitat Blocks from this assessment. The city posts this document for use and reference, the city uses this document, and the city instructs the community to use this document. For example:

- The city posts this document here, for ongoing use and reference: https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf
- The city uses this document:
    - "…Forest Habitat Blocks in the Project Area were previously delineated and classified by Nahkeeta Northwest (2003)."
      City of Bellingham, Bellingham Habitat Restoration Technical Assessment, 2015; https://cob.org/wp-content/uploads/final-bhrta-12-15-15.pdf
- The city instructs community members to use it:
    - "…While never finalized, results can also be compared to the 2003 draft *City of Bellingham Wildlife Habitat Assessment* (Nahkeeta Northwest)."
      City of Bellingham letter March 14, 2022; https://drive.google.com/file/d/1-68BG5uUdMgUoEetEaUN9Jo1P5O25UhA/view?usp=share_link

Therefore, the document is appropriate to use for the purposes of considering wildlife habitat issues related to The Woods at Viewcrest proposed project, especially where no subsequent assessment has covered the information.

II. GREAT BLUE HERON HABITAT IMPACTS

This site is a unique and rare habitat for a unique and rare Great Blue Heron colony at Post Point, which has tremendous public interest and support. The Great Blue Herons of Bellingham's **Post Point Heron Colony** preferentially feed on this site's shoreline and are observed to take refuge to roost in its woodland. The Post Point colony "formed when Great Blue Herons were displaced from a nesting colony along Chuckanut Drive in 1999 and settled at current Post Point site in 2000."[25] Moreover, it was **subdivision development** which forced this colony to relocate[26], demonstrating this colony's sensitivity to the disturbances which development brings.

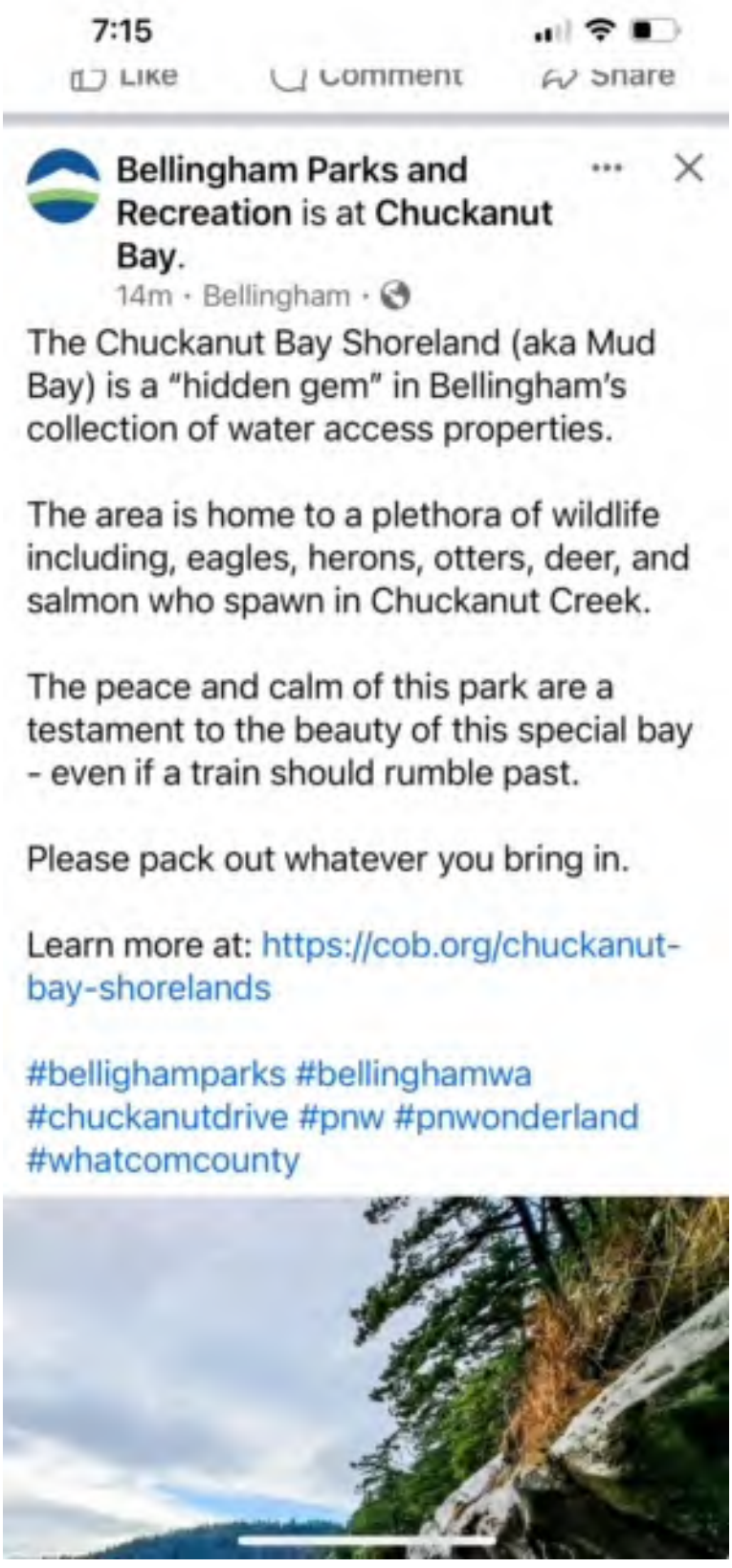
According to the information on the city "Post Point Heron Colony" website, and to area heron-watchers, this site is of particular importance to this colony, located just a mile-and-a-quarter, as the heron flies, from the colony:

[25] City of Bellingham, Post Point Heron Colony; https://cob.org/services/environment/restoration/post-point-heron-colony
[26] City of Bellingham, RESOLUTION NO. 2004-10, A RESOLUTION AFFIRMING THE IMPORTANCE OF CONSERVATION AND PROTECTION OF THE POST POINT GREAT BLUE HERON NESTING COLONY; https://cob.org/wp-content/uploads/2004-10-heron-resolution.pdf

> "Of particular importance are the foraging areas along the Bellingham Bay nearshore. Herons typically forage within three miles of their nesting site and are known to prefer foraging in the eelgrass habitat of protected embayments."

Protection of the herons' nest sites also includes <u>protection of their feeding sites</u>: they cannot successfully raise young in those nests unless they can successfully feed them. Because over 75% of Bellingham's shoreline is now developed, with few protected embayments, heron-suitable feeding locations are rare in the vicinity of the Post Point colony – and this proposed project site is precisely located at one of these rare feeding, foraging, and sheltering habitats. As the applicant's Technical Memorandum notes from their one-day site visit: *"…we did see three great blue herons perching in the trees overlooking the bay along the southeastern edge of the project site.*"

<u>Above</u>: Great blue heron feeding in the Mud Bay estuarine wetlands, directly below the site of the proposed subdivision.



<u>Above</u>: City description of Mud Bay Shoreland park on social media, touting the park's wildlife and describing it as a "hidden gem" in Bellingham's water properties.

III. SHELLFISH AND SALMON HABITAT IMPACTS

The TM is equally silent on the likely impact of subdivision development at this site adjoining the Mud Bay and Estuarine Wetlands and Mudflats, which provides both salmon and shellfish habitat, along with nearshore fish and shorebirds habitat. These rare and uniquely valuable wetlands are already under severe stress from previous, ill-considered, and poorly-executed development around Mud Bay (all of which is of course, "grandfathered" – and so is unlikely to be remediated). Avoidance of further stress to the wildlife of these estuarine wetlands is an imperative consideration, which must be addressed before further development is considered.

For example, the pollutants from existing housing developments have rendered shellfish from Mud Bay's estuarine wetlands unsafe for human health because of "Elevated bacteria levels in stormwater or freshwater drainage," as shown in the figure below from the Washington State Department of Health's *Shellfish Safety Information* website.[27] This unsafe level of pollution held for all of 2023 and continues to the time of this writing. Before the existing housing developments came into being, this was a safe recreational shellfish harvesting area. The Whatcom County Marine Resources Council has been monitoring pollution levels at this location since 2014, and the marine Fecal Coliform Bacteria levels (pollution from existing subdivisions) have been on the rise over time.[28]

In addition, longtime residents note the damage done to Mud Bay's eelgrass near city stormwater outflow pipes, which carry pollutants directly into the estuarine wetlands.

The applicant proposes adding stormwater to one of the existing city pipes to the west of the site, and discharging other stormwater via a new pipe just above the proposed 200' shoreline Buffer. The addition of this subdivision's pollutants into the Mud Bay estuarine wetlands and mudflats can reasonably be expected to further degrade the shoreline habitat, the estuarine habitat, the mudflats habitat, as well as the interconnected marsh and creek habitats. The development's pollutants would gather and concentrate at the outflow locations during low tide, and the concentrated pollutants would then be carried up to the marsh and the creek habitats as incoming shallow tide water flows in.

It is striking that the well-known, publicly available habitat information such as the above, which demonstrates the **degradation of estuarine wetlands habitat at this location from adjacent housing development**, is given no mention, let alone consideration, in the applicant's TM. It is obvious that, absent special planning assessment, analysis, and requirements, the development of any subdivision at this site would **necessarily worsen an existing habitat crisis at this exact location**.

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[27] Washington State Department of Health, "Shellfish Safety Information" website, accessed 2/11/2024; https://fortress.wa.gov/doh/biotoxin/biotoxin.html

[28] Chuckanut Pollution Identification and Correction (PIC) Program; https://www.whatcomcountymrc.org/media/20725/2022mrcannualreportfinal.pdf

The community has invested significant effort to restore native Olympia oyster populations of the Mud Bay estuarine wetlands. One of just two areas in Whatcom County identified by the Washington Department of Fish and Wildlife (WDFW) as restoration sites, the Mud Bay estuarine wetlands "was identified as an ideal option for potential native oyster restoration given the existing habitat conditions".[29]

The pictures below show community efforts underway at this ecologically rare and valuable habitat for shellfish restoration, and the location of the pilot patches just downslope from the site of the proposed subdivision development. The restoration program is ongoing.

[29] Whatcom County Marine Resources Council, Olympia Oyster Restoration; https://www.whatcomcountymrc.org/projects/pilot-olympia-oyster-restoration

<u>Above</u>: Efforts to restore native Olympia oyster population in Mud Bay estuarine wetlands, directly below the proposed subdivision site

<u>Below</u>: Location of native Olympia oyster pilot patches in the Mud Bay estuarine wetlands and mudflats

Source: Whatcom Marine Resources Council

IV. NATURAL RESOURCE AMENITY IMPACTS

The site and surrounding area is a designated "**natural resource amenity**" per the city's Community Planning, Edgemoor Neighborhood description[30] (highlight added for emphasis):

> "A large, steep, heavily wooded peninsula, commonly known as Clark's Point, extends into Bellingham Bay, forming the western boundary of Chuckanut Bay. Clarks Point is protected from further development with a conservation easement. City-owned greenway and tidelands provide public access to Chuckanut Bay. Steep slopes follow the edges of Chuckanut Bay, paralleling Viewcrest Road, and, together with Clark's Point, provide a natural resource amenity."

This is further evidence of the unique and special characteristics and setting of this site and its inextricable connection to the surrounding Wildlife Habitat Network.

Many visitors currently enjoy the natural resource amenity of Clark's Point and of this site. While the private owners of this site have posted No Trespassing on the site, the public views and appreciates the mature coastal forest, scenic natural cliffs, and abundant wildlife from the public spaces surrounding the site. Recreational uses include shoreline nature walks, picnics, bird-watching, wildlife watching, photography, painting, and kayaking and paddleboarding in the shallow waters of Mud Bay during high tides. Educational uses include field trips for students from Western Washington University.

It can reasonably be expected that, through the significant loss and degradation of exceptional mature, natural coastal forest habitat, along with other disturbances, the proposed subdivision development would significantly and negatively impact this natural resource amenity. Importantly, as described in this document, there would also be significant negative impacts to the surrounding public assets and amenities including: the proposed 200' shoreline "Buffer", the shoreline parklands, Mud Bay estuarine wetlands and mudflats, Chuckanut Village Marsh, Chuckanut Creek, and Clark's Point.

V. INCOMPLETE, INADEQUATE WILDLIFE SURVEY

In the Technical Memorandum, only 23 species of birds and mammals are documented, from site observations made on just one day in July. This cursory survey is missing multiple species known to traverse, shelter, and reside on this site, including seasonal species and difficult-to-observe species.

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[30] City of Bellingham, Community Planning, Edgemoor Neighborhood: https://cob.org/services/planning/neighborhoods/edgemoor-2

Residents in the area have observed wildlife sheltering, residing, and raising young on this site. The following observations have been made when wildlife comes into residents' yards, and when looking into the site from public land.

Birds

Great Blue Heron (sheltering), Bald Eagle (nests), Swallowtails, Peregrine Falcon, Turkey Vulture, Golden Eagle, Cooper's Hawk

Mammals

Bobcat, Mule Deer, Coyote, Cougar/Mountain Lion

Below: Photos of Bobcat family in resident's yard adjacent to the site (2023)

Further, a useful and legitimate proxy for the incomplete wildlife inventory is the Hundred Acre Wood Wildlife Inventory. This is a legitimate proxy because this site is connected to the nearby Hundred Acre Wood *Important Habitat Hub and Area* via the documented Wildlife Network,

and the site vegetation and wetlands provide proxy habitat. By definition, the Wildlife Network means all or many of these species can be expected to shelter on and traverse this proposed subdivision site as they migrate from Clark's Point, to Chuckanut Village Marsh and Chuckanut Bay Open Space, to Hundred Acre Wood. (Indeed, the TM itself points out "Species likely to be present on this site would also be expected in similar habitats in other areas of the Puget Sound lowlands.") Here is that Wildlife Inventory[31] (noting that this inventory unfortunately does not include amphibians and reptiles):

Birds

Ruffled Grouse, Great Blue Heron, Bald Eagle, Red-tailed Hawk, Killdeer, Barred Owl, Anna's Hummingbird, Rufous Hummingbird, Belted Kingfisher, Red-naped Sapsucker, Downy Woodpecker, Hairy Woodpecker, Norther Flicker, Pileated Woodpecker, Willow Flycatcher, Pacific-slope Flycatcher, Hutton's Vireo, Steller's Jay, American Crow, Common Raven, Barn Swallow, Black-capped Chickadee, Chestnut-backed Chickadee, Bushtit, Red-breasted Nuthatch, Brown Creeper, Winter Wren, Bewick's Wren, Golden-crowned Kinglet, Ruby-crowned Kinglet, Swainson's Thrush, American Robin, Varied Thrush, European Starling, Cedar Waxwing, Orange-Crowned Warble, Yellow-rumped Warbler, Spotted Towhee, Song Sparrow, Dark-eyed Junco, Western Tanager, Black-headed Grosbeak, Brown-headed Cowbird, House Finch, Purple Finch, Red Crossbill, Pine Siskin, American Goldfinch, Evening Grosbeak

Mammals

Pacific Water Shrew, Coast Mole, Eastern Cottontail, Townsend's Chipmunk, Eastern Gray Squirrel, Douglas' Squirrel, Coyote, Raccoon, Mule Deer

The applicant's Technical Memorandum is flawed: the fact that only one day was spent assessing the presence of wildlife on this site means it is scientifically deficient, both qualitatively and quantitatively. The fact that further publicly available information about species officially documented in this important Wildlife Corridor and Network was not referenced is either a negligent oversight, or an effort to obscure this site's designation and status as a crucial, integral part of the Wildlife Network it is part of. Either way, this demonstrated deficiency alone means the applicant has failed to provide the information necessary for the city to issue any SEPA threshold determination other than a Determination of Significance.

[31] City of Bellingham, Appendix A; https://cob.org/wp-content/uploads/HundredAcre-Master-Plan-Final-9-12-22.pdf

VI. WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization

The "WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization"[32] (WRIA is Water Resource Inventory Area 1) provides additional documentation of the ecological importance of this site and its surrounding Wildlife Habitat Hubs and Areas. Mud Bay estuarine wetlands and mudflats are located in WRIA 1.

Table 4, below, from the "WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization" assessment outlines "Valued Ecosystem Components of the Salish Sea and WRIA 1." With the sole exception of Orca Whales, **all of these "Valued Ecosystem Components" are present** on this site and/or in the contiguous surrounding, protected wildlife Habitat Hubs and Areas. This site is the center part of a natural, undeveloped terrestrial Wildlife Corridors-and-Hubs chain that spans the north end of Chuckanut Bay and Mud Bay, and this site drains into the Mud Bay estuarine wetlands. There are few areas in Bellingham which combine all but one of these Valued Ecosystem Components, making this location rare and unique ecosystem in Bellingham.

Table 4. Valued Ecosystem Components of the Salish Sea and WRIA 1.

Coastal forests or marine riparian vegetation
Marine riparian areas border marine or tidal waters and provide many functions as the interface or ecotone between terrestrial and marine ecosystems (Brennan and Culverwell 2004). Functions of marine buffers include the following (Parametrix et al. 2006): export of material to marine systems (detritus, terrestrial insects), shading the upper beach (moisture retention, microclimates), shoreline stabilization, nutrient/toxin/pathogen cycling, wildlife habitat, large woody debris (LWD) recruitment and storage, moderate storm water runoff, and enhanced infiltration (Brennan and Culverwell 2004).
Beaches and bluffs
Throughout areas mapped within drift cells, eroding coastal bluffs (commonly referred to as feeder bluffs) are the primary source of beach sediment, and their natural erosion is essential for maintaining down-drift beaches and nearshore habitats. Large woody debris is also recruited from eroding bluffs. The long-term driver of bluff erosion is wave erosion (also referred to as marine-induced erosion), which undercuts the toe of the bluff leading to bluff failure (Shipman 2004). Bulkheads reduce wave attack to the bluff toe but can accelerate erosion of the beach and typically only reduce marine-induced erosion, rather than erosion resulting from upland geology or poor land-use practices, which commonly interacts with wave erosion to initiate landslides.
Eelgrass and kelp
Submerged aquatic vegetation (SAV) most commonly refers to kelp (*Nereocystis luetkeana*) and eelgrass (*Zostera marina or japonica*). SAV performs a wide variety of ecological functions in nearshore ecosystems, from sequestering carbon that fuels nearshore food webs primarily through detrital processes to providing habitat structure for other organisms (Mumford 2007). Crabs and bivalves use eelgrass beds for nursery areas and feed indirectly on the carbon fixed by the plants, while fishes utilize the structure for protection from predation along their migratory corridors. Many species forage upon the epiphytic species found on SAV, such as algae, eggs, and invertebrates, while other predators forage upon juvenile fishes, larvae, and other species utilizing the habitat. Eelgrass is found in mud to clean sand and gravel throughout much of Puget Sound and WRIA 1. It occurs in areas with moderate to low wave or current energy and does not occur on exposed shorelines (Parametrix et al. 2006). Kelp is found

[32] City of Bellingham, WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization, January 17, 2013; https://cob.org/wp-content/uploads/wria1-nearp-report.pdf

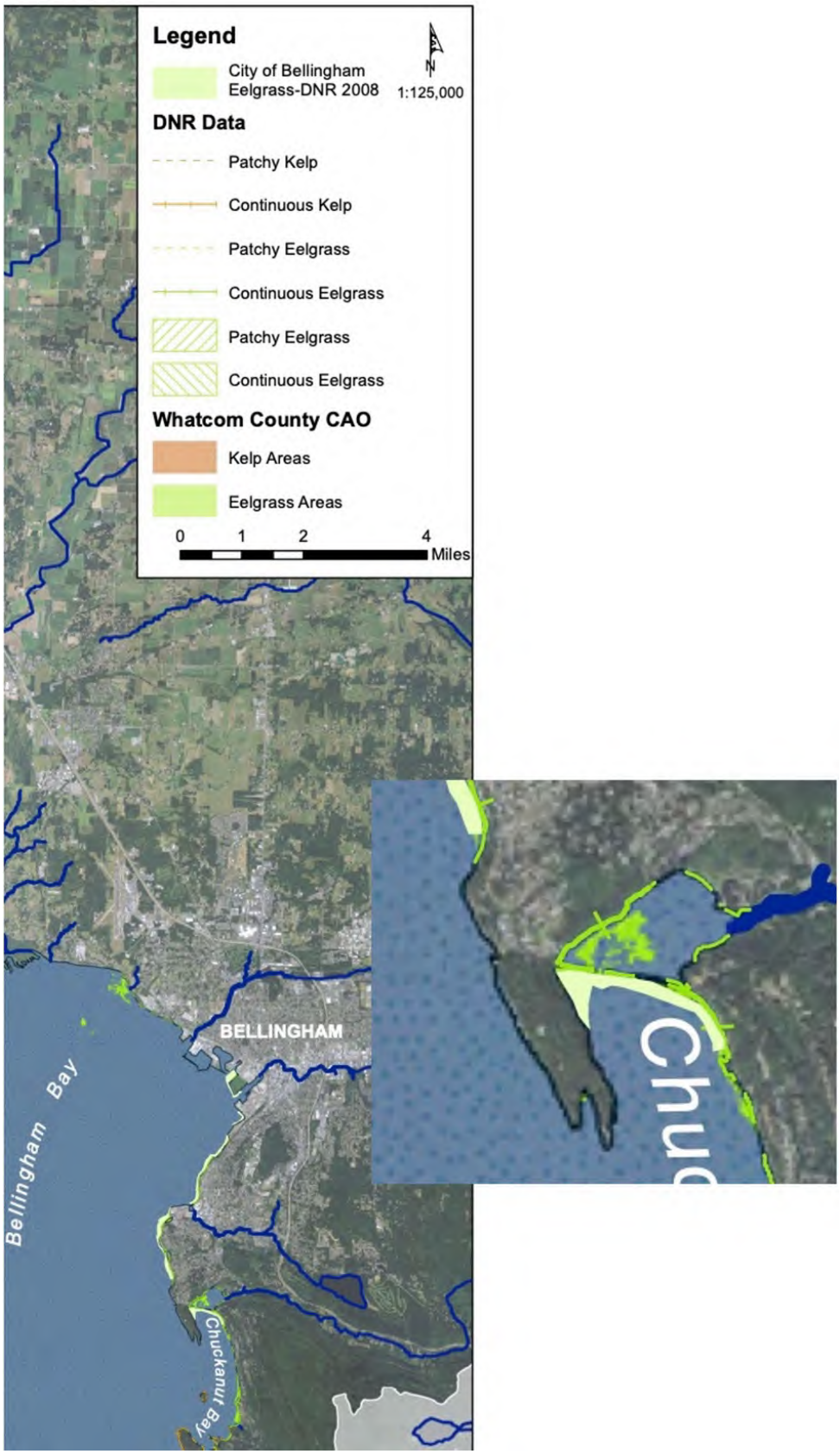
where there is hard substrate in shallow water, including pilings and other artificial substrates. It prefers areas with adequate water movement that brings in nutrients and removes excess sediment.
Forage fish
In marine waters, the principal forage species for salmonids, marine mammals, and sea birds are surf smelt (*Hypomesium pretiosus*), Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea hargengus*), and juvenile salmonids such as pink (*Oncorhynchus gorbuscha*) and chum (*Oncorhynchus keta*) smolts. The maintenance of these forage species is considered one key to maintaining anadromous fish populations (Nooksack Natural Resources et al. 2005). Forage fish use a variety of shallow nearshore and estuarine habitats for spawning, feeding, and rearing (WDFW 2004a). Surf smelt spawn in the upper intertidal zone of beaches composed of coarse sand to pea gravel (1 to 7 mm diameter). Pacific sand lance rear in bays and nearshore waters, and move into estuarine waters for spring and summer feeding. They spawn over a wide range of substrates from fine sand to gravel up to 30 mm in size (Penttila 1995). Herring rely on eelgrass, and to a lesser extent on bull kelp and other macroalgae, as important spawning substrates. The adhesive herring eggs are deposited on leaf blades and algae in intertidal and shallow subtidal areas, at elevations between 0 and -10 feet mean lower low water (MLLW).

Table 4 Cont. Valued Ecosystem Components of the Salish Sea and WRIA 1.

Great Blue Heron
The Great Blue Heron (*Ardea herodias*) is found in its greatest concentrations here in the Salish Sea with some of the largest heronries in North America. Because herons are predators on nearshore species, heron populations are indicative of levels of environmental toxins, availability and connectivity of shoreline-upland habitat, and conditions of eelgrass and intertidal habitats (Eissinger 2007).
Juvenile salmon
Puget Sound salmon occupy the nearshore during their transition from freshwater to saltwater and upon their return to their natal streams in the region. The use of nearshore ecosystems varies considerably between and within species, with juvenile Chinook (*Oncorhynchus tshawytscha*) and chum salmon making the most extensive use of nearshore habitats. Population and life history are both relevant to how and when nearshore habitats are utilized (Fresh 2007). The ability of nearshore ecosystems to support or promote salmon population viability depends on both local attributes and the context of the habitat within the surrounding ecological system. The ability of nearshore habitats to support salmon population viability is a function of how well the habitat supports 1) feeding and growth, 2) avoidance of predators, 3) the physiological transition from freshwater to saltwater, and 4) the migration to ocean feeding habitats (Fresh 2007).
Orca whales
The southern resident and transient orca (*Orcinus orca*) populations are important to the region's ecosystem, economy, and recreation. These top predators use nearshore locations for foraging and travel and are very susceptible to human disturbance and ecosystem decline. The southern residents were recently (2005) listed as endangered under the Endangered Species Act (ESA). A combination of natural factors including the decline of prey (salmon populations), removal for public display, , disturbance from vessel traffic, and toxins likely contributed to the whales' decline (Kriete 2007) .
Native shellfish
Native shellfish in Washington State are of high ecological, economic, cultural, and recreational value. Shellfish beds perform numerous important ecological functions including nutrient cycling, substrate stabilization, habitat structure creation (e.g., oyster reefs), water quality enhancement (filtering and retention), and provision of food for a wide variety of marine invertebrates, birds, fish and mammals. Cobble to fine sand beaches and tidal sand and mud flats are important habitats for shellfish. Species include crabs (*Cancer magister*), numerous clams, the Olympia oyster (*Ostrea lurida*), mussels (*Mytilus spp*.), shrimp , abalone (*Haliotis kamtschatkana*), and various others. In Puget Sound, all major shellfish species, with the exception of shrimp, use nearshore ecosystems for part or all of their life histories (Dethier 2006).
Nearshore birds
The Salish Sea is home to a great number of birds closely associated with the marine environment. All of these birds use one or more of three habitat types – open water, rocky shoreline, and mud flats. The species associated with these habitats include: Surf Scoter (*Melanitta perspicillata*), Black Oystercatcher (*Haematompus bachmani*), and Dunlin (*Caridris alpine*). All three species use nearshore habitats for foraging and resting and Black Oystercatchers also nest in the nearshore. These species are important to the Salish Sea ecosystem for the value bring to wildlife observations, as indicators of contaminant loading (Surf Scoters), and for the relative rarity of the species and regional importance of these specialized habitats (Buchanan 2006).

Map 4, below, from this "WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization" assessment shows Submerged aquatic vegetation (SAV) from City of Bellingham (DNR 2008), Whatcom County CAO (2005), and DNR (2001) data. The close-up from Map 4 shows the Eelgrass mapped in Mud Bay, further documentation of the habitat value of the Mud

Bay estuarine wetlands. Mud Bay is a **Category I estuarine wetlands, and all decisions about the proposed development should be made considering, and concordant with, this**.



VII. ESTUARINE WETLANDS HABITAT

As is clear from the "City of Bellingham Pocket Estuary Management Recommendations" (see description from Page 8 of this document below, where Mud Bay estuarine wetlands and mudflats are referred to as "Chuckanut Creek Pocket Estuary"), the Mud Bay estuarine wetlands provides the highest level of habitat functions of all Bellingham pocket estuaries.

The Mud Bay estuarine wetlands are well-documented habitat performing a "High" level of function for: Salmonid, Bald Eagle, Great Blue Heron, Shellfish, Winter Water Fowl, Mustelid, and General Wildlife Use.[33]

It is a rare and unique habitat in that it is the only Bellingham pocket estuary performing all of these noted important functions, and moreover, performing all of them at a High level (see table below, from Page 6 of this document).

Table 1. Summary of general level of function for pocket estuaries.

Pocket Estuary	General Level of Function							
	Salmonid	Forage/ground fish Habitat	Shellfish Habitat	Winter Water Fowl	Bald Eagle	Great Blue Heron	Mustilid Use	General Wildlife Use
Chuckanut Creek	H	M	H	H	H	H	H	H
Edgemore South	N/A	N/A	N/A	L	L	L	L	L
Edgemore North	M/H	M/H	M?	M	M	M	M	L/M
Post Point Lagoon	M	M	L	M	L	L	M	L/M
Padden Creek	M	L	L?	M	L	M	M	L/M
Whatcom Creek	M/H	L	L	L/M	L	L/M	M	L/M

H – High (Habitat is currently performing a given function well and appears to be sustainable over time.)
M – Medium (Habitat is currently performing a given function but the function is limited by a natural or human aspect. Sustainability of this function is at risk, but may be corrected through restoration actions.)
L – Low (Habitat is currently not performing a given function or the function is severely impaired. The sustainability of the function is at high risk of permanent failure.)
? – Level of function is difficult to assess. Listed function level is an approximation.
N/A – A given function is currently or historically not applicable to this habitat.

City of Bellingham Pocket Estuary Management Recommendations February 2006 (revised September 2006) *Page 6*

[33] City of Bellingham Pocket Estuary Management Recommendations, February 2006 (revised September 2006) ; https://cob.org/wp-content/uploads/pocket-esturary-mgmt-recommendations-02.06.pdf

This document describes the Mud Bay estuarine wetlands – here called "Chuckanut Creek Pocket Estuary" – and the rare, unique, valuable habitat of this site. Below is the description, from Page 8:

Chuckanut Creek Pocket Estuary

The Chuckanut Creek estuary provides the highest level of functions of the pocket estuaries reviewed for this report (Table 1). The barrier separating this estuary from the marine nearshore is an artificial railbed berm located at the west end of the estuary. The berm has a restricted opening, but effectively reduces wave energy, separates the bay from longshore currents, and presumably reduces mixing with marine waters resulting in reduced salinity levels during the spring and winter. The primary freshwater source to this system is Chuckanut Creek. Secondary inputs include a small stream flowing through a saltmarsh and runoff from surrounding bluffs.

This estuary includes a variety of features that contribute to its high quality. It provides functions at a high level for all functions except forage fish and groundfish spawning, for which there is no data (Tables 1 and 2). Chuckanut Creek estuary includes extensive mudflats that are associated with softshell clam beds and that provide abundant winter waterfowl habitat, particularly for dabbling duck species (Table 2). Chuckanut Creek provides documented spawning habitat for chum, coho, sea-run cutthroat and steelhead. Saltmarsh habitat is present at the mouth of Chuckanut Creek and at the northwest terminus of Fairhaven Avenue, however regular fish access to this saltmarsh is unlikely due to a restricted culvert and reduced access during tidal cycles. The Chuckanut Creek estuary buffer is functioning at high level for all aspects and the buffer is well connected to other significant riparian and terrestrial habitats along Chuckanut Creek and Chuckanut Mountain.

The primary limitations and risks to the Chuckanut Creek estuary is water quality (fecal coliform) from failing septic systems in the Chuckanut Village area and upstream and from potential future development of private land that could reduce the quantity and quality of forested buffer and result in interruptions of wildlife travel corridors.

Page 8, City of Bellingham Pocket Estuary Management Recommendations (2006)

The nomenclature ("Chuckanut Creek Pocket Estuary" is "Mud Bay estuarine wetlands and mudflats") underscores the tight interrelationship between Chuckanut Creek and the Mud Bay estuarine wetlands: they are contiguous in both their setting and in the habitat functionality. Indeed, Chuckanut Creek's creek bed cutting through the mudflats is easily viewed during lower tides, and is clearly seen in satellite photographs. Anyone suggesting that Chuckanut Creek will not be impacted by potential subdivision development on the Jones property is ignoring this intimate interrelationship between the site, the estuarine wetlands, and the creek – and all of the wildlife which depends on it.

Note also that this document explicitly calls out the "**primary risk**" **to the estuary** coming from "**potential future development of private land**." The "private land" referred to is **this site, the Jones property**; the other private land around the estuary is already developed or is protected from future development.

VIII. CITY'S WILDLIFE HABITAT ASSESSMENT IS INADEQUATE

In this letter, we have referenced the city's 2021 "Wildlife Corridor Analysis"[34] to demonstrate that the site and its surroundings are important wildlife habitat areas. We wish to underscore that this document is unfortunately inadequate in both its analysis design and its findings details, which has been previously documented and brought to the attention of the city[35,36]. **Both the importance and the functionality of the wildlife habitat areas and corridors are clearly <u>understated</u> by the city's 2021 analysis.**

Before any development of this rare, unique, valuable habitat site is approved, an analysis which uses "best science" methods and practices for Wildlife Habitat assessments (rather than the flawed, incomplete assessment of 2021) should be completed for this site, the adjacent Habitat Corridors, and the connected Habitat Hubs and Network. Otherwise, the probable negative environmental impacts on the site, corridors, hubs and network will be significantly understated, and any decisions made based on the current inadequate and flawed analysis will therefore be flawed.

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[34] City of Bellingham "Wildlife Corridor Analysis," July 13, 2021;
https://cob.org/services/environment/restoration/wildlife-corridor-analysis

[35] Chuckanut Community Forest Park District Commission letter to Mayor Fleetwood & City Council President Stone, December 8, 2021;
https://drive.google.com/open?id=10UeishT8RMnKzYRgxOvQSoNFAMPulKwU&usp=drive_fs

[36] Chuckanut Community Forest Park District Commission letter to Analiese Burns, Bellingham Habitat and Restoration Manager, Public Works Department, Natural Resources, October 26, 2022;
https://drive.google.com/open?id=1--Ms9tfHRvZ6G_e4gGQ5zwMUM-nD-x8i&usp=drive_fs

IX. FOREST HABITAT: BLOCK 7

The mature shoreline forest at this site is designated Block 7 in city documents. In the "Bellingham Habitat Restoration Technical Assessment"[37], the site of the proposed subdivision development is assessed to have the "**Highest" rating** across all analyzed **habitat functions and attributes** except "System Maturity" which has a rating of "Higher."

Bellingham Habitat Restoration Technical Assessment

Table 5. Relative Functional Condition Ratings for All Analyzed Functions and Attributes in the Forest Habitat Group by Sub-Watershed

Forest Block ID Number	Biodiversity Function[1]				Habitat Maintenance Function[1]		
	Overall Biodiversity Function Score	*System Maturity Attribute Score*	*Lifeform Diversity Attribute Score*	*Habitat Community Attribute Score*	Overall Habitat Maintenance Function Score	*Habitat Connection and Fragmentation Attribute Score*	*Vegetation Structure Attribute Score*
002	Highest	Highest	Lower	Highest	Highest	Highest	Higher
003	Higher	Highest	Median	Median	Higher	Higher	Highest
004	Highest	Highest	Higher	Highest	Highest	Highest	Highest
005	Median	Median	Higher	Lowest	Median	Lower	Median
006	Highest	Highest	Higher	Highest	Highest	Highest	Higher
007	Highest	Higher	Highest	Highest	Highest	Highest	Highest
009	Highest	Higher	Median	Highest	Highest	Higher	Highest

In this same assessment, this site – Block 7 – rated highest for taking **Protection Actions** to preserve the habitat; see Table 22:

Table 22. Preliminary Overall Prioritization Results for Protection Actions within the Forest Habitat Group

Forest Block ID Number	Permanent Protection	Regulatory Protection	Sum of Protection Action Scores
007	156	58	**214**
004	152	56	**208**
142	152	56	**208**
052	148	58	**206**

[37] City of Bellingham, Bellingham Habitat Restoration Technical Assessment; https://cob.org/wp-content/uploads/final-bhrta-12-15-15.pdf

This assessment delineates Forest Block 7 using the Block delineations from the previously noted City of Bellingham – Public Work's "Bellingham Habitat Assessment," March 2003, Draft:

> "Forest Block – The Habitat Analysis Unit for Forest Habitat Group. Consists of significant forest habitat patches (greater than 5 acres) within the Project Area. The forest blocks were previously identified and delineated by Nahkeeta Northwest (2003)."[38]

This Forest Block 7 is the same Habitat Block 7 previously noted from the City of Bellingham – Public Work's "Bellingham Habitat Assessment," March 2003, Draft[39], where the forest habitat was described as follows on page 4 of the document's "Block Descriptions" (emphasis added):

> "Block 7 contains the mouth of Chuckanut Creek. It encircles the east and north sides of inner Chuckanut Bay. This block contains contiguous forest, a large salt marsh and estuary. It provides a steep, narrow connection between Clark's Point (block 9) and block 4. It is bordered by Chuckanut Drive on the east, Viewcrest Drive and the Edgemoor neighborhood on the north and west and Chuckanut Bay to the south and west. The northern upland is dry Douglas fir forest with large cliffs and steep hillsides."
>
> "Wildlife found commonly here include, bald eagle, osprey *(Pandion haliaetus),* great blue heron, red fox, deer, western tanager *(Piranga ludoviciana),* kingfisher, red-legged frog and a variety of salamanders. Chuckanut Creek flows for approximately 2,400 feet through block seven and contains spawning and rearing habitat for coho, chum, chinook and steelhead salmon and searun cutthroat trout."
>
> "This block provides a good connector between upland and shoreline habitats."
>
> **"Block 7 has the best natural forested shoreline in the city."**

This "best natural forested shoreline in the city" habitat is the forest on the site of this proposed subdivision development. **This habitat is of great value to the entire Wildlife Network designated in this area.**

[38] Bellingham Habitat Restoration Technical Assessment, Glossary; https://cob.org/wp-content/uploads/final-bhrta-12-15-15.pdf

[39] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf

CLOSING

In closing:

- The numerous issues with the applicant's Wildlife Habitat Technical Memorandum, project plans, and other application materials,
- and the unique and special designated wildlife habitat status of this specific site and its physical setting as a key component of a rare and valuable Wildlife Corridor and Network,
- combined with the important role this site's habitat plays in the health of the Mud Bay Category I estuarine wetlands and interconnected marsh and creek habitats,

all necessitate an Environmental Impact Statement (EIS) be completed before any decisions are made about potential subdivision of the existing four lots.

If a comprehensive EIS is not completed, the community is at risk of significant harms to the functions and features of the surrounding protected public amenities, lands, wetlands, mudflats, marsh, and creek.

We welcome your questions and feedback.

Sincerely,

Paul Brock · Ava Ferguson · Larry Horowitz · Wendy Larson
Janet Migaki · Elizabeth Paley · Gary Ranz · Brent Woodland

Protect Mud Bay Cliffs Steering Committee Members
Info@MudBayCliffs.org

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT I

Protect Mud Bay Cliffs Organizing Committee
Public Comment Letter re:
Forest, Trees & Vegetation

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 22, 2024

Blake Lyon, Planning & Community Development Department Director
Kurt Nabbefeld, Development Services Manager & SEPA Responsible Official
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
Via Email

Copy Via Email:
Mayor Kim Lund
Renee LaCroix, Public Works Natural Resources

Subject: Forest, Trees, Vegetation – Subdivision Proposal is Likely to Cause Significant Adverse Impact; an EIS is Necessary Before ANY Development Decisions Can Be Made

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin,

We write on behalf of the Protect Mud Bay Cliffs all-volunteer, community grassroots program, to bring your attention to multiple serious issues with how the proposed subdivision development on Mud Bay Cliffs would significantly negatively impact public assets and amenities from readily foreseeable loss and degradation of valuable, exceptional, rare mature coastal forest habitat. The information provided by the applicant to date is insufficient for the city to assess adverse impacts to the environment and the community.

SUMMARY

The Bellingham Planning Department is currently reviewing the application for a proposed new subdivision, *The Woods at Viewcrest*. Based on multiple substantial factors which we discuss below, an Environmental Impact Statement is necessary before the city considers approval of any subdivision development in this valuable, exceptional, rare mature coastal forest habitat, which drains into a Category I estuarine wetlands and mudflats habitat, Mud Bay. **This mature coastal forest** has been described in one of the city's Wildlife Habitat Assessment documents as "**the best natural forested shoreline in the city**."[1] The plans and information provided by the applicant are insufficient and fail to meet Bellingham Municipal Code requirements and SEPA checklist guidelines, such that the city has insufficient information about forest, trees and vegetation impacts to make reasonable decisions about the proposed project.

[1] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf

It can reasonably be expected this new subdivision development would **at best match its neighborhood's tree canopy retention of 51%**.[2] It is eminently unreasonable to believe that the tree retention rate of this proposed subdivision development would be nearly 60% greater than Edgemoor's average canopy cover (the applicant's 81% estimate vs the neighborhood's 51% reality). Note that tree removal throughout Edgemoor is most extreme on water and nature view properties, such as those on this site would be. Tree and vegetation loss can be reasonably expected to be even higher than this, because the applicant fails to account for the up to 152 housing units which state law would allow on the 38 lots. (The neighborhood is currently comprised almost entirely of single-family homes.)

Subdivision development disturbances would be likely to cause significant adverse impacts on the mature coastal forest on the site, and on the mature trees in the proposed 200' shoreline "Buffer." Indeed, the subdivision development disturbances are likely to ultimately result in loss of half – possibly more, since these are view lots – of the exceptional, mature coastal forest habitat on this site, based on the current tree canopy of the Edgemoor neighborhood (51%)[3] that the proposed subdivision would be part of. It is probable the lot owners of the proposed subdivision would build, hardscape, and landscape similarly to the neighborhood it would be part of. Indeed, there are no reasons to suppose otherwise (the Edgemoor neighborhood contains protected greenways and wetlands such as this site does). Such significant loss of the current coastal forest would cause <u>significant adverse habitat impacts</u> on:

- The site itself, which is a designated *Important Habitat Hub and Area*[4], and is a valuable, exceptional, rare mature coastal forest habitat, described as "the best natural forested shoreline in the city,"[5] where any logging occurred "100+ years ago."[6]
- The *Wildlife Corridor*[4] this site is the center part of.
- The surrounding wildlife *Habitat Network*[4], all of which is protected/conserved, and which are <u>public assets and amenities</u> protecting terrestrial and aquatic wildlife.
- The adjacent Mud Bay Category I Estuarine Wetlands and Mudflats habitats, which receive the drainage from this site. Loss of coastal forest trees and vegetation would significantly alter the hydrology and drainage of the site, beyond the hydrological changes likely from the development's infrastructure and structures alone.[7] Such altered hydrology would result in increased pollutants reaching the wetlands and mudflats habitats, and in turn the interconnected marsh and creek habitats. Moreover,

[2] City of Bellingham, "Urban Forestry Management Plan – Canopy and Forest Structure Analysis Summary report"; https://cob.org/wp-content/uploads/210823-Bellingham-Canopy-and-Forest-Structure-Report-1acd.pdf
[3] City of Bellingham, "Urban Forestry Management Plan – Canopy and Forest Structure Analysis Summary report"; https://cob.org/wp-content/uploads/210823-Bellingham-Canopy-and-Forest-Structure-Report-1acd.pdf
[4] City of Bellingham Wildlife Corridor Analysis, 2021; https://cob.org/wp-content/uploads/210719_Wildlife-Corridor-Analysis-SHORT-REPORT.pdf
[5] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf
[6] The Woods at Viewcrest, Expanded SEPA Checklist; https://cob.org/wp-content/uploads/2023-12-04-sepa-checklist-expanded.pdf
[7] Technical Memorandum, Mud Bay Shorelands, Woods at Viewcrest Issues, Lyndon C. Lee, Ph.D., April 18, 2024; https://bit.ly/PMBC-Lee_w_CV

coastal forest is of significant ecological importance to the surrounding estuarine habitats.[8]

- The shoreline ecology of this location: Bellingham's Shoreline Master Program has shoreline jurisdiction at this location. Clearly this proposed subdivision development would result in significant coastal forest habitat loss and degradation, causing "net loss of shoreline ecological function on a reach and watershed scale," and development thereon would "compromise the ability to restore" "critical saltwater habitats," and would therefore violate the SMP Municipal Code.

*"**The best natural forested shoreline in the city**" –*
this is a valuable, exceptional, rare mature coastal forest habitat,
which drains into a Category I estuarine wetlands and mudflats habitat, Mud Bay.

[8] City of Bellingham, WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization, January 17, 2013; https://cob.org/wp-content/uploads/wria1-nearp-report.pdf

This development, as proposed, would likely significantly adversely impact previous **significant investments by the city and community** to protect the interconnected fragile, valuable, rare and unique **forest habitats** all around this site – and the adjacent estuarine, mudflats, marsh and creek ecosystems. The coastal forest on this site is part of a mapped Habitat Block, Block 7, and the terrestrial and aquatic components of this Block are documented as functionally interconnected habitat components. These significant investments and this longstanding significant community interest underscore why more analysis of environmental impacts to this entire network of interconnected coastal forest and shoreline and upland ecosystems is so critical.

Therefore, a SEPA Determination of Significance is more than warranted, and an independent, objective, and comprehensive Environmental Impact Statement (EIS) is necessary before <u>any decisions</u> regarding development are made.

Any development on this ecologically sensitive site will harm the coastal forest habitat of this designated *Important Habitat Hub* and the *Wildlife Corridor* and *Network* that it is part of. Moreover, the proposed subdivision development harms to this coastal forest habitat are likely to harm surrounding, interconnected protected lands and wetlands which provide rare and important wildlife habitat features and functions, including: the Mud Bay Category I estuarine wetlands and mudflats; Clark's Point; Chuckanut Village Marsh; Chuckanut Bay Open Space; Chuckanut Creek; and other designated terrestrial Wildlife Areas connected to this location's Wildlife Corridor and Network.

Tree and vegetation removal for subdivision development would be expected to occur from the beginning of subdivision infrastructure work, and then the removal and degradation of the coastal forest habitat would continue for years through the proposed multiple phases of development, and as future lot owners landscape, hardscape, and turn the coastal forest habitat into their front, side, and back yards. The destruction and degradation of coastal forest habitat on this site will have significant negative impacts that can be expected to last for decades to come – and in many cases, the consequences would worsen over time. Coastal forest trees and vegetation help stabilize soils and land, they absorb stormwater and reduce drainage and flooding, and they also help to mitigate some pollutants, among other features and functions. Some of the subdivision development disturbances to the coastal forest likely to cause significant adverse habitat impacts include:

- Increased polluted drainage directly into the Mud Bay Estuarine Wetlands and Mudflats. Including: some of these increased pollutants will concentrate at stormwater outflow points during low tide, and then be pushed into Chuckanut Village Marsh and Chuckanut Creek by incoming shallow tide water.
- Fragmentation of the terrestrial nearshore Wildlife Corridor coastal forest habitat will harm the functioning of surrounding terrestrial, estuarine, marsh, and creek habitats.[9]
- Habitat destruction and degradation on and around this site's rare natural coastal forest habitat, including the proposed 200' "buffer" along the shoreline.

[9] City of Bellingham, WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization, January 17, 2013; https://cob.org/wp-content/uploads/wria1-nearp-report.pdf

- Erosion, landslides / mass wasting: as the site's hydrology and stability is significantly altered by roads, massive retaining walls, driveways, structures, hardscaping and landscaping, the impacts of initial coastal forest tree and vegetation loss on land and slope stability will likely be significant. These impacts will be compounded ongoing by additional intentional tree and vegetation removal and damage (from landscaping, view-scaping, removal of trees deemed hazardous to new structures) and unintentional tree and vegetation loss resulting from the disturbances to the forest. The likely increases in erosion, landslides, and mass wasting is likely to both further pollute the estuarine wetlands, and further degrade/destroy coastal forest habitat.

PUBLIC HARMS

If the city fails to determine that the proposed subdivision is likely to impose Significant Adverse Environmental Impacts resulting from coastal forest loss at this site, including this site's proposed 200' "Buffer," then it is probable the Public will suffer significant increasingly harmful consequences once development begins, and then ongoing and increasing over time. The Public harm can be expected in the probable habitat and ecology degradation that would result from this proposed subdivision's loss and degradation of coastal forest; the habitat and ecology degradation would be imposed on adjacent and nearby protected and public lands and unique, rare Category I estuarine wetlands, and the adjacent salmon habitat marsh and creek.

Public and private conservation investments of millions of dollars have been made to protect the wildlife across the terrestrial Wildlife Network in this area, which this site's coastal forest habitat is currently a vital, functioning component of. Public investment in the restoration of habitat functioning of the Mud Bay Category I estuarine wetlands and mudflats, Chuckanut Village Marsh habitat, and Chuckanut Creek habitat are similarly significant and ongoing. Subdivision development destruction and degradation of coastal forest habitat – and therefore harm to the public's interest and assets – can be expected to be ongoing and increasing for many reasons. For example, it will be ongoing and increasing:

- as coastal forest loss results in the subdivision's pollutants increasing and accumulating over time, and spreading via drainage and erosion to the downslope habitats;
- as aquatic, terrestrial, and avian wildlife's responses to the coastal forest loss accrue over time;
- as coastal forest habitat fragmentation effects build over time;
- as on-site coastal forest habitat destruction increases over time due to multi-factorial interacting disturbances including: ongoing tree removal and loss, hydrological changes which increase erosion and runoff, ongoing landscaping and hardscaping by lot owners;
- as on-site coastal forest habitat destruction increases over time, it will in turn negatively affect adjacent interconnected habitat, including the proposed 200' shoreline "Buffer" and adjacent terrestrial and aquatic habitats.

SHORELINE MASTER PROGRAM – MUNICIPAL CODE ISSUES

The applicant has provided no data or information to suggest the proposed subdivision development can comply with Bellingham's Shoreline Master Program requirements given the likely significant loss of important coastal forest habitat ecological features and functions.

Bellingham's Shoreline Master Program (SMP)[10] has shoreline jurisdiction at this location, which is designated in the SMP as "Natural, Urban Conservancy, Pocket Estuary Shoreline." **This specific location is highlighted in the SMP for both conservation and restoration.** Clearly this proposed subdivision development would result in "net loss of shoreline ecological function on a reach and watershed scale," and would therefore violate the SMP Municipal Code. A subdivision of these four lots into 38 lots (with up to 152 residences), and the proposed infrastructure of roads, driveways, massive retaining walls, widespread hardscaping, and structures will certainly significantly and adversely impact the ecology of the shoreline here, as coastal forest habitat is both lost and degraded – during construction phases, and ongoing.

After the proposed infrastructure is in place, development of the lots will follow in phases, with further removal of coastal forest habitat, and new pollutants introduced ongoing from roads, drives, driveways, yards, and lot-owner activities. The narrow, extremely steep, and mostly rocky terrain of the 200' "Buffer" will be significantly negatively impacted by upslope development activities, as outlined above. As trees and vegetation are removed to make room for development activities and for built infrastructure and structures, the site will become increasingly more vulnerable to erosion, the hydrology of the site will be altered, and more pollutants are likely to be delivered to the "Buffer," to the public shoreline and shorelands, and to the Category I estuarine wetlands.[11]

As the SMP notes and requires:

> **"22.09.090 Residential development.**
> Residential development includes subdivisions of large parcels, multifamily housing and condominiums and single-family residences. Under the Shoreline Management Act, owner occupied single-family residences are a preferred use on the shorelines. However, residential uses can cause significant damage to the shoreline area through cumulative impacts resulting from vegetation loss, shoreline armoring, increased amount of impervious surfaces and resulting stormwater runoff, septic system failure, and additional vehicular trips.
>
> A. *Policies.*
> 1. Development of residential units should result in no net loss of ecological function."

[10] Bellingham Municipal Code, Title 22, Shoreline Master Program; https://bellingham.municipal.codes/BMC/22
[11] Technical Memorandum, Mud Bay Shorelands, Woods at Viewcrest Issues, Lyndon C. Lee, Ph.D., April 18, 2024; https://bit.ly/PMBC-Lee_w_CV

The city has a clear duty to require development plans meet the SMP's Goals and Objectives; this subdivision proposal is clearly at odds with the Goals and Objectives of habitat Restoration and Conservation at this unique, valuable, and rare coastal forest habitat. A large housing development of up to 152 units upslope from the 200' "Buffer" proposed in the project will likely result in significant negative impacts to the ecological function of the "Buffer," the public shoreline and shorelands, the Category I estuarine wetlands and mudflats habitat that the site drains to, and therefore the interconnected marsh and creek salmon and wildlife habitat.

The city has an obligation to understand the Environmental Impacts of the proposed project with empirical, best-science based, quantitative assessment and analysis. Vague, high-level assurances and clearly optimistic, non-empirically derived estimates about coastal forest loss and degradation from the applicant are insufficient to meet SMP requirements.

Once such data and analysis is obtained, the city then has an obligation to require the project be revised at this Restoration and Conservation location to ensure no loss of ecological functions can occur:

> "Restoration and conservation should occur via comprehensive restoration planning, public land acquisition, placing of conservation easements, site design and as development/redevelopment occurs. Activities that restore and enhance ecological functions of our shorelines should be emphasized. This master program's regulations and policies are required to achieve no net loss of shoreline ecological function on a reach and watershed scale."[12]

In addition, the SMP requires that any permitted uses adjacent to critical saltwater habitats should not compromise the ability to restore these features in the future[13]:

> "A. Policies
> 3. Permitted uses adjacent to or within critical saltwater habitats should not compromise the ability to restore these features in the future."

Because the Mud Bay estuarine wetlands provide critical saltwater and freshwater habitat[14], because this is a rare and valuable habitat in Bellingham, and because the habitat has undergone and is undergoing significant efforts to restore the shellfish[15] and salmon habitat[5], no development adjacent to, and draining into, these estuarine wetlands can be allowed which could compromise the ecological functioning of these features. The subdivision development as proposed would result in loss of significant coastal forest trees and vegetation, which would increase pollutants introduced into Mud Bay; this would compromise the critical saltwater

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[12] Bellingham Municipal Code, Title 22, Shoreline Master Program 22.02.020; https://bellingham.municipal.codes/BMC/22.02.020
[13] Bellingham Municipal Code, Title 22, Shoreline Master Program 22.08.040; https://bellingham.municipal.codes/BMC/22.08.040
[14] City of Bellingham, Chuckanut Village Marsh Restoration Project Overview: EN0031; https://cob.org/wp-content/uploads/Chuckanut-Village-Marsh-EN-0031.pdf
[15] Whatcom Marine Resources Council, pilot Olympia oyster restoration project; https://www.whatcomcountymrc.org/projects/pilot-olympia-oyster-restoration/

habitats of both the estuarine wetlands and the marsh. These pollutants would be introduced via stormwater outflow/discharge, drainage downslope, erosion, mass wasting, and also likely future lot owner activities.

The "WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization"[16] (WRIA 1 is Water Resource Inventory Area 1) provides additional documentation of the **ecological importance of this site's coastal forest to the surrounding estuarine habitats**. Mud Bay Category I estuarine wetlands and mudflats are located in WRIA 1, as are the interconnected adjacent Chuckanut Village Marsh and Chuckanut Creek.

Coastal Forests are highlighted in Table 4 of this document as "Valued Ecosystem Components of the Salish Sea and WRIA 1":

Table 4. Valued Ecosystem Components of the Salish Sea and WRIA 1.

Coastal forests or marine riparian vegetation
Marine riparian areas border marine or tidal waters and provide many functions as the interface or ecotone between terrestrial and marine ecosystems (Brennan and Culverwell 2004). Functions of marine buffers include the following (Parametrix et al. 2006): export of material to marine systems (detritus, terrestrial insects), shading the upper beach (moisture retention, microclimates), shoreline stabilization, nutrient/toxin/pathogen cycling, wildlife habitat, large woody debris (LWD) recruitment and storage, moderate storm water runoff, and enhanced infiltration (Brennan and Culverwell 2004).

It is well-documented science that **coastal forest** such as this site's, which border marine or tidal waters, provide many valued ecosystem functions as the interface or ecotone between terrestrial and marine ecosystems. These functions include: export of material to marine systems (detritus, terrestrial insects); shading the upper beach (moisture retention, microclimates); shoreline stabilization; nutrient/toxin/pathogen cycling; wildlife habitat; large woody debris (LWD) recruitment and storage; moderation of storm water runoff; and enhanced infiltration.

The applicant has provided no data or information to suggest the proposed subdivision development can comply with Bellingham's Shoreline Master Program requirements given the likely significant loss of important coastal forest habitat ecological features and functions.

[16] City of Bellingham, WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization, January 17, 2013; https://cob.org/wp-content/uploads/wria1-nearp-report.pdf

WILDLIFE HABITAT CONSERVATION AREA DESIGNATION

Bellingham Municipal Code 16.55.470 designates this site as "wildlife habitat conservation area," because it is "land useful or essential for preserving connections between habitat blocks and open spaces"[17] and "regardless of any formal identification" is "hereby designated (a) critical area" and "shall be managed consistent with the best available science."[18]

> "**16.55.470 Designation of fish and wildlife habitat conservation areas.**
>
> A. Fish and wildlife habitat conservation areas include:
>
> 7. Land useful or essential for preserving connections between habitat blocks and open spaces.
>
> B. All areas within the city meeting one or more of these criteria, regardless of any formal identification, are hereby designated critical areas and are subject to the provisions of this chapter and shall be managed consistent with the best available science."

This coastal forest habitat has been designated an *Important Habitat Hub and Area*, and part of an important *Wildlife Habitat Network*[19]: it is "Land useful or essential for preserving connections between habitat blocks and open spaces." It therefore is designated wildlife habitat conservation area, and must be managed consistent with the best available science.

The applicant has failed to provide a scientifically credible Forest, Trees and Vegetation assessment, having instead provided incomplete maps, and unrealistic statements regarding habitat retention by future lot owners that are at striking odds with actual current neighborhood property owners' behavior. (The insufficient assessment by the applicant is considered in greater detail next.) Therefore, the city lacks the information to make decisions "consistent with the best available science" regarding the proposed subdivision development. See below for details on the inadequacies of the applicant's information and assessments.

INSUFFICIENT ASSESSMENT BY APPLICANT

The applicant's Application materials regarding the rare, valuable coastal forest ecosystem on this site provide only incomplete and often misleading information and unsupported assertions. The application materials provide at best a cursory, gap-filled view of the impacts the proposed subdivision might have on the coastal forest habitat on the property, and the habitats and the wildlife across adjacent and nearby public lands and waters. The applicant provides no

[17] City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; https://cob.org/services/environment/restoration/wildlife-corridor-analysis
[18] Bellingham Municipal Code, 16.55.470; https://bellingham.municipal.codes/BMC/16.55.470
[19] City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; https://cob.org/services/environment/restoration/wildlife-corridor-analysis

integrated comprehensive assessment of the Coastal Forest Habitat and its Trees and Vegetation; information is scattered across materials including these components of the Application:

- Expanded SEPA Checklist
- Exhibit B – Critical Areas Reconnaissance
- Exhibit D – Wildlife Habitat Assessment
- Exhibit L – Vegetation Management Plan
- Exhibit S – Tree Survey

Before approving any development plans, per SEPA checklist guidance, the Planning Department must be provided with an objective and sufficient assessment of the likely impact of subdivision development to the coastal forest habitat both on this site, and on the terrestrial and aquatic ecosystems which this site is a well-documented and integral part of.

The substantive ways in which the application materials related to the Coastal Forest, Trees and Vegetation are glaringly insufficient include the following issues:

1) The SEPA Checklist contains obviously inaccurate estimates and is missing data for the current coastal forest habitat, for the likely impacts to the coastal forest habitat (inaccurate percentage estimates provided), and amount of trees (quantitative data not provided) which will likely be removed as a result of development activities. Applicant's documents fail to provide necessary quantitative detail on likely tree and vegetation removal.
    a) For supporting information, see part I of this letter, SEPA CHECKLIST INACCURACIES.
2) The cursory estimates and vague assurances contained across these documents about likely tree retention are neither supported by evidence, nor credible based on neighborhood norms – which there is no reason to believe would vary at this site.
    a) It can reasonably be expected this new subdivision development would at best match its neighborhood's canopy retention of 51%.
    b) It is eminently unreasonable to believe that the tree retention rate of this proposed subdivision development would be nearly 60% greater than Edgemoor's average canopy cover (the applicant's 81% estimate vs the neighborhood's 51% reality).[20]
    c) Indeed, tree and vegetation loss can be reasonably expected to be even higher than this, because the applicant fails to account for the up to 152 housing units which state law would allow on the 38 lots. Currently the Edgemoor neighborhood is comprised of nearly all single-family homes with associated hardscaping and landscaping, and its canopy retention percentage reflects this fact.
3) Materials provided by the applicant are incomplete, inadequate, and misleading, especially in light of the valuable and rare coastal forest habitat features and functions the development would disrupt and harm:

[20] City of Bellingham, "Urban Forestry Management Plan – Canopy and Forest Structure Analysis Summary report"; https://cob.org/wp-content/uploads/210823-Bellingham-Canopy-and-Forest-Structure-Report-1acd.pdf

a) The Tree Survey (Exhibit S) is incomplete: it consists only of a one-page high-level colored map with highly constrained scope. It fails to provide full quantitative and qualitative credible survey data about the coastal forest trees inhabiting this site, a large proportion of which can reasonably be expected to be negatively impacted by the proposed subdivision development. In order to make an informed SEPA threshold determination about the likely negative impacts to the valuable coastal forest habitat on this site, the city must be provided complete, best-science information about <u>what will be impacted</u>.
   i) In the Survey Notes, it declares "Only trees likely to be affected by proposed public and private shared roads, and/or near boundaries of designated geological critical areas in proximity to proposed building sites were surveyed." As the applicant's materials indicate, this comprises less than 20% of the site of this valuable coastal forest habitat. Moreover, as described above, the Tree Survey's assumptions regarding which trees are "likely to be affected" is deeply flawed and non-credible. For example, while the full scope of ultimate tree removal may not be "proposed" at this stage of development planning, tree removal is reasonably expected on much more of the site, and therefore the site should be fully surveyed.
   ii) The Tree Survey (Exhibit S) map is <u>missing a large number of trees</u>. For example, it does not include trees which are easliy visible from Viewcrest Road (without trespass on the private property). See photo below for a partial example of trees along Viewcrest Road, most or all of which can be expected to be removed for driveways and yards, yet none of which are shown on the Tree Survey:

b) The Vegetation Management Plan (Exhibit L) is incomplete: it consists only of a one-page high-level colored map with only cursory Legend bullet-point notes describing the so-called "Plan." The so-called Plan lacks credible detail, description, and quantitative data showing specific probable coastal forest habitat impacts, and

proposals to mitigate those specific probable impacts. Moreover, the assumptions used to create the two "Management Areas" (Management Area #1 is colored in green; Management Area #2 is colored in blue) are deeply flawed and not credible, as they are based on unrealistic and unsupported assumptions about coastal forest habitat retention (as described previously). It is reasonably expected that far more vegetation (trees and other plants) will be removed and lost, as a result of readily foreseeable development activities, than are accounted for by this document. Moreover, the Vegetation Management Plan notes that development in Management Area #2 "may be subject to review under either BMC 16.55 (Critical Areas) and/or BMC 16.60 (Land Clearing)," yet readily foreseeable impacts from neither of these two aspects are described nor addressed in the Vegetation Management Plan.

c) No information at all is provided about forest loss and degradation related to the construction of the proposed stormwater pipe on the southeast cliff slope. To accommodate this pipe as it traverses in a long zig-zag path across the slopes of the southeast cliff, it is probable trees will be removed upslope of the proposed 200' shoreline "Buffer." It is probable that the activity to construct the pipeline and its outflow structure, all on hazardous extremely steep slopes which are difficult to access, will also damage trees and vegetation which are near (above and below) the path it travels. The loss of soil-stabilizing trees and vegetation on this hazardous, shallow-soil slope will likely result in significant habitat damage throughout the area of construction access and installation activity. The eventual plantings proposed by the applicant will do little to restore the features or functions of this entire section of coastal forest, especially after the shallow soils are disturbed and potentially lost to erosion and mass wasting after tree removal.

4) Failure to explain how the loss of coastal forest habitat (trees and vegetation) from this proposed subdivision development could possibly comply with the requirements of the Bellingham Shoreline Master Program requirement to "result in no net loss of ecological function" of the shoreline and shorelands (**BMC 22.09.090**), given the significant disturbances to land, hydrology, and drainage from development activities, followed by likely readily-foreseeable coastal forest habitat loss from future lot owner activities.
   a) For supporting information, see part II of this letter, FOREST PRACTICES MUNICIPAL CODE ISSUES.
5) Failure to explain how this proposed subdivision development could possibly comply with **BMC 22.08.040**, given the likelihood the significant coastal forest habitat loss will increase its polluted drainage, and therefore will "compromise the ability to restore" "critical saltwater habitats." Coastal forest loss and degradation would result in increased polluted stormwater and drainage from the site, which would enter the estuarine wetlands and mudflats. Further, pollutants from stormwater outlets (a new outlet and an existing outlet) would be concentrated at the location of the proposed outlets, especially during low and lower tides. These concentrated pollutants would then be carried up to Chuckanut Marsh and Chuckanut Creek by incoming shallow tidal water.
   a) For supporting information, see part II of this letter, FOREST PRACTICES MUNICIPAL CODE ISSUES.
6) Failure to consider how loss of coastal forest habitat from development on this Wildlife Habitat Hub would impact the fragile, ecologically important, and unique **Mud Bay**

Category I estuarine wetlands and mudflats habitat, which is especially alarming in light of the project proposal's non-compliant and dangerously inadequate Stormwater Management Plan.[21]

a) For supporting information, see parts VII (WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization) and VII (ESTUARINE WETLANDS HABITAT IMPACTS) of this letter.

7) Failure to assess how the expected significant coastal forest habitat loss will alter the site's current well-documented ***Wildlife Habitat Hub and Area*** **designation and role** – including significant negative habitat fragmenting impacts, including how establishment of new "landscape resistance" (such as the roads, driveways, and housing of this development) will further degrade the forest habitat functionality, and also channelize wildlife.
   a) For supporting information, see part III of this letter (SITE'S MATURE COASTAL FOREST HABITAT IS VALUABLE AND UNIQUE).
8) Failure to consider the site's coastal forest habitat's current, well-documented **status and role in the local terrestrial *Wildlife Network***, its role as part of a city "**natural resource amenity**," and how subdivision development will impact those statuses and roles, as it fails to consider the site's **unique setting** and **habitat characteristics** to provide refuge and connectivity for many species across this unique network of public and private lands.
   a) For supporting information, see parts III (SITE'S MATURE COASTAL FOREST HABITAT IS VALUABLE AND UNIQUE) and VI (NATURAL RESOURCE AMENITY IMPACTS).
9) Failure to consider how significant coastal forest loss from the proposed development activity would be likely to disturb the feeding and on-site roosting behavior of Bellingham's **Great Blue Herons** – the Post Point colony favors this nearby, rich feeding ground for their young, shelters and roosts in the coastal forest on this site, and it is documented that their former Chuckanut Bay colony was <u>abandoned as a result of subdivision development activity</u>.
   a) For supporting information, see part IV of this letter (GREAT BLUE HERON HABITAT IMPACTS)
10) Failure to consider how significant coastal forest loss from the proposed development activity would be likely to significantly, negatively impact the **Shellfish and Salmon** habitat of the adjacent and interconnected shoreline, Mud Bay Category 1 estuarine wetlands and mudflats, Chuckanut Village Marsh, Chuckanut Creek.
   a) For supporting information, see part V of this letter (SHELLFISH AND SALMON HABITAT IMPACTS).
11) Apparent self-recognition that the application materials are cursory, preliminary, and scope-constrained, as application documents make reference to limitations of scope and methodology, and/or preliminary nature, and/or possible alterations after scrutiny under multiple Municipal Codes and/or by official agencies. These inadequacies of data, scope, assumptions, and methodology found across multiple disconnected documents mean that the information provided by the applicant is unintegrated, incomplete, flawed, and misleading. The applicant has failed to provide the coastal Forest, Trees, and Vegetation information which is required to understand the likely significant negative impacts of this

[21] Richard R. Horner, Ph.D., March 18, 2024 letter; https://bit.ly/PMBC-Horner

development on the site's valuable, exceptional, rare mature coastal forest habitat – and on the surrounding rare and valuable terrestrial and aquatic habitats.

For decades, the Bellingham community has worked collaboratively with the city, the county, and multiple local environmental organizations to protect the habitats of public lands and estuarine wetlands adjacent to this site, which together comprise a vital, rare, and fragile terrestrial and estuarine ecosystem. **Investments of millions of dollars**, and untold hours of effort, have gone into the protection and restoration of these tightly interconnected wildlife habitats, for the benefit of today's residents and future generations. These **public assets and amenities** notably include:

Clark's Point natural public amenity; Chuckanut Bay Shorelands park; Chuckanut Village Marsh; Chuckanut Bay Open Space (North and South); Hundred Acre Wood; Woodstock Farm; Arroyo Park; Chuckanut Creek; and the Post Point Heron Colony.

Together these sites, either contiguously or via connecting Wildlife Corridors and flight patterns, comprise a fragile and already partially fractured Wildlife Network unique to Bellingham. **The subject site's mature, natural coastal forest is a crucial part of this terrestrial Wildlife Network: this site is a designated Important Habitat Hub and Area.**

The Public has made it resoundingly clear that their substantial investment in this hard-won Wildlife Network, a public asset, and the entire terrestrial and aquatic ecosystem, is of tremendous public value. Because a subdivision at this location would further fracture this fragile public asset, a more comprehensive, accurate, and objective Trees and Vegetation assessment and plan must be completed before the city can credibly state it has sufficient information to issue anything other than a SEPA Determination of Significance.

Figure 8 from the City of Bellingham "Wildlife Corridor Analysis," July 13, 2021, shows the unique setting of this coastal forest habitat:

The *City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; Figure 8, Terrestrial Wildlife Habitat Network* shows **the site of the proposed subdivision is a designated terrestrial Important Habitat Hub and Important Wildlife Habitat Area** as outlined by bright green line. We have highlighted the site by a **pink oval** to orient the reader.

The site is the **center part** connecting two other Important Habitat Hubs and Areas:

- The site is linked to the west (gold line) by an **Important Wildlife Corridor** to **Clark's Point**, itself also an Important Habitat Hub and Important Wildlife Habitat Area (outlined in bright green line).
- The site is linked to the east (gold line) by an **Important Wildlife Corridor** to **Chuckanut Village Marsh and Chuckanut Bay Open Space**, also Important Habitat Hubs and Areas (outlined in bright green line)

All three of which are part of a larger **Wildlife Network** that includes, for example, The Hundred Acre Wood to the north and east.

This map does not indicate non-terrestrial habitats.

Source: City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; Figure 8, Terrestrial Wildlife Habitat Network; https://cob.org/services/environment/restoration/wildlife-corridor-analysis

ADDITIONAL SUPPORTING DETAIL

Below, more detail is provided on several of the issues outlined above, to support the necessity of a SEPA Determination of Significance, and to further illustrate key deficiencies with the applicant's inadequate and misleading application materials covering the Coastal Forest, Trees, and Vegetation of this site.

I. SEPA CHECKLIST INACCURACIES

SEPA checklist guidelines exist to help ensure applicants provide government officials with sufficient information to make a SEPA threshold determination. The SEPA Checklist contains obviously inaccurate estimates about the coastal forest tree and vegetation loss, and it is missing data for the extent of the coastal forest habitat (inaccurate percentage estimates provided) and amount of trees (quantitative data not provided) which will be significantly negatively impacted as a result of subdivision development.

From the applicant's "SEPA Environmental Checklist"[22] response document:

"**4. Plants**

b. What kind and amount of vegetation will be removed or altered?

The project will result in the removal of deciduous and evergreen trees, understory shrubs and bushes, and ground cover, in areas of new roads and utilities. During the construction of single-family residences in the future, building envelopes will be cleared of similar vegetation. Based on current road and utility designs, and assumed building envelopes for each developable lot, approximately 16% of the site will be cleared for these purposes. However, with design of individual single-family residences yet to be determined, a safety factor of 20% has been added to the clearing estimates, resulting in approximately 19% of the site being cleared for these purposes. 84% of the site will be retained in natural vegetation based on current plans, and with the safety factor, this number will be 81% of the site."

The SEPA Checklist information from the applicant also includes this description of the mature coastal forest:

"Available information indicates that any logging activity occurred 100+ years ago on the site."

[22] The Woods at Viewcrest, Expanded SEPA Checklist; https://cob.org/wp-content/uploads/2023-12-04-sepa-checklist-expanded.pdf

However, Washington's "SEPA checklist guidance, Section B: Plants"[23] provides the following guidance to applicants:

> "**4. Plants**
>
> b. What kind and amount of vegetation will be removed or altered?
>
> Describe the total area of land clearing involved with all aspects of the proposal. This includes listing the total area or amount of vegetation to be removed, in acres or square footage."

The applicant's materials do not provide the acres or square footage of vegetation to be removed with all aspects of the proposal. Instead, a "percentage of the site" is provided, for which no accompanying calculations of area or impacted trees are given. Because the coastal forest is not uniform across the site, this calculation, which assumes uniform forestation, does not fulfill the SEPA checklist guidance, and is insufficient information on which to base any decisions regarding this proposal.

The coastal forest is sparsest along the shoreline, where large boulders and rocky conditions, combined with south-facing weather-stressing conditions, make trees less dense. The coastal forest of this site is most dense where roads, drives, retaining walls, homes and hardscaping would be built. Therefore, the applicant's "percentage of the site" guesstimate of tree loss is obviously incorrect at first glance.

Moreover, the applicant's estimate of just "19% of the site being cleared" from all aspects of the proposal is glaringly improbable and non-credible. No coastal subdivision developments in Bellingham retain over 80% of their original trees or forests. Indeed, coastal developments in Bellingham have between 40% and 80% of the original trees and forests *removed*. Specifically, the Edgemoor neighborhood as a whole has **51%** canopy cover[24], and that figure includes significant protected greenways and green spaces throughout the neighborhood. Note that tree removal throughout Edgemoor is most extreme on view properties, such as those on this site would be.

Therefore, it can reasonably be expected this new subdivision development would **at best match its neighborhood's canopy retention of 51%**. It is eminently unreasonable to believe that the tree retention rate of this proposed subdivision development would be nearly 60% greater than Edgemoor's average canopy cover (the applicant's 81% vs the neighborhood's 51%).

On the other hand, if the property owners were to instead develop the existing four lots without further subdivision, a much higher proportion of forest and tree retention might

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[23] Washington Department of Ecology, "SEPA checklist guidance, Section B: Plants"; https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-4-Plants

[24] City of Bellingham, "Urban Forestry Management Plan – Canopy and Forest Structure Analysis Summary report"; https://cob.org/wp-content/uploads/210823-Bellingham-Canopy-and-Forest-Structure-Report-1acd.pdf

perhaps be achieved, if restrictions on tree removal were adopted and followed. The applicant has provided no indication nor explanation why such a reasonable and much simpler approach is not being considered for these four lots. Importantly, unlike the current project proposal that is at odds with municipal code, such an approach would better match the Bellingham Municipal Code requirements for Forest practices and Mitigation.

The applicant has ignored the Bellingham Municipal Code requirements for Forest practices and Mitigation, except to plan the minimum required 200' shoreline "Buffer." However, because the site is all together a coherent and contiguous rare, valuable **coastal forest ecosystem**, loss of a significant percentage of the upslope forest (through intentional removal, view-pruning damage, follow-on forest health impacts, etc.) will degrade health, habitat function, and viability of the remaining trees in the 200' "Buffer" area. Polluted drainage from the yards and impervious surfaces of the development will drain across the 200' "Buffer," impacting the trees, shrubs, and vegetation in this area. And the cumulative hydrological changes from the development can be expected to result in erosion and mass wasting across this 200' "Buffer," which will also impact trees in the "Buffer."[25]

II. FOREST PRACTICES MUNICIPAL CODE ISSUES

Bearing in mind that the 200' Shoreline "Buffer" would likely be significantly negatively impacted by the degradation of the forest it is currently part of, by the construction of the development, and by the ongoing use and activities of the development, it is important to consider the Bellingham Municipal Code regarding Forest practices and mitigation, below (yellow highlights added for emphasis):

> **"22.09.040 Forest practices.**
>
> Forest practices within the city along shorelines would occur as a conversion of forested areas to a certain level of urban development (Class IV – General per the Forest Practices Act, Chapter 76.09 RCW).
>
> A. *Policies.*
>
> 1. Forested areas within shorelines should be preserved and protected.
>
> B. *Regulations.*
>
> 1. Conversion of forested areas to urban development shall implement the mitigation sequencing as specified in BMC 22.08.020, Mitigation sequencing."
>
> "**22.08.020 Mitigation sequencing.**
>
> A. For all developments, applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts to shoreline ecological

[25] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf

functions. Applicants shall follow the mitigation sequential descending order of preference below:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;

2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;

3. Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas and their associated buffers, by repairing, rehabilitating, or restoring the affected environment to the equivalent or better than the conditions existing at the time of the initiation of the project;

4. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action or project;

5. Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas and their associated buffers by replacing, enhancing, or providing substitute resources or environments; and

6. Monitoring the hazard or other required mitigation and taking remedial action and appropriate corrective action to fully restore the intended ecological functions of the mitigation action, as proposed.

B. Mitigation for individual actions may include a combination of the above measures. In determining mitigation measures, lower priority measures shall be applied only where higher priority measures are determined to be infeasible or inapplicable.

C. Mitigation when required pursuant to this section shall comply with the submittal requirements as specified in Chapter 22.06 BMC.

D. Application of the mitigation sequencing in subsection (A) of this section shall achieve no net loss of shoreline ecological functions for each new development and shall not result in required mitigation in excess of that necessary to assure that development will result in no net loss of shoreline ecological function.

Clearly, the applicant has NOT followed this section of the Bellingham Municipal Code, because they propose a large subdivision with the maximum amount of high-income housing units which can only be squeezed in only if the city grants special discretionary allowances to Municipal Code (such as housing envelope proximity to geohazards, substandard road Driving Lanes and Parking, number of houses accessed by private drive). It is clear the applicant seeks to maximize total development of this site to the full extent city discretionary allowances will allow. **Such maximalist development will increase the likelihood and severity of forest degradation in the 200' Buffer. This is the opposite of "Minimizing impacts by limiting the degree or magnitude of the action."**

The proposed project fails to meet municipal code requirements in other ways. **Clearly, removal of a significant percentage of this important coastal forest habitat will result in "net loss of shoreline ecological functions."** Shoreline forest degradation in turn degrades shoreline ecological functions. From the Puget Sound National Estuary Program, which uses high resolution change detection to map tree canopy loss to development[26]:

> "Land cover is the key to long-term environmental sustainability for fish and wildlife as well as the maintenance of ecosystem services like clean water, healthy beaches and the natural beauty which draws people to the region."

Related to the current Forest Practices municipal code, the City of Bellingham now has an **Urban Forestry Management Plan** (UFMP) (Draft).[27] In the UFMP, it is clear the city is emphasizing protection and preservation of sites such as this one and its surrounding forested habitat hubs. Special emphasis is placed on the harms caused by development fragmenting the forest habitat areas. The proposed subdivision development at this site would both destroy rare, valuable coastal forest habitat: it would also further fragment the Wildlife Corridor of which it is a center piece. From the UFMP:

> "**4.1 Six Goals**
>
> Six goals underpin the Urban Forest Plan. These goals encompass thematic areas where the Plan will outline specific strategies and actions for implementation."
>
> "**Goal 2. Protect and restore priority habitat areas, movement corridors, and forests**
>
> Trees play a critical role in maintaining healthy forest ecosystems, contributing to soil health, water retention, and providing habitats for diverse plants and animals. Bellingham still has large forest habitats in urban areas but, like all cities, habitat loss and fragmentation due to human activities such as deforestation, urbanization, and agriculture are ongoing."
> **"Our Challenges**
>
> **Habitat fragmentation:** Urban development, infrastructure expansion, and land use changes are causing habitat fragmentation, leading to biodiversity loss and disrupted ecological processes. Existing tools to protect or acquire forest areas are limited when they fall outside critical areas or are not a priority for acquisition through existing City programs. Creating and maintaining habitat corridors support native species and enhance connectivity is essential to limit the impacts of fragmentation."

Even though the UFMP is a draft document, it is appropriate to consider in these matters because: documentation of these goals is long standing; these goals have been previously reviewed by the community; the goals are extremely unlikely to change in any substantive way.

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[26] Puget Sound National Estuary Program; https://pugetsoundestuary.wa.gov/wp-content/uploads/2020/12/2016-0141_Factsheet_Final.pdf

[27] City of Bellingham, Urban Forestry Management Plan, Draft, April 2024; https://cob.org/wp-content/uploads/Draft-Urban-Forest-Plan-April-2024.pdf

Indeed, these goals underscore the growing importance to the community of protecting and restoring forest habitat such as that on and around the site of this proposed development. This includes preventing harms to the forest ecosystem by unnecessary development. While Bellingham arguably needs housing, it does not need "high-income" housing (per this project's SEPA Checklist), nor does it need housing at the expense of rare, valuable shoreline forest habitats.

Another example of the applicant's failure in "Avoiding the impact altogether by not taking a certain action or parts of an action" is the proposed stormwater pipe on the southeast cliff slope. The applicant provides no information at all about readily-foreseeable forest loss and degradation related to the construction of the proposed stormwater pipe on the southeast cliff slope. As this pipe traverses in a long zig-zag path across the site, it is probable trees will be removed above the proposed 200' shoreline "Buffer." It is also probable that the activity to construct the pipeline and its outflow structure, all on hazardous extremely steep slopes, will damage trees and vegetation which are near (above and below) its path. The loss of soil-stabilizing trees and vegetation on this hazardous, shallow-soil slope will likely result in significant habitat damage throughout the area of activity. The eventual plantings proposed by the applicant will do little to restore the features or functions of this entire section of coastal forest, especially after the shallow soils are disturbed and potentially lost to erosion and mass wasting. **All of these disturbances above the 200' shoreline "Buffer" can reasonably be expected to cause significant negative impacts on the "Buffer" itself.** The applicant could have pursued alternate, superior best-practices stormwater management approaches which would not result in the negative impacts this stormwater pipe's installation would be likely to cause.[28,29]

III. SITE'S MATURE COASTAL FOREST HABITAT IS VALUABLE AND UNIQUE

The mature coastal forest at this site is a valuable habitat, and unique in Bellingham. In the "Bellingham Habitat Restoration Technical Assessment"[30], the site of the proposed subdivision development is assessed to have the "**Highest" rating** across all analyzed **forest habitat functions and attributes** except "System Maturity" which has a rating of "Higher" (this is Forest Habitat Block 7). This is shown in Table 5, below:

[28] Richard R. Horner, Ph.D., March 18, 2024 letter; https://bit.ly/PMBC-Horner
[29] Engineering Geology Comments, Proposed Woods at Viewcrest 38-Lot Plat, March 19, 2024; Stratum Group, Dan McShane, L.E.G., M.Sc., Licensed Engineering Geologist; https://bit.ly/PMBC-McShane
[30] City of Bellingham, Bellingham Habitat Restoration Technical Assessment; https://cob.org/wp-content/uploads/final-bhrta-12-15-15.pdf

Table 5. Relative Functional Condition Ratings for All Analyzed Functions and Attributes in the Forest Habitat Group by Sub-Watershed

Forest Block ID Number	Biodiversity Function[1]				Habitat Maintenance Function[1]		
	Overall Biodiversity Function Score	*System Maturity Attribute Score*	*Lifeform Diversity Attribute Score*	*Habitat Community Attribute Score*	Overall Habitat Maintenance Function Score	*Habitat Connection and Fragmentation Attribute Score*	*Vegetation Structure Attribute Score*
002	Highest	Highest	Lower	Highest	Highest	Highest	Higher
003	Higher	Highest	Median	Median	Higher	Higher	Highest
004	Highest	Highest	Higher	Highest	Highest	Highest	Highest
005	Median	Median	Higher	Lowest	Median	Lower	Median
006	Highest	Highest	Higher	Highest	Highest	Highest	Higher
007	Highest	Higher	Highest	Highest	Highest	Highest	Highest
009	Highest	Higher	Median	Highest	Highest	Higher	Highest

In this same assessment, this site – Habitat Block 7 – rated the highest for taking **Protection Actions** to preserve the habitat among Bellingham's Forest Blocks; see Table 22:

Table 22. Preliminary Overall Prioritization Results for Protection Actions within the Forest Habitat Group

Forest Block ID Number	Permanent Protection	Regulatory Protection	Sum of Protection Action Scores
007	156	58	**214**
004	152	56	**208**
142	152	56	**208**
052	148	58	**206**

This assessment delineates Forest Block 7 using the Block delineations from the previously noted City of Bellingham – Public Work's "Bellingham Habitat Assessment," March 2003, Draft:

> "Forest Block – The Habitat Analysis Unit for Forest Habitat Group. Consists of significant forest habitat patches (greater than 5 acres) within the Project Area. The forest blocks were previously identified and delineated by Nahkeeta Northwest (2003)."[31]

This Forest Block 7 is the same Habitat Block 7 documented in the City of Bellingham – Public Work's "Bellingham Habitat Assessment," by Nahkeeta Northwest (2003), Draft[32], where the coastal forest habitat was described as follows on page 4 of the document's "Block Descriptions" (emphasis added):

[31] Bellingham Habitat Restoration Technical Assessment, Glossary; https://cob.org/wp-content/uploads/final-bhrta-12-15-15.pdf

[32] City of Bellingham, Wildlife Habitat Assessment, March 2003 Draft; https://cob.org/wp-content/uploads/wildlife-habitat-assessment-2003.pdf

> "Block 7 contains the mouth of Chuckanut Creek. It encircles the east and north sides of inner Chuckanut Bay. This block contains contiguous forest, a large salt marsh and estuary. It provides a steep, narrow connection between Clark's Point (block 9) and block 4. It is bordered by Chuckanut Drive on the east, Viewcrest Drive and the Edgemoor neighborhood on the north and west and Chuckanut Bay to the south and west. The northern upland is dry Douglas fir forest with large cliffs and steep hillsides."
>
> "Wildlife found commonly here include, bald eagle, osprey *(Pandion haliaetus),* great blue heron, red fox, deer, western tanager *(Piranga ludoviciana),* kingfisher, red-legged frog and a variety of salamanders. Chuckanut Creek flows for approximately 2,400 feet through block seven and contains spawning and rearing habitat for coho, chum, chinook and steelhead salmon and searun cutthroat trout."
>
> "This block provides a good connector between upland and shoreline habitats."
>
> **"Block 7 has the best natural forested shoreline in the city."**

This "best natural forested shoreline in the city" habitat is largely the coastal forest on the site of this proposed subdivision development. **This coastal forest habitat is of great value to the entire Wildlife Network designated in this area.**

The following figures show this site as a designated Important Wildlife Habitat Area, and its setting in the terrestrial Wildlife Network it is part of. This is from the City of Bellingham "Wildlife Corridor Analysis" 2021.[33]

[33] City of Bellingham "Wildlife Corridor Analysis," July 13, 2021; https://cob.org/services/environment/restoration/wildlife-corridor-analysis

Figure 8. Terrestrial Wildlife Habitat Network. This analysis does not consider habitat extending outside of the City boundary, or habitat for marine or freshwater fish.

City of Bellingham "Wildlife Corridor Analysis" Figure 8: Terrestrial Wildlife Habitat Network.
*Note: Mud Bay Cliffs is highlighted by a **pink oval** in this section of Figure 8, to orient the reader.*

Looking beyond Bellingham official and public emphasis on protecting and preserving such sites, Whatcom County also fully recognizes the vital importance of **Wildlife Habitat Connectivity**, and the profoundly destructive impacts of habitat fragmentation.
From Whatcom County, "Wildlife Habitat Connectivity in Whatcom County, Washington"[34]:

> "Wildlife habitat connectivity – the ability of a landscape to facilitate the movement of wildlife species across it – is critical for wildlife to thrive and ecosystems to function. Animals move to find resources, migrate across seasons, avoid dangerous disturbances, or find new mates and habitats. Even stationary species like plants and fungi move across generations as habitats shift and environments change. The ability to move through a connected landscape with intact habitat and limited human impact is necessary for many species to survive, thrive, and evolve. This is especially true in the face of the growing impacts of climate change, which will cause species' ranges to shift." And found that "landscape resistance" (such as roads and housing) in urban areas means that "…wildlife flow is often channelized into tight corridors between the remaining, fragmented natural areas."

Washington State also has myriad documented exhortations to take special care when contemplating development on or near important habitat hubs and corridors. Moreover, terrestrial habitat connectivity is vital for the functioning of the ecosystems so connected, including aquatic environments. From WSDOT "Wildlife habitat connectivity - Projects & progress" [35] (emphasis added):

> "**The concepts of fish passage and terrestrial wildlife habitat connectivity are linked**. Riparian corridors (where aquatic and terrestrial environments meet) comprise small portions of the landscape but **provide disproportionately important ecosystem functions**. These areas are commonly used by wildlife to travel between patches of suitable habitat, and in highly fragmented urban landscapes, represent some of the last remaining travel routes available."

This site is notably unique in its physical setting adjacent to the Mud Bay estuarine wetlands. The city has invested public resources to restore Chuckanut Village Marsh habitat, with a key driver being recognition that Mud Bay is ecologically rare and of special importance to Bellingham. As documented in the city's Chuckanut Village Marsh Restoration Project Overview (emphasis added):

> "Cumulatively, pocket estuaries are very important to several life history stages of juvenile chum salmon and federally listed juvenile Chinook and steelhead salmon. Chuckanut Bay and adjacent lands also provide habitat for many species of wildlife, including Great Blue Heron."

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[34] Whatcom County, "Wildlife Habitat Connectivity in Whatcom County, Washington" February 2023; https://www.whatcomcounty.us/DocumentCenter/View/74594/Wildlife-Habitat-Connectivity-Wildlands-Network-2023

[35] WSDOT "Wildlife habitat connectivity - Projects & progress" 2022; https://wsdot.wa.gov/about/data/gray-notebook/gnbhome/environment/wildlifehabitatconnectivity/projectprogress.htm

> "Chuckanut Village Marsh restoration was proposed based on an understanding of the ecological importance of this type of habitat and its scarcity locally."[36]

Part of the Wildlife Hub Network closely connected to this site, the Hundred Acre Wood (formerly Chuckanut Community Forest) has also benefitted from an investment of public resources to protect habitat. As documented in the city's Chuckanut Community Forest (CCF) Park District Stewardship Plan[37] (emphasis added):

> "The CCF is positioned between several fish-bearing streams: Padden Creek, Hoags Creek, and **Chuckanut Creek**; and multiple wetlands are on site (Figure 1). The nearby Chuckanut Pocket Estuary and Mud Bay, located approximately 2,000 linear feet (LF) to the southwest of the CCF, provides valuable marine nearshore habitat for many species. The CCF provides terrestrial connectivity for species dependent on forested habitats and large contiguous migratory corridors. The CCF's **unique** landscape setting and **habitat characteristics** to provide refuge and connectivity for many species within the greater community has been the impetus for advocating for its protection through Public Process (Ballot Measure 2013)."

IV. GREAT BLUE HERON COASTAL FOREST HABITAT IMPACTS

This site's coastal forest is a unique and rare sheltering, resting, roosting habitat for a unique and rare Great Blue Heron colony at Post Point, which has tremendous public interest and support. The Great Blue Herons of Bellingham's **Post Point Heron Colony** preferentially feed on this site's shoreline and are observed to shelter, rest and roost in its coastal forest at and above the shoreline.

The Post Point colony is the only nesting colony in Bellingham. It "formed when Great Blue Herons were displaced from a nesting colony along Chuckanut Drive in 1999 and settled at current Post Point site in 2000."[38] Moreover, it was **subdivision development** which forced this colony to relocate[39], demonstrating this colony's sensitivity to the disturbances which development brings, including forest loss and degradation.

According to the information on the city "Post Point Heron Colony" website, and to area heron-watchers, this site is of particular importance to this colony, located just a mile-and-a-quarter, as the heron flies, from the colony:

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[36] City of Bellingham, Chuckanut Village Marsh Restoration Project Overview: EN0031; https://cob.org/wp-content/uploads/Chuckanut-Village-Marsh-EN-0031.pdf

[37] City of Bellingham, Chuckanut Community Forest Park District Stewardship Plan, Chuckanut Community Forest; https://cob.org/wp-content/uploads/21-07740-000_StewardshipPlan_ChuckanutCF_20220810_Reduced.pdf

[38] City of Bellingham, Post Point Heron Colony; https://cob.org/services/environment/restoration/post-point-heron-colony

[39] City of Bellingham, RESOLUTION NO. 2004-10, A RESOLUTION AFFIRMING THE IMPORTANCE OF CONSERVATION AND PROTECTION OF THE POST POINT GREAT BLUE HERON NESTING COLONY; https://cob.org/wp-content/uploads/2004-10-heron-resolution.pdf

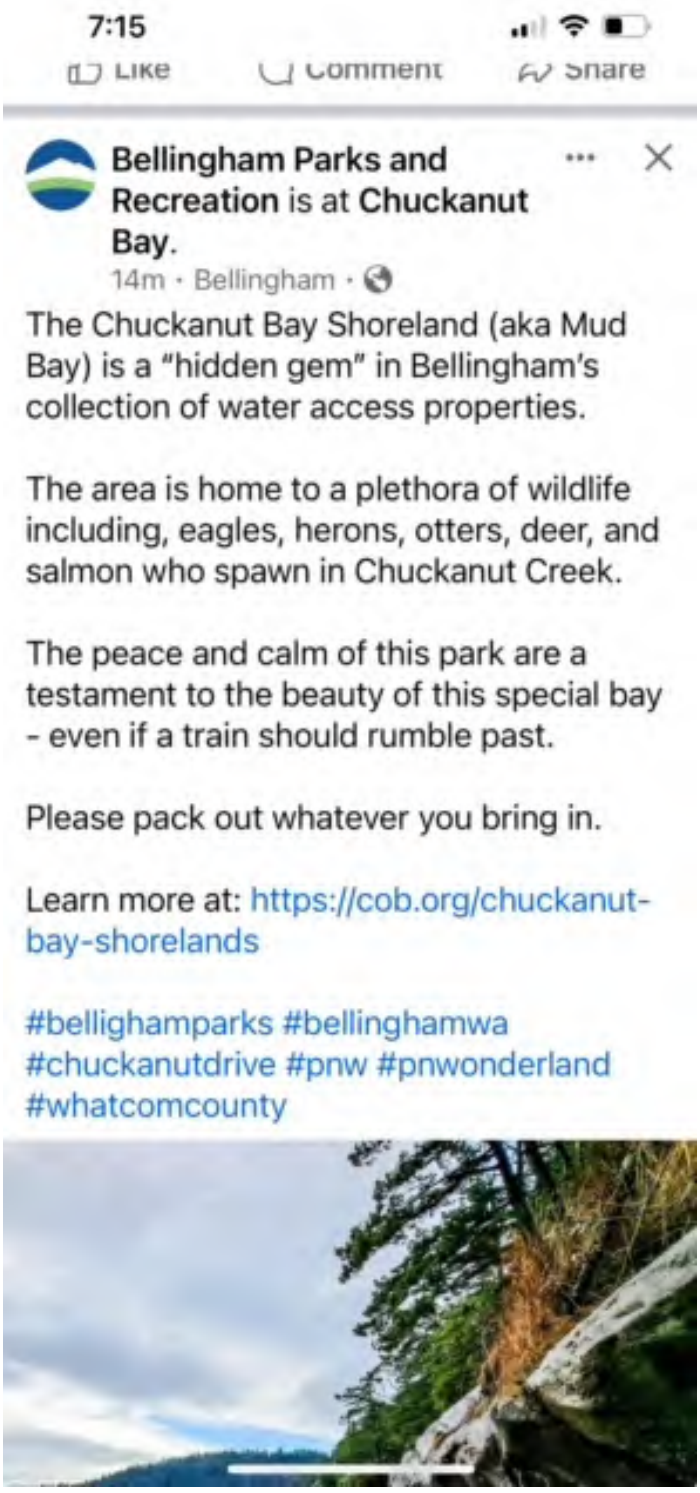
> "Of particular importance are the foraging areas along the Bellingham Bay nearshore. Herons typically forage within three miles of their nesting site and are known to prefer foraging in the eelgrass habitat of protected embayments."

Protection of the herons' nest sites also includes protection of their feeding sites: they cannot successfully raise young in those nests unless they can successfully feed them. Because over 75% of Bellingham's shoreline is now developed, heron-suitable feeding locations are rare in the vicinity of the Post Point colony – and this proposed project site is precisely located at one of these rare feeding, foraging, sheltering, resting and roosting habitats.

Herons need to shelter, rest and roost near their preferred feeding sites, rather than traverse back to their nesting sites whenever they take breaks from feeding. As the applicant's cursory Technical Memorandum (TM)[40], submitted as "Exhibit D – Wildlife Habitat Assessment" notes from their one-day site visit: *"…**we did see three great blue herons perching in the trees overlooking the bay along the southeastern edge of the project site**."*

Above: Great blue heron feeding in the Mud Bay estuarine wetlands, directly below the site of the proposed subdivision.

[40] Subdivision Proposal Application, Reports, Exhibit D – Wildlife Habitat Assessment, Technical Memorandum; https://cob.org/wp-content/uploads/exhibit-d-habitat-assessment-20230620.pdf



<u>Above</u>: City description of Mud Bay Shoreland park, located directly below the proposed subdivision development site.

V. SHELLFISH AND SALMON HABITAT IMPACTS

The Application materials are equally silent on how the likely significant loss of coastal forest habitat would then be likely to impact the Mud Bay and Estuarine Wetlands and Mudflats habitats, which provide both salmon and shellfish habitat, along with nearshore fish and shorebirds habitat. These rare and uniquely valuable wetlands are already under severe stress from previous, ill-considered, and poorly-executed development around Mud Bay (all of which is of course, "grandfathered" – and so is unlikely to be remediated). Avoidance of further stress to the wildlife of these estuarine wetlands and mudflats is an imperative consideration, which must be addressed before further development is considered.

For example, the pollutants from existing housing developments have rendered shellfish from Mud Bay's estuarine wetlands and mudflats unsafe for human health because of "Elevated bacteria levels in stormwater or freshwater drainage," as shown in the figure below from the Washington State Department of Health's *Shellfish Safety Information* website.[41] This unsafe level of pollution held for all of 2023 and continues to the time of this writing. Before the existing housing developments came into being, this was a safe recreational shellfish harvesting area. The Whatcom County Marine Resources Council has been monitoring pollution levels at this location since 2014, and the marine Fecal Coliform Bacteria levels (pollution from existing subdivisions) have been on the rise over time.[42]

In addition, longtime residents note the damage done to Mud Bay's eelgrass near city stormwater outflow pipes, which carry pollutants directly into the estuarine wetlands. The applicant proposes adding stormwater to one of the existing city pipes to the west of the site, and discharging other stormwater via a new pipe just above the proposed 200' shoreline Buffer. As previously described, **significant loss and degradation of the site's coastal forest habitat is reasonably expected, and would result in the addition of even more pollutants into the Mud Bay Category I estuarine wetlands and mudflats**, via both site drainage and stormwater outflow. This would further degrade the shoreline habitat, the estuarine habitat, the mudflats habitat, as well as the interconnected marsh and creek habitats. The development's pollutants would gather and concentrate at the outflow locations during low tide, and the concentrated pollutants would then be carried up to the marsh and the creek habitats as incoming shallow tide water flows in.

It is striking that the well-known, publicly available habitat information such as the above, which demonstrates the **degradation of estuarine wetlands habitat at this location from adjacent housing development**, is given no mention, let alone consideration, in the applicant's materials regarding **likely significant loss of coastal forest habitat**. It is obvious that, absent

[41] Washington State Department of Health, "Shellfish Safety Information" website, accessed 2/11/2024; https://fortress.wa.gov/doh/biotoxin/biotoxin.html

[42] Chuckanut Pollution Identification and Correction (PIC) Program; https://www.whatcomcountymrc.org/media/20725/2022mrcannualreportfinal.pdf

special planning assessment, analysis, and requirements, the development of any subdivision at this site would **necessarily worsen an existing habitat crisis at this exact location**.

The community has invested significant effort to restore native Olympia oyster populations of the Mud Bay estuarine wetlands. One of just two areas in Whatcom County identified by the Washington Department of Fish and Wildlife (WDFW) as restoration sites, the Mud Bay estuarine wetlands "was identified as an ideal option for potential native oyster restoration **given the existing habitat conditions**" (emphasis added).[43] The existing habitat conditions importantly include the mature, natural coastal forest of this site.

The pictures below show community efforts for shellfish restoration underway at this ecologically rare and valuable habitat, and the location of the pilot patches just downslope from the site of the proposed subdivision development. The restoration program is ongoing.

Upslope disturbances including loss of coastal forest features and functions can reasonably be expected to impose significant negative impacts on the Salmon and shellfish in Mud Bay.

[43] Whatcom County Marine Resources Council, Olympia Oyster Restoration; https://www.whatcomcountymrc.org/projects/pilot-olympia-oyster-restoration

<u>Above</u>: Efforts to restore native Olympia oyster population in Mud Bay estuarine wetlands, directly below the proposed subdivision site

<u>Below</u>: Location of native Olympia oyster pilot patches in the Mud Bay estuarine wetlands and mudflats. ***Note the coastal forest of the site of the proposed subdivision*** *to the north of Mud Bay.*

Source: Whatcom Marine Resources Council

VI. NATURAL RESOURCE AMENITY IMPACTS

The site and surrounding area is a designated "**natural resource amenity**" per the city's Community Planning, Edgemoor Neighborhood description[44] (highlight added for emphasis):

> A large, steep, heavily wooded peninsula, commonly known as Clark's Point, extends into Bellingham Bay, forming the western boundary of Chuckanut Bay. Clarks Point is protected from further development with a conservation easement. City-owned greenway and tidelands provide public access to Chuckanut Bay. Steep slopes follow the edges of Chuckanut Bay, paralleling Viewcrest Road, and, together with Clark's Point, provide a natural resource amenity.

This is further evidence of the unique and special characteristics and setting of this site and its inextricable connection to the surrounding Wildlife Habitat Network.

Many visitors currently enjoy the natural resource amenity of Clark's Point and of this site. While the private owners of this site have posted No Trespassing on the site itself, the public views and appreciates the mature coastal forest, scenic natural cliffs, and abundant wildlife from the public spaces surrounding the site. Recreational uses include shoreline nature walks, picnics, bird-watching, wildlife watching, photography, painting, and kayaking and paddleboarding in the shallow waters of Mud Bay during high tides. Educational uses include field trips for students from Western Washington University.

It can reasonably be expected that, through the significant loss and degradation of exceptional mature, natural coastal forest habitat, the proposed subdivision development would significantly and negatively impact this natural resource amenity. Importantly, as described in this document, there would also be significant negative impacts resulting from the expected coastal forest habitat loss to the surrounding public assets and amenities including: the proposed 200' shoreline "Buffer", the shoreline parklands, Mud Bay Category I estuarine wetlands and mudflats, Chuckanut Village Marsh, Chuckanut Creek, and Clark's Point.

[44] City of Bellingham, Community Planning, Edgemoor Neighborhood: https://cob.org/services/planning/neighborhoods/edgemoor-2

VII. WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization

The "WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization"[45] (WRIA is Water Resource Inventory Area 1) provides additional documentation of the **ecological importance of this site's coastal forest to the surrounding estuarine habitats**. The Mud Bay Category I estuarine wetlands and mudflats are located in WRIA 1, as are the interconnected adjacent Chuckanut Village Marsh and Chuckanut Creek.

Coastal Forests are highlighted in Table 4 of this document as "Valued Ecosystem Components of the Salish Sea and WRIA 1":

Table 4. Valued Ecosystem Components of the Salish Sea and WRIA 1.

Coastal forests or marine riparian vegetation
Marine riparian areas border marine or tidal waters and provide many functions as the interface or ecotone between terrestrial and marine ecosystems (Brennan and Culverwell 2004). Functions of marine buffers include the following (Parametrix et al. 2006): export of material to marine systems (detritus, terrestrial insects), shading the upper beach (moisture retention, microclimates), shoreline stabilization, nutrient/toxin/pathogen cycling, wildlife habitat, large woody debris (LWD) recruitment and storage, moderate storm water runoff, and enhanced infiltration (Brennan and Culverwell 2004).

It is well-documented science that **coastal forest** such as this site's, which border marine or tidal waters, provide many valued ecosystem functions as the interface or ecotone between terrestrial and marine ecosystems. These functions include: export of material to marine systems (detritus, terrestrial insects); shading the upper beach (moisture retention, microclimates); shoreline stabilization; nutrient/toxin/pathogen cycling; wildlife habitat; large woody debris (LWD) recruitment and storage; moderation of storm water runoff; and enhanced infiltration.

The "WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization" provides additional documentation of how the coastal forest habitat is one of multiple, interconnected components which together create ecosystem health and functionality. Therefore, it is vitally important for SEPA threshold determination to include consideration of how significant impact to one ecosystem component can reasonably be expected to in turn impact related ecosystem components.

Table 4 in its entirety lays out the Valued Ecosystem Components (see below, "Valued Ecosystem Components of the Salish Sea and WRIA 1"). With the sole exception of Orca Whales, all of these "Valued Ecosystem Components" are present on this site, and/or in the contiguous surrounding, protected wildlife habitat hubs and areas. This site is the center part of a natural, undeveloped terrestrial Wildlife Corridors-and-Hubs chain that spans the north end

[45] City of Bellingham, WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization, January 17, 2013; https://cob.org/wp-content/uploads/wria1-nearp-report.pdf

of Chuckanut Bay and Mud Bay, and this site drains into the Mud Bay Category I estuarine wetlands.

Table 4. Valued Ecosystem Components of the Salish Sea and WRIA 1.

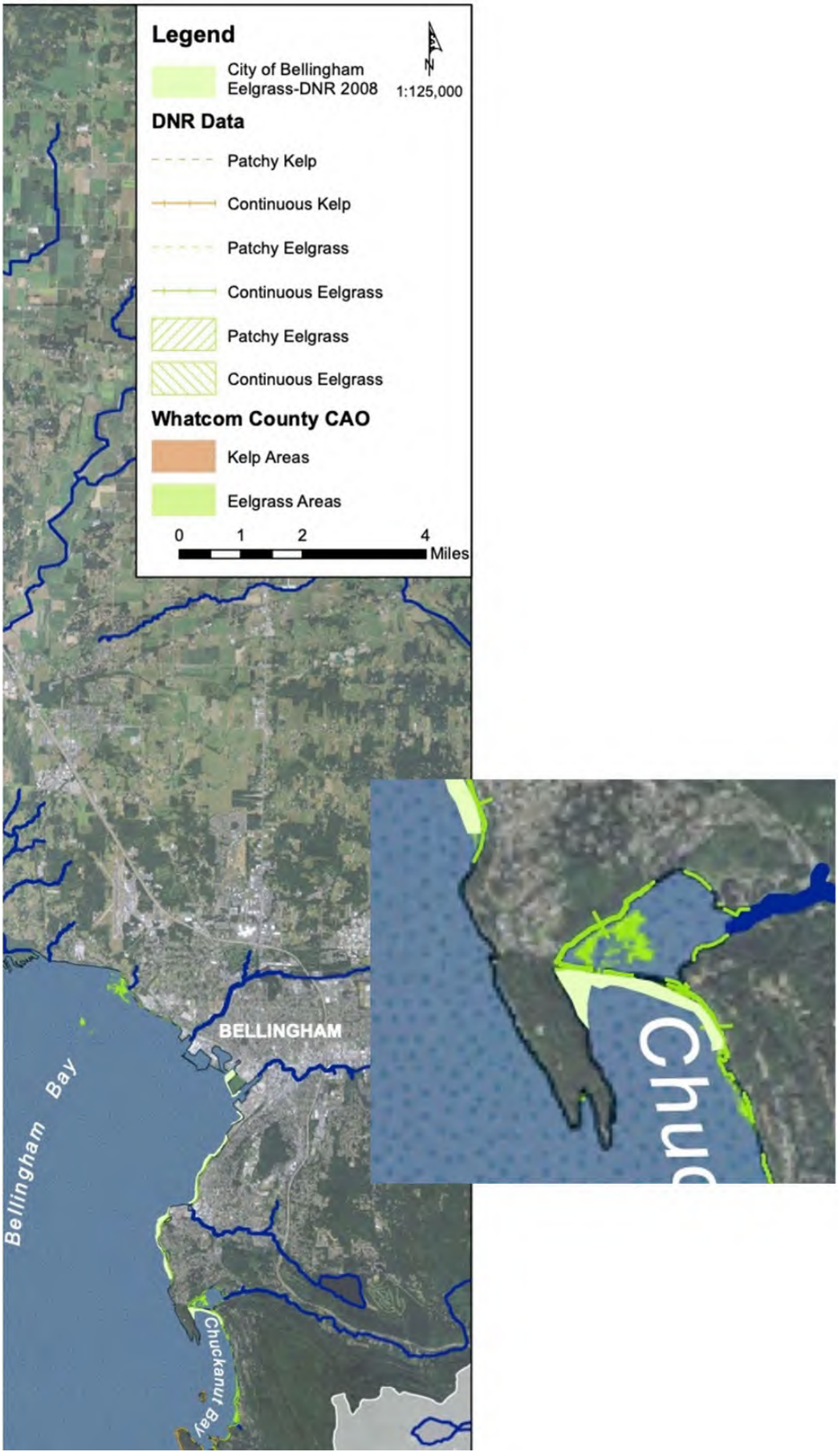
Coastal forests or marine riparian vegetation
Marine riparian areas border marine or tidal waters and provide many functions as the interface or ecotone between terrestrial and marine ecosystems (Brennan and Culverwell 2004). Functions of marine buffers include the following (Parametrix et al. 2006): export of material to marine systems (detritus, terrestrial insects), shading the upper beach (moisture retention, microclimates), shoreline stabilization, nutrient/toxin/pathogen cycling, wildlife habitat, large woody debris (LWD) recruitment and storage, moderate storm water runoff, and enhanced infiltration (Brennan and Culverwell 2004).
Beaches and bluffs
Throughout areas mapped within drift cells, eroding coastal bluffs (commonly referred to as feeder bluffs) are the primary source of beach sediment, and their natural erosion is essential for maintaining down-drift beaches and nearshore habitats. Large woody debris is also recruited from eroding bluffs. The long-term driver of bluff erosion is wave erosion (also referred to as marine-induced erosion), which undercuts the toe of the bluff leading to bluff failure (Shipman 2004). Bulkheads reduce wave attack to the bluff toe but can accelerate erosion of the beach and typically only reduce marine-induced erosion, rather than erosion resulting from upland geology or poor land-use practices, which commonly interacts with wave erosion to initiate landslides.
Eelgrass and kelp
Submerged aquatic vegetation (SAV) most commonly refers to kelp (*Nereocystis luetkeana*) and eelgrass (*Zostera marina or japonica*). SAV performs a wide variety of ecological functions in nearshore ecosystems, from sequestering carbon that fuels nearshore food webs primarily through detrital processes to providing habitat structure for other organisms (Mumford 2007). Crabs and bivalves use eelgrass beds for nursery areas and feed indirectly on the carbon fixed by the plants, while fishes utilize the structure for protection from predation along their migratory corridors. Many species forage upon the epiphytic species found on SAV, such as algae, eggs, and invertebrates, while other predators forage upon juvenile fishes, larvae, and other species utilizing the habitat. Eelgrass is found in mud to clean sand and gravel throughout much of Puget Sound and WRIA 1. It occurs in areas with moderate to low wave or current energy and does not occur on exposed shorelines (Parametrix et al. 2006). Kelp is found where there is hard substrate in shallow water, including pilings and other artificial substrates. It prefers areas with adequate water movement that brings in nutrients and removes excess sediment.
Forage fish
In marine waters, the principal forage species for salmonids, marine mammals, and sea birds are surf smelt (*Hypomesium pretiosus*), Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea hargengus*), and juvenile salmonids such as pink (*Oncorhynchus gorbuscha*) and chum (*Oncorhynchus keta*) smolts. The maintenance of these forage species is considered one key to maintaining anadromous fish populations (Nooksack Natural Resources et al. 2005). Forage fish use a variety of shallow nearshore and estuarine habitats for spawning, feeding, and rearing (WDFW 2004a). Surf smelt spawn in the upper intertidal zone of beaches composed of coarse sand to pea gravel (1 to 7 mm diameter). Pacific sand lance rear in bays and nearshore waters, and move into estuarine waters for spring and summer feeding. They spawn over a wide range of substrates from fine sand to gravel up to 30 mm in size (Penttila 1995). Herring rely on eelgrass, and to a lesser extent on bull kelp and other macroalgae, as important spawning substrates. The adhesive herring eggs are deposited on leaf blades and algae in intertidal and shallow subtidal areas, at elevations between 0 and -10 feet mean lower low water (MLLW).

Table 4 Cont. Valued Ecosystem Components of the Salish Sea and WRIA 1.

Great Blue Heron
The Great Blue Heron (*Ardea herodias*) is found in its greatest concentrations here in the Salish Sea with some of the largest heronries in North America. Because herons are predators on nearshore species, heron populations are indicative of levels of environmental toxins, availability and connectivity of shoreline-upland habitat, and conditions of eelgrass and intertidal habitats (Eissinger 2007).
Juvenile salmon
Puget Sound salmon occupy the nearshore during their transition from freshwater to saltwater and upon their return to their natal streams in the region. The use of nearshore ecosystems varies considerably between and within species, with juvenile Chinook (*Oncorhynchus tshawytscha*) and chum salmon making the most extensive use of nearshore habitats. Population and life history are both relevant to how and when nearshore habitats are utilized (Fresh 2007). The ability of nearshore ecosystems to support or promote salmon population viability depends on both local attributes and the context of the habitat

within the surrounding ecological system. The ability of nearshore habitats to support salmon population viability is a function of how well the habitat supports 1) feeding and growth, 2) avoidance of predators, 3) the physiological transition from freshwater to saltwater, and 4) the migration to ocean feeding habitats (Fresh 2007).
Orca whales
The southern resident and transient orca (*Orcinus orca*) populations are important to the region's ecosystem, economy, and recreation. These top predators use nearshore locations for foraging and travel and are very susceptible to human disturbance and ecosystem decline. The southern residents were recently (2005) listed as endangered under the Endangered Species Act (ESA). A combination of natural factors including the decline of prey (salmon populations), removal for public display, , disturbance from vessel traffic, and toxins likely contributed to the whales' decline (Kriete 2007) .
Native shellfish
Native shellfish in Washington State are of high ecological, economic, cultural, and recreational value. Shellfish beds perform numerous important ecological functions including nutrient cycling, substrate stabilization, habitat structure creation (e.g., oyster reefs), water quality enhancement (filtering and retention), and provision of food for a wide variety of marine invertebrates, birds, fish and mammals. Cobble to fine sand beaches and tidal sand and mud flats are important habitats for shellfish. Species include crabs (*Cancer magister*), numerous clams, the Olympia oyster (*Ostrea lurida*), mussels (*Mytilus spp*.), shrimp , abalone (*Haliotis kamtschatkana*), and various others. In Puget Sound, all major shellfish species, with the exception of shrimp, use nearshore ecosystems for part or all of their life histories (Dethier 2006).
Nearshore birds
The Salish Sea is home to a great number of birds closely associated with the marine environment. All of these birds use one or more of three habitat types – open water, rocky shoreline, and mud flats. The species associated with these habitats include: Surf Scoter (*Melanitta perspicillata*), Black Oystercatcher (*Haematompus bachmani*), and Dunlin (*Caridris alpine*). All three species use nearshore habitats for foraging and resting and Black Oystercatchers also nest in the nearshore. These species are important to the Salish Sea ecosystem for the value bring to wildlife observations, as indicators of contaminant loading (Surf Scoters), and for the relative rarity of the species and regional importance of these specialized habitats (Buchanan 2006).

Map 4, below, from this "WRIA 1 Nearshore & Estuarine Assessment and Restoration Prioritization" assessment shows Submerged aquatic vegetation (SAV) from City of Bellingham (DNR 2008), Whatcom County CAO (2005), and DNR (2001) data. The close-up from Map 4 shows the Eelgrass mapped in Mud Bay, further documentation of the habitat value of the Mud Bay estuarine wetlands. Mud Bay is definitionally a Category 1 estuarine wetlands, and all decisions about the proposed development should be made considering, and concordant with, this.


Legend
City of Bellingham Eelgrass-DNR 2008
1:125,000
DNR Data
Patchy Kelp
Continuous Kelp
Patchy Eelgrass
Continuous Eelgrass
Patchy Eelgrass
Continuous Eelgrass
Whatcom County CAO
Kelp Areas
Eelgrass Areas
0 1 2 4
Miles
BELLINGHAM
Bellingham Bay
Chuckanut Bay

VIII. ESTUARINE WETLANDS HABITAT IMPACTS

As is clear from the "City of Bellingham Pocket Estuary Management Recommendations" (see description from Page 8 of this document below), the Mud Bay Category I estuarine wetlands provide the highest level of habitat functions of all Bellingham pocket estuaries. The health of these estuarine wetlands and mudflats, as described earlier, is dependent on the state of the surrounding habitat, importantly including the entire watershed of the site of the proposed subdivision development. Today, this watershed is largely covered by the mature coastal forest which would be significantly damaged if the proposed subdivision is built.

The Mud Bay estuarine wetlands are well-documented habitat performing a "High" level of function for: Salmonid, Bald Eagle, Great Blue Heron, Shellfish, Winter Water Fowl, Mustilid, and General Wildlife Use.[46]

It is a rare and unique habitat in that it is the only Bellingham pocket estuary performing all of these noted important functions, and moreover, performing all of them at a High level (see table below, from Page 6 of this document).

[46] City of Bellingham Pocket Estuary Management Recommendations, February 2006 (revised September 2006) ; https://cob.org/wp-content/uploads/pocket-esturary-mgmt-recommendations-02.06.pdf

Table 1. Summary of general level of function for pocket estuaries.

Pocket Estuary	General Level of Function							
	Salmonid	Forage/ground fish Habitat	Shellfish Habitat	Winter Water Fowl	Bald Eagle	Great Blue Heron	Mustilid Use	General Wildlife Use
Chuckanut Creek	H	M	H	H	H	H	H	H
Edgemore South	N/A	N/A	N/A	L	L	L	L	L
Edgemore North	M/H	M/H	M?	M	M	M	M	L/M
Post Point Lagoon	M	M	L	M	L	L	M	L/M
Padden Creek	M	L	L?	M	L	M	M	L/M
Whatcom Creek	M/H	L	L	L/M	L	L/M	M	L/M

H – High (Habitat is currently performing a given function well and appears to be sustainable over time.)
M – Medium (Habitat is currently performing a given function but the function is limited by a natural or human aspect. Sustainability of this function is at risk, but may be corrected through restoration actions.)
L – Low (Habitat is currently not performing a given function or the function is severely impaired. The sustainability of the function is at high risk of permanent failure.)
? – Level of function is difficult to assess. Listed function level is an approximation.
N/A – A given function is currently or historically not applicable to this habitat.

City of Bellingham Pocket Estuary Management Recommendations February 2006 (revised September 2006) *Page 6*

This document describes the Mud Bay estuarine wetlands – here called “Chuckanut Creek Pocket Estuary” – and the rare, unique, valuable habitat of this site. Below is an excerpt, from Page 8.

Chuckanut Creek Pocket Estuary

The Chuckanut Creek estuary provides the highest level of functions of the pocket estuaries reviewed for this report (Table 1). The barrier separating this estuary from the marine nearshore is an artificial railbed berm located at the west end of the estuary. The berm has a restricted opening, but effectively reduces wave energy, separates the bay from longshore currents, and presumably reduces mixing with marine waters resulting in reduced salinity levels during the spring and winter. The primary freshwater source to this system is Chuckanut Creek. Secondary inputs include a small stream flowing through a saltmarsh and runoff from surrounding bluffs.

This estuary includes a variety of features that contribute to its high quality. It provides functions at a high level for all functions except forage fish and groundfish spawning, for which there is no data (Tables 1 and 2). Chuckanut Creek estuary includes extensive mudflats that are associated with softshell clam beds and that provide abundant winter waterfowl habitat, particularly for dabbling duck species (Table 2). Chuckanut Creek provides documented spawning habitat for chum, coho, sea-run cutthroat and steelhead. Saltmarsh habitat is present at the mouth of Chuckanut Creek and at the northwest terminus of Fairhaven Avenue, however regular fish access to this saltmarsh is unlikely due to a restricted culvert and reduced access during tidal cycles. The Chuckanut Creek estuary buffer is functioning at high level for all aspects and the buffer is well connected to other significant riparian and terrestrial habitats along Chuckanut Creek and Chuckanut Mountain.

The primary limitations and risks to the Chuckanut Creek estuary is water quality (fecal coliform) from failing septic systems in the Chuckanut Village area and upstream and from potential future development of private land that could reduce the quantity and quality of forested buffer and result in interruptions of wildlife travel corridors.

Page 8, City of Bellingham Pocket Estuary Management Recommendations

The nomenclature ("Chuckanut Creek Pocket Estuary" is "Mud Bay estuarine wetlands") underscores the tight interrelationship between Chuckanut Creek and the Mud Bay estuarine wetlands: they are contiguous in both their setting and in the habitat functionality. Indeed, Chuckanut Creek's creek-bed cutting through the mudflats is easily viewed during lower tides, and is clearly seen in satellite photographs. Anyone suggesting that Chuckanut Creek will not be impacted by potential subdivision development on the Jones property is ignoring this intimate interrelationship between the site, the estuarine wetlands, and the creek – and all of the wildlife which depends on it.

Note also that this document explicitly calls out a "**primary risk**" **to the estuary** coming from "**potential future development of private land**."

- The "private land" referred to is **this site, the Jones property** (other private land in this Block is already developed, or is protected habitat).
- The **"primary risks" result from loss of coastal forest habitat**, and the associated impacts arising from that loss.

In closing:

- The numerous substantial issues with the applicant's materials related to the coastal forest habitat, including its trees and vegetation,
- and the unique and special designated wildlife habitat status of this specific site and its physical setting,
- combined with the important role this site's coastal forest plays in the health of the Mud Bay Category I estuarine wetlands and interconnected marsh and creek habitats,

all necessitate an Environmental Impact Statement be completed before any decisions are made about potential subdivision of the existing four lots.

If a comprehensive EIS is not completed, the community is at risk of significant harms to the functions and features of the surrounding protected public amenities, lands, wetlands, mudflats, marsh, and creek.

We welcome your questions and feedback.

Sincerely,

Paul Brock · Ava Ferguson · Larry Horowitz · Wendy Larson
Janet Migaki · Gary Ranz · Brent Woodland

Protect Mud Bay Cliffs Coordination Committee Members
Info@MudBayCliffs.org

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT J

Protect Mud Bay Cliffs Organizing Committee Public Comment Letter re: Hydrology & Drainage

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 19, 2024

Sent Via Email:
Blake Lyon, Planning & Community Development Department Director
Kurt Nabbefeld, Development Services Manager & SEPA Responsible Official
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
City of Bellingham
210 Lottie Street
Bellingham, WA 98225

Copy Via Email:
Mayor Kim Lund
Renee LaCroix, Public Works Natural Resources
Bellingham City Council

Subject: The Woods at Viewcrest hydrology and drainage impacts

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin:

We are writing to comment on the hydrology and potential drainage impacts of a proposed subdivision known as *The Woods at Viewcrest*. The highest elevations and slope peaks in all of Edgemoor and south Fairhaven occur on the property where the subdivision would be built. The property includes five main peaks and two principal ridgelines. These physical features are important because higher and steeper slopes correlate with more runoff, faster runoff, more forceful runoff, and less protection for soil. "As storm water runoff water moves down a slope, it increases in velocity and increases the potential for erosion."[1]

> *"Soil erosion and sedimentation caused by land development impact the environment, damaging aquatic and recreational resources, as well as affecting aesthetic qualities. Erosion and sedimentation ultimately affect everyone*."[2]

[1] https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/Storm-Water-SESC/training-manual-unit1.pdf?rev=beea1acbe5b24f0984e769d73fa7ccd4#:~:text=As%20storm%20water%20runoff%20water,and%20dislodge%20more%20soil%20particles
[2] Washington State Department of Ecology *Stormwater Management Manual for Western Washington* (Ecology Manual/SMMWW), p. 255. https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/Content/Resources/DocsForDownload/2019SWMMWW.pdf

"Storm drainage has proved to be **a problem** in the Edgemoor neighborhood in past years"[3] and continues to be a problem to this day. Furthermore, once the forested vegetation on the proposed building sites is excavated, cleared, and replaced with impervious surfaces, storm drainage problems will escalate and become even **more damaging and dangerous. According to wetland scientist Lyndon Lee, Ph.D.**:

> *"The existing lack of hydrologic modeling and comparisons of pre- and post-development conditions for the proposed Woods at Viewcrest development is a glaring omission in the current basis of design/plan set and the narratives that support the proposed development."* (Exhibit D, p. 10)

This is especially true given the steepness of the existing terrain, thin soils, and the significantly changed characteristics of water flow within this terrain that will occur with forest clearing, loss of evapotranspiration processes (e.g. water losses to the atmosphere), and significant increases in impervious surfaces within the watershed. As Dr. Lee notes,

> *"In the instance of the proposed Woods at Viewcrest development, it is my opinion that the project is likely to impose significant adverse impacts on the ecological structure and functions of Mud Bay with a particular focus on sediment and contaminated stormwater inputs. Further, although significant adverse impacts are likely, the application materials do not provide sufficient information to determine the full extent of adverse environmental impacts."* (Exhibit D, p. 10)

The hydrology of the property's peaks, slopes and ridges significantly impacts land and water downhill and will be significantly **more impactful** when the property is urbanized with considerably more forceful quantities of runoff. Consequently, building on and near these slopes should require strict adherence to regulations protecting the affected downhill properties and water bodies. Instead, the applicant has stated: "*construction of the full improvements required by codes impractical and difficult"* [4] and is requesting variances and special considerations at the discretion of the Planning Director to not be held to full improvements required by codes.

In addition, the applicant's failure to identify and disclose probable impacts from the proposed development's runoff is alarming. Equally alarming has been the city's apparent acceptance of the unsubstantiated project conclusions, which claim that no impacts will incur to the community or environment from the property's drainage.

We ask that the city issue a Determination of Significance under the State Environmental Protection Act (SEPA) and pursue the necessary steps of issuing an Environmental Impact Statement to keep this development proposal from becoming the adversely impactful project currently proposed.

---

[3] Edgemoor Neighborhood Plan, p.3 https://cob.org/wp-content/uploads/edgemoor.pdf

[4] Project Narrative, p. 17 https://cob.org/wp-content/uploads/2024-02-23-project-narrative.pdf

Figure 1. Map showing elevations and topographic relief on *The Woods at Viewcrest* site
Source: https://maps.cob.org/geviewer/Html5Viewer/Index.html?viewer=cityiq
Note: Elevations added by PMBC

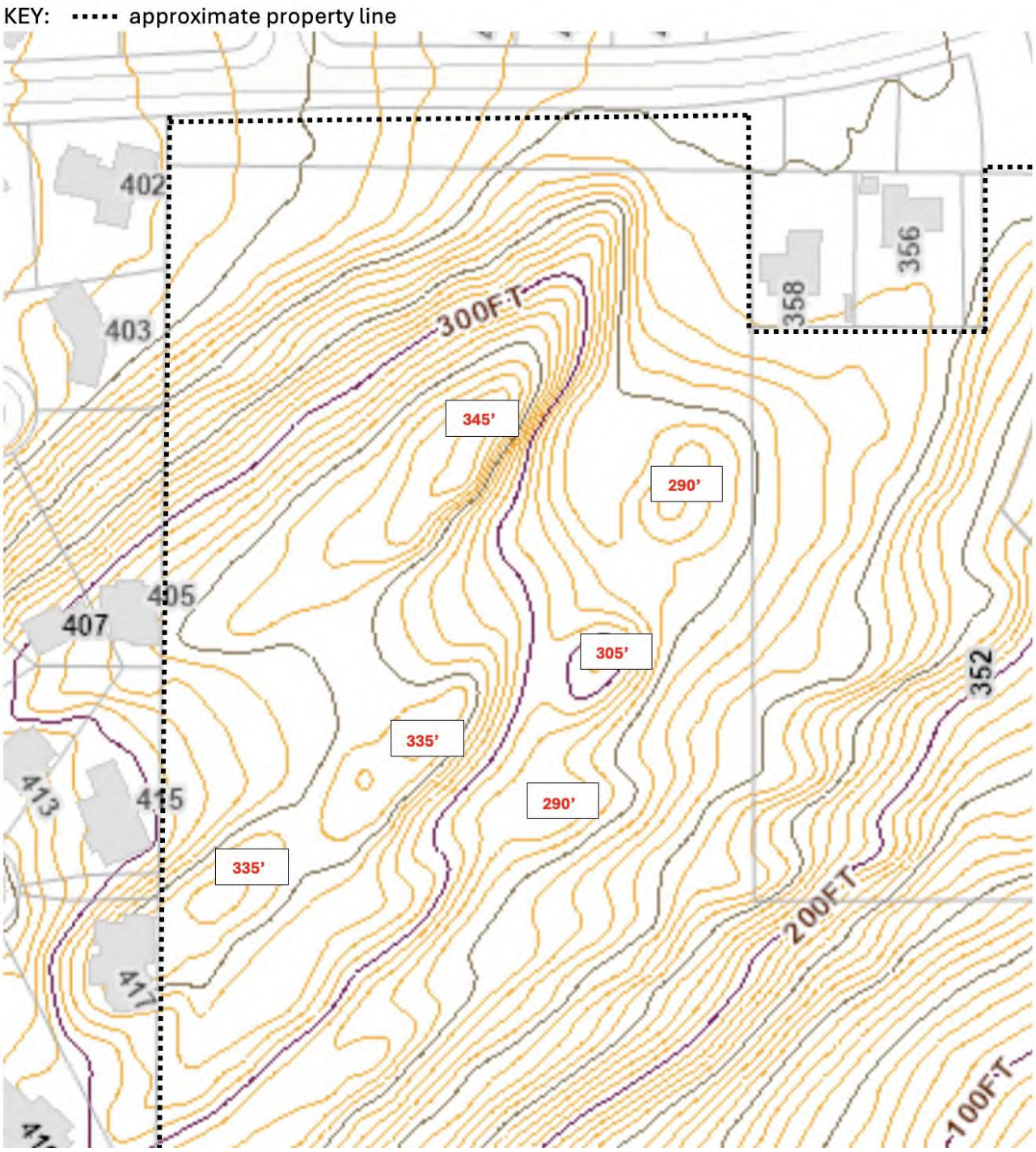
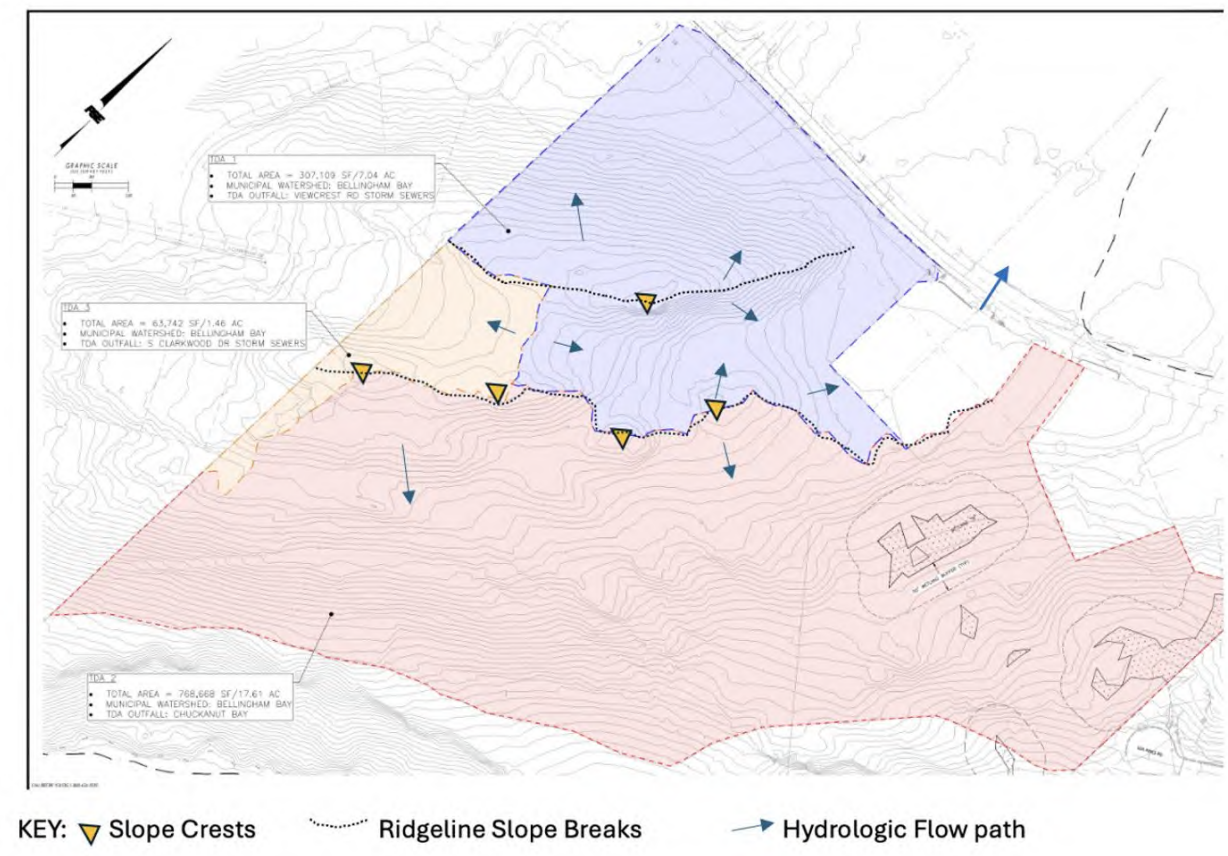


Figure 2. Map showing the highest slope peaks along the property's two signature ridgelines with estimated hydrologic flow paths
Source: Preliminary Stormwater Management Report, Sheet 1, p. 113 of PDF
Note: Identifications inserted by PMBC.



Violations & Non-Compliance of the Preliminary Stormwater Management Report (SMR)

Minimum Requirement (MR) #1: Preparation of Stormwater Site Plans (BMC 15.42.060.F.1)
According to geotechnical expert Dan McShane, the engineered site plan drawings and the Stormwater Management Plan do not "account for stormwater contribution from lot development including subsurface foundation and access driveway drainage." (Exhibit C, p. 3).

The unsubstantiated off-site analysis submitted for §6.1.3 of the SMR does not comply with Ecology Manual requirements. (See Ecology Manual page 139 for intent and substance of the off-site analysis report.)

There is no qualitative off-site analysis report for each of the downstream [downgradient] drainage systems leaving the site.

The city must require both a quantitative and qualitative analysis of off-site impacts. In particular, a quantitative analysis should be performed for the following reasons:

- Project runoff will discharge off-site from a flow dispersion tee directly into Mud Bay and only feet from impaired Chuckanut Creek.
- The significant amounts of nitrogen and phosphorus in the project runoff will contribute to dissolved oxygen concentrations and algae eutrophication of the Chuckanut Creek.
- Impacts from discharged stormwater flowing across the tidelands below the stormwater discharge point have not been evaluated.
- Project runoff discharging west from the drainage basic on Threshold Drainage Area #3 has not been evaluated.

The applicant has submitted incomplete information about the water quality system (SMR §6.1.5):

- The applicant states that both facilities will be sized to treat a minimum of 91% of the runoff for this project. However, it isn't clear if there are two or three facilities. In addition, the most recent MWS Performance Testing evaluations show Modular Wetland System (MWS) treatment units can only treat up to 75% of the runoff (not 91%). [5]

- The water quality treatment goal for the test system was to capture and treat 91% of the average annual runoff volume. Monitoring data showed that stormwater bypassed the AMWS test system during 49 out of 81 monitored events during the 14-month monitoring period. The system was able to treat 75% of the total volume that entered the system over this period. Consequently, the goal of treating 91% of the volume from the site was not achieved.[6]

- There is no Exhibit F Section 5.5 as stated in the SMR: "The site improvements will meet Enhanced Treatment for this project with the use of modular wetland devices. The treatment method and sizing calculations are detailed in Section 5.5."
(SMR, p. 17) (Emphasis added)

- There is no substantiating evidence showing the proposed MWS units meet manufacturer required specifications and runoff flow calculations.

- Due to the lack of substantiating hydrogeologic studies or analysis, there is no evidence to support the inaccurate threshold drainage areas (TDA) drawn for post-developed basins presented in Appendix 8.4 of the SMR.

- Analysis of existing property conditions fails to mention one of the property's hydrologic drainage basins discharging towards Bellingham Bay.

[5] Modular Wetlands Systems Inc. *Technical Evaluation Report*
https://swbmp.vwrrc.vt.edu/wp-content/uploads/2022/04/Filter_Application_MWS-Linear_Document-4-1.pdf
[6] Id, p. ES-2

MR#2: Construction Stormwater Pollution Prevent Plan (BMC 15.42.060.F.2)

According to Dr. Lee (Exhibit D, p. 10):

> "*In the current basis of design documents for the project, there is a lack of innovative and detailed SWPPP plans and a presentation of these plans that requires tight on-site management and adaptability of SWPPP/BMP systems before, during and after construction.*
>
> "*Considering the lack of hydrologic analyses and fully developed, innovative, and adaptive SWPPP plans discussed in items C 1 and 2 immediately above, it is my opinion that the application materials in their current state do not fully comply with federal, state, and City laws and regulations that require no net loss of ecological structure and functioning of WOTUS and Shorelines*."

For project non-compliance with MR#2, see Exhibit D.

MR#3: Source Control of Pollution (BMC 15.42.060.F.3)

"The intent of Source Control of Pollution is to prevent stormwater from coming into contact with pollutants. These BMPs are a cost-effective means of reducing pollutants in stormwater and should be a first consideration in all projects."[7] Only construction site source control is discussed in the project documents. This project has no stormwater management for lot development that prevents stormwater from coming in contact with pollutants.

MR#4: Preservation of Natural Drainage Systems and Outfalls. (BMC 15.42.060.F.4)

The applicant incorrectly states that "*All existing stormwater runoff from the undeveloped property flows directly to Chuckanut Bay. All surface water runoff from the development will continue to flow to Chuckanut Bay*." (SMR, p16) This statement is contradicted in project documents by Pacific Surveying & Engineering, which states "*The majority of the site drains to Chuckanut Bay, however the northwest portion of the site drains toward Bellingham Bay*." (SMR PDF p. 97) The applicant fails to acknowledge the property's existing natural hydrologic drainage basin that flows over Viewcrest Road towards Bellingham Bay. PMBC has created a label for this unrecognized Threshold Drainage Area (TDA): "Unofficial TDA 4" (Figure 3).

The applicant does not acknowledge the post-developed project site alterations occurring for the Unofficial TDA 4 drainage system. Wetland B will be significantly impacted when Unofficial TDA 4 drainage is planned to be collected, funneled, and discharged into a small gravel spreader located in the Wetland B buffer in TDA 2. (The current Unofficial TDA 4 drainage flows NE of the property's highest elevations, crossing Viewcrest Road and continuing to flow into Bellingham Bay).

[7] Ecology Manual. p. 113.

The applicant arbitrarily alters drainage systems and inaccurately states the following in project documents (SMR Appendix 8.4):

> *TDA 3 will not contain any proposed hard surfaces, therefore this TDA is exempt from flow control requirements*. (SMR, p. 7)

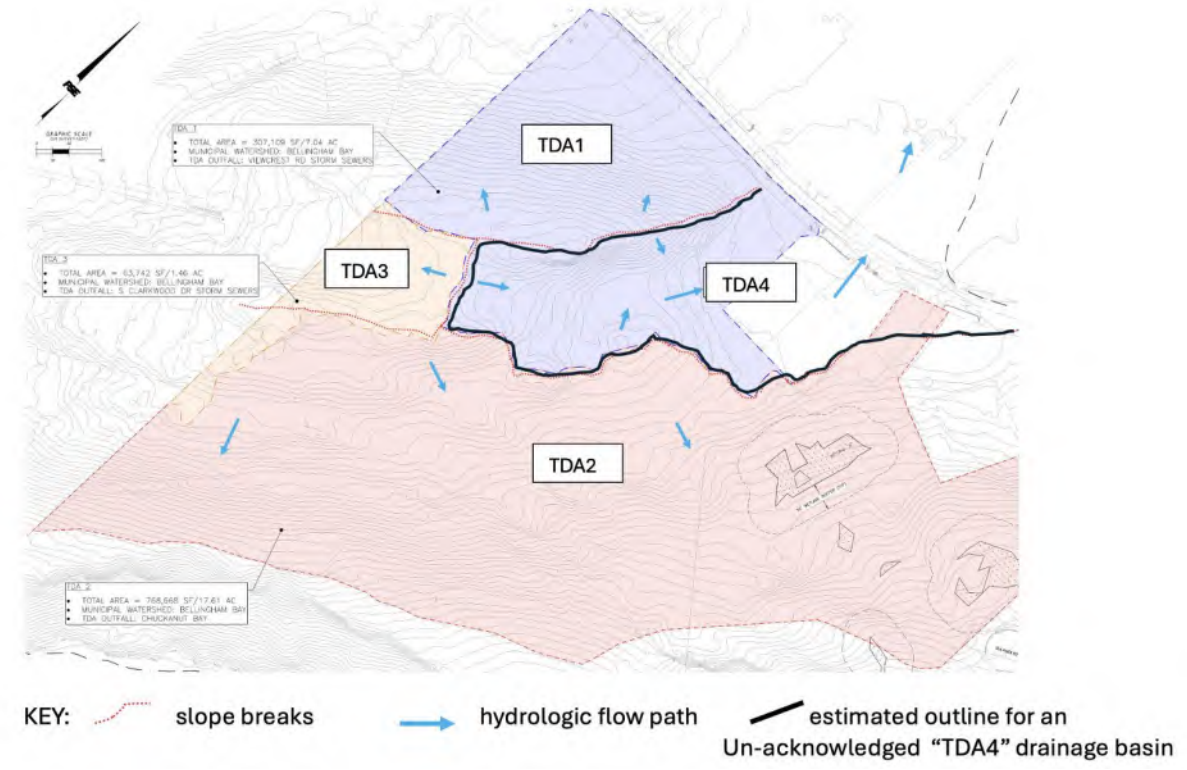
> *In TDA 3 – S Clarkwood Dr, no pollution-generating surfaces are proposed and therefore water quality treatment will not be required.* (SMR, p. 10)

However, post-developed TDA 3 will continue to be a significant natural drainage basin flowing west off the property's highest elevations. It will contain lots and building envelopes #10 and #11, the fire turn-around lane off the North Road, and parts of the North Road. These will have pollution-generating surfaces that require flow control and treatment facilities. (Figures 2 and 3)

MR#5: On-Site Stormwater Management (BMC 15.42.060.F.5)

Plans for on-site stormwater management of drainage from lots, subsurface foundations, building envelopes, roofs, and access driveways is missing from the applicant's Stormwater Management Plan. This is an especially egregious omission because infiltration, dispersion, and perforated stub-out connections are evaluated as infeasible for this property's extraordinary hydrogeomorphic constraints.

Figure 3. Map showing the boundaries of "Unofficial" TDA 4
Source: SMR, PDF p. 113; Note: Labels added by PMBC.

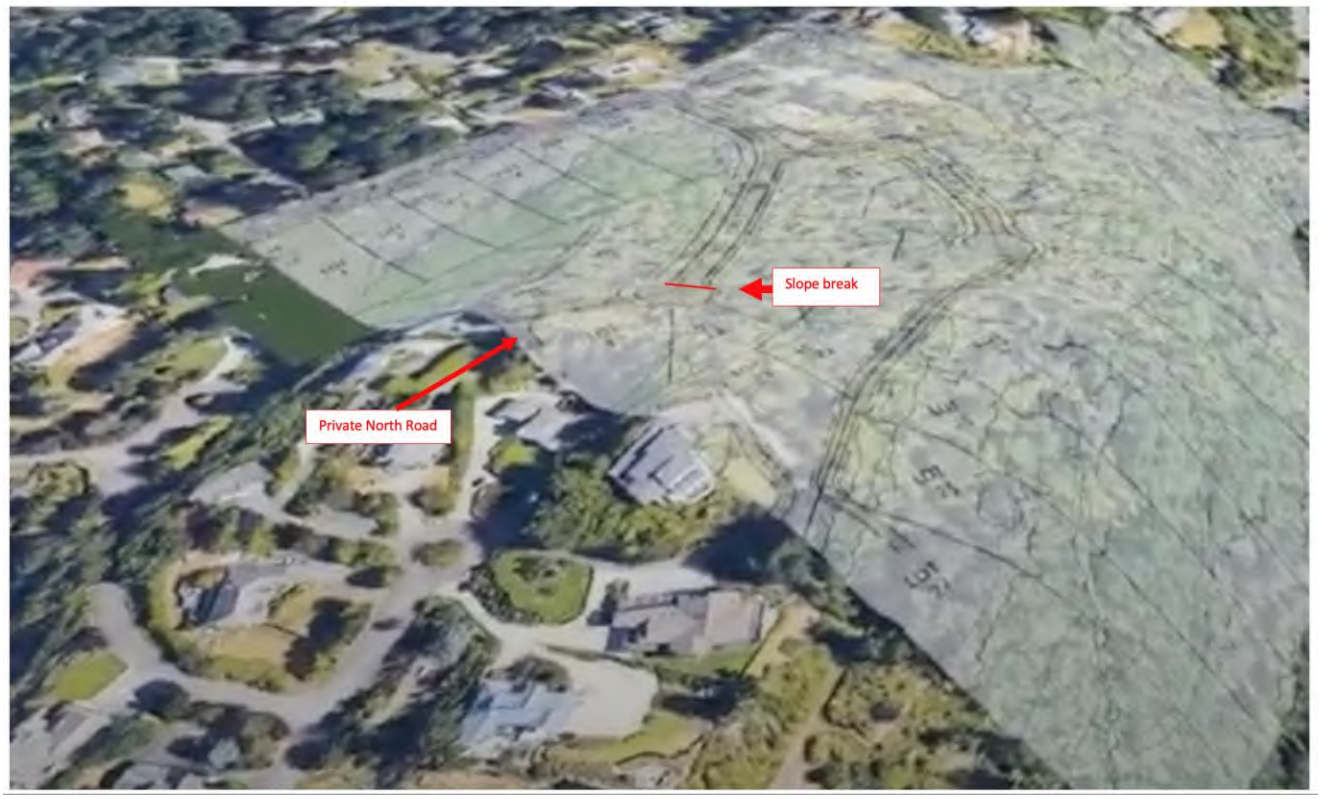


The Stormwater Management Plan does appear capable of servicing the roadway infrastructure, but not without overcoming severe challenges from the property's "*Significant extraordinary conditions related to physical limitations, exceptional topography, geological problems, and environmental constraints... steep slopes, exposed rock, wetlands, and other environmentally sensitive areas spread across the Property*." (Project Narrative, p. 15)
The Stormwater Management Plan for serving the basic public and private roadways within the project property is unclear since the applicant determined that the following BMP technologies were "infeasible": (SMR p. 17)

a) Full Dispersion
b) Permeable Pavement
c) Bioretention
d) Sheet Flow Dispersion/Concentrated Flow Dispersion

The applicant has not submitted a Stormwater Management Plan for the individual lots.

Figure 4: Satellite imagery and site map showing location of Threshold Discharge Area 3
Source: Google Images



In addition, the native soils onsite are considered impervious and unsuitable for infiltration, while the low-permeability and silty clays on site render infiltration infeasible. Separation requirements from the bottom of the permeable pavement section to impervious soil is also not achievable. Finally, specific required vegetative areas and/or flow paths do not exist in the project documentation.

Finally, no evaluation of Roof Surface BMPs was found in the application, even though this evaluation is required for development. Our analysis shows that the three listed Ecology Manual recommended BMPs for roof runoff management are considered infeasible for the project due to criteria listed in the Ecology Manual.

Figure 5. Map showing estimated hydrologic flow paths in Threshold Drainage Area 3
Note: Labels created by PMBC

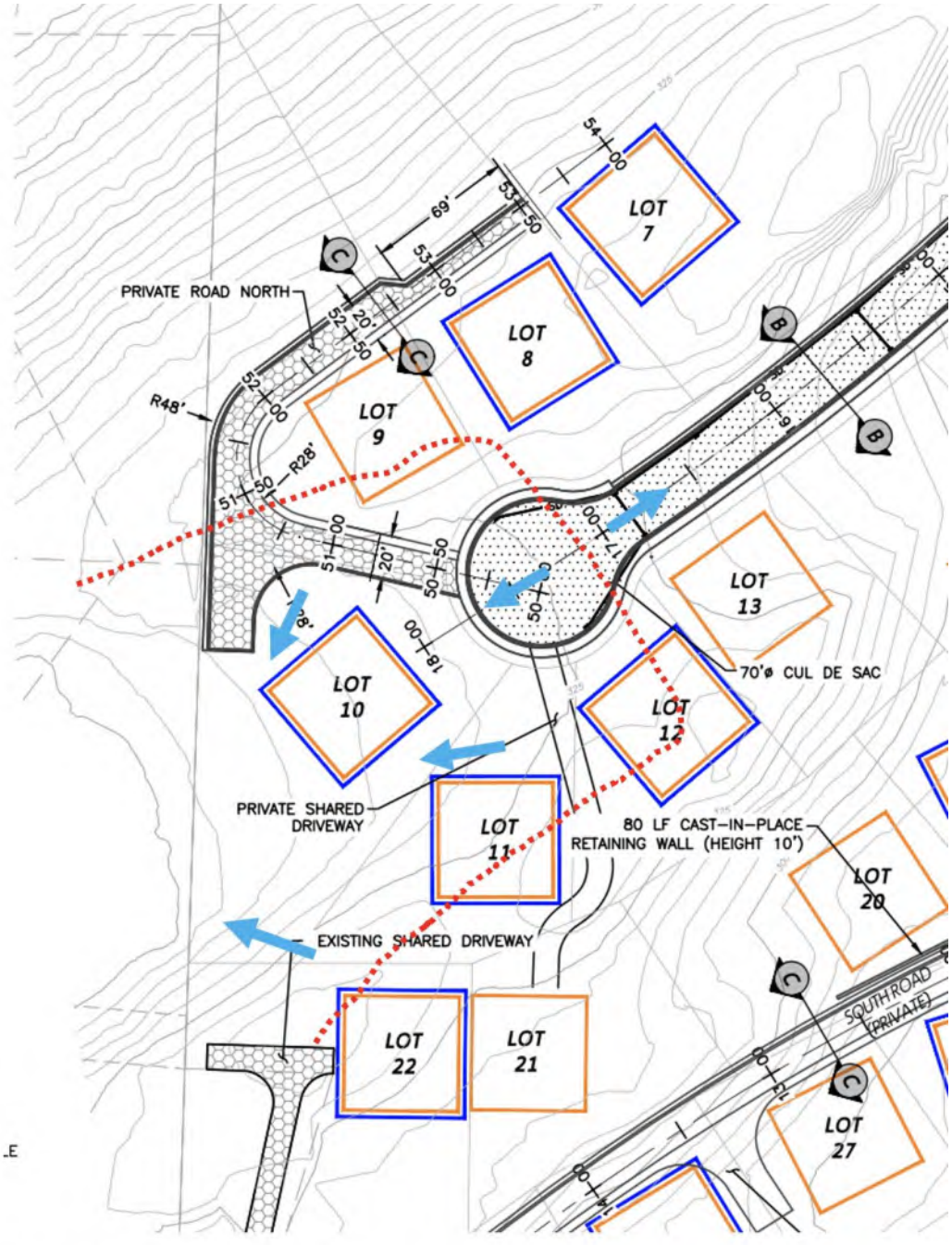
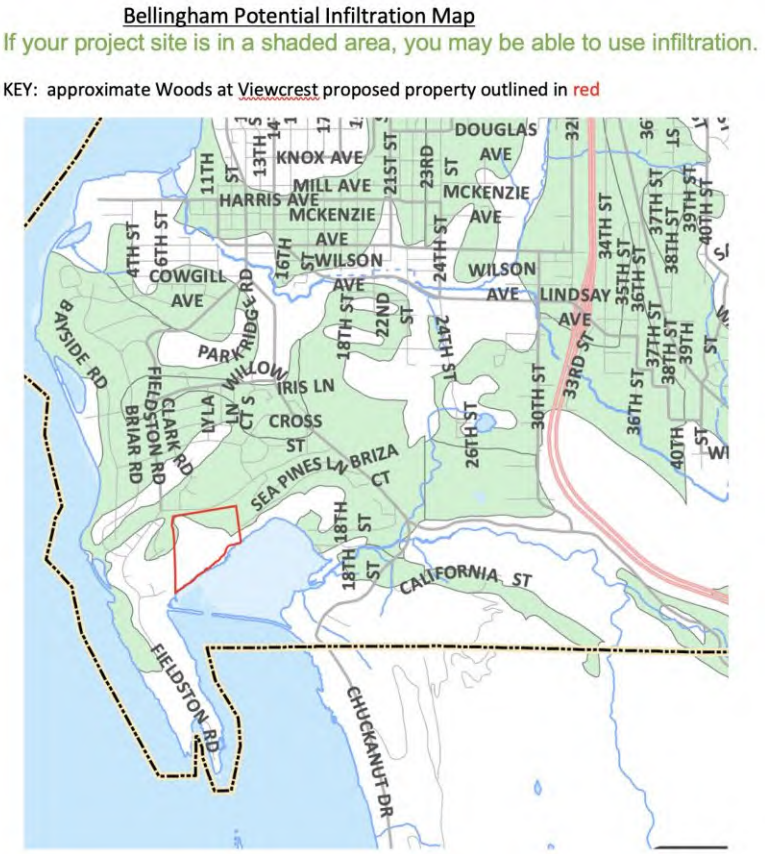


Exhibit A Sheet 1; Identifications added by PMBC

KEY = approximate slope breaks; = hydrologic flow path

Figure 6. Map showing potential Infiltration areas for the proposed project
Source: https://cob.org/wp-content/uploads/public-works-potential-infliltration.pdf
Note: Location of The Woods at Viewcrest property is outlined in red.



MR#6: Runoff Treatment (BMC 15.42.060.F.6)
According to the Department of Ecology's Conditions of Use for the Modular Wetland Systems, applicants shall comply with the following conditions:

> *Design, assemble, install, operate, and maintain the MWS – Linear Modular Wetland Stormwater Treatment System units, in accordance with Modular Wetland Systems, Inc. applicable manuals and documents and the Ecology Decision.* (SMR, PDF p. 169)

The applicant does not demonstrate compliance with this condition of use. A hydrologic analysis has not been done by the applicant.

Applicant statements declaring water treatment requirements will comply with BMC 15.42 should be taken as false and misleading. For example:

The applicant states that, "*The site improvements will meet Enhanced Treatment for this project with the use of modular wetland devices. The treatment method and sizing calculations are detailed in Section 5.5*." (SMR, p18) However, there is no Section 5.5 in the SMR. Hence, there are no hydrologic data or calculations to support MWS sizing for this project.

In addition, the applicant states that, *"This project is required to meet basic water quality treatment standards per BMC 15.42. However, this project has elected to increase the level of stormwater treatment and meet the enhanced treatment level standard*. (SMR p. 7) In actuality, the project discharges into Shoreline Jurisdiction and enhanced water treatment will be required as specified in the Bellingham Shoreline Master Program.

Finally, the applicant states that, "*Each modular wetland device will be sized to meet the water quality treatment requirements for the area*." (SMR, p. 7) However, the applicant failed to provide sizing calculations. In addition, the MWS sizes provided do not meet the criteria specified in BMC 15.42.060.C, which states:

> *"If the runoff from the new impervious surfaces and converted pervious surfaces is not separated from runoff from other surfaces on the project site, the stormwater treatment facilities must be sized for the entire flow that is directed to them."*

As an example, here are the conditions that influence the calculations:

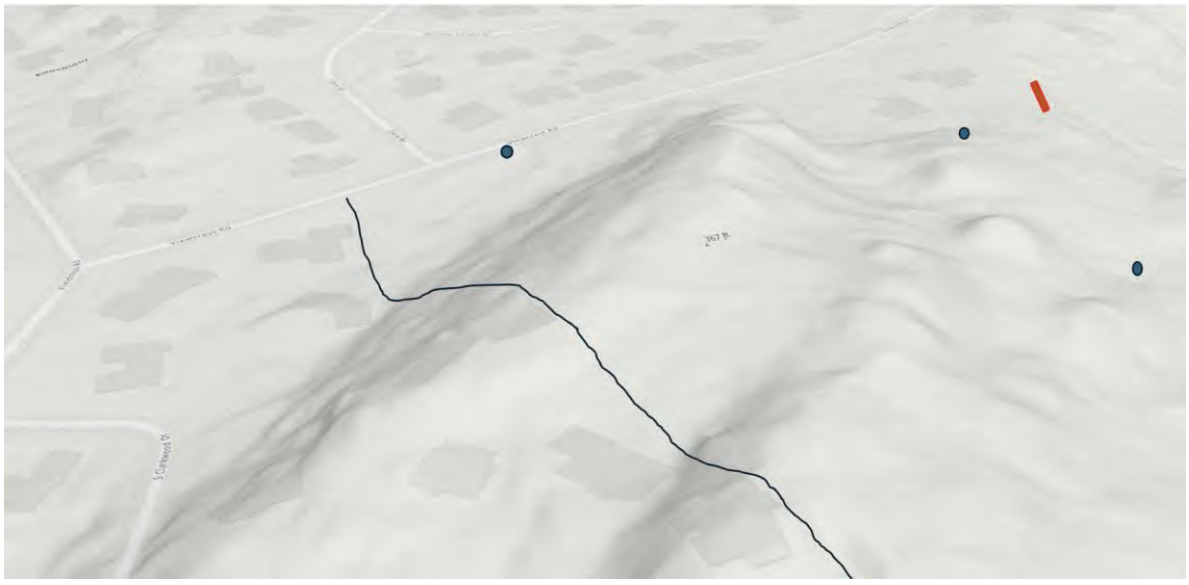
1. The project is using one 4' x 8' MWS unit **capable of treating a 0.66-acre area.**
2. And two 8' x 8' units, each **capable of treating a 1.31-acre area** (Table 1)
3. The project's drainage treatment units will be capable of treating 1.31 + 1.31 + 0.66 = **3.28 acres** at best and only if they are sized for the faster runoff flow rates and flow volumes.
4. The *developable*, buildable land being used for this project development approximates **over 16 acres.** (Figure 7)

Table 1. MWS Linear Sizing to Meet City of Portland Pollution Reduction
Source: *https://www.portland.gov/sites/default/files/2020/modular-wetland-systems.pdf*

Table 1. MWS Linear Sizing to Meet City of Portland Pollution Reduction Requirements		
Unit size (ft)	Treatment Capacity (cfs)	Maximum Drainage Area (acres)
4 x 4	0.051	0.31
4 x 6	0.071	0.42
4 x 8	0.112	0.66
4 x 13	0.139	0.82
4 x 15	0.170	0.99
4 x 17	0.200	1.17
4 x 19	0.230	1.35
4 x 21	0.261	1.52
6 x 8	0.142	.083
8 x 8	0.224	1.31
8 x 12	0.336	1.97
8 x 16	0.448	2.62
8 x 20	0.561	3.28
8 x 24	0.673	3.93

Figure 7. Approximating the land area proposed for development
Source : https://maps.cob.org/geviewer/Html5Viewer/Index.html?viewer=cityiq

Figure 8. Map showing approximate locations of the proposed runoff treatment Best Management Practices (BMP) units and small gravel spreader
Source: https://www.arcgis.com/home/webscene/viewer.html
Note: Locators added by PMBC.



The applicant falsely determines, with no supporting evidence, that, "*All stormwater discharged to the Bay will meet enhanced treatment requirements, eliminating the potential for water quality impacts to the Bay*". (Project Narrative, p. 21) When the modular wetland system (MWS) unit proposed for treating project runoff was monitored for water quality and evaluated for performance (a Herrera Technical evaluation report of the MWS-unit) the goal of treating 91% of the average runoff volume was not achieved. The system was able to treat 75% of the total volume that entered the system over a 14-month period.[8]

MR#7: Flow Control (BMC 15.42.060.F.7)

The project proposal assumes site drainage will receive a Flow Control Exemption. However, Mud Bay is an isolated and unique Category I Estuarine Wetland, which precludes the stormwater outlet structure from being placed in the wetland or it buffer. Consequently, the project cannot take advantage of the flow control exemption for direct discharge into a salt waterbody.

MR#8: Wetlands Protection (BMC 15.42.060.F.8)

The post-development stormwater plan to reroute runoff from TDA 1 to TDA 2 for discharge into Wetland B's buffer will significantly alter the functions of Wetland B. In addition, the rerouting of drainage from TDA 1 to TDA 2 will impact functions for Wetland C and Wetland D, both of which are located down gradient from the proposed gravel spreader that will receive all the new drainage.

MR#9: Operation and Maintenance (BMC 15.42.060.F.9)

"*The objective of this Minimum Requirement is to ensure that Stormwater Management BMPs are properly maintained and operated*."[9] "*The current policy of the City requires public ownership of engineered stormwater facilities that serve single-family plat developments*." (RFI #2 Response Letter, p. 9) Standard inspections and maintenance for OWS units are recommended annually. Failure to properly maintain a drainage facility violates BMC 15.40.170.A.1. In the case of this proposed project, ineffective and unmaintained BMPs will contribute elevated levels of pollutants and bacteria to Mud Bay. Mud Bay has compounding problems with accumulating pollutants because of its very restrictive water movement due to almost total closure from Chuckanut Bay because of the railroad causeway.

The applicant proposes to discharge some stormwater runoff collected off roadways into a dispersion tee BMP at the shoreline. The applicant also proposes to discharge some stormwater runoff collected off the West roadway into the city's Viewcrest-Fieldston stormwater conveyance system, which outfalls through an oil-water separator (OWS) treatment BMP at the NW corner of Mud Bay. However, a Public Records Request for this Oil Water Separator (OWS)

[8] https://docplayer.net/6315911-Draft-technical-evaluation-report-prepared-for-bio-clean-environmental-services-inc.html
[9] Ecology Manual, p. 138.

nearby Arbutus Place (WQF-373) uncovered a lack of maintenance and inspection over the years. According to the Public Record:

> *[For the 23 years 2000 through January 2023,] this water treatment facility has had one "cleaning" and on one occasion, "a new grate on oil water separator manhole was installed."*

Hence, there is no evidence to support the assumption that the city-owned and maintained stormwater facilities proposed for this project will be properly inspected and maintained by the city. Furthermore, the Edgemoor Neighborhood Plan states that, "Storm drainage has proved to be a problem in the Edgemoor Neighborhood in past years."[10]

The city-owned and maintained stormwater management facilities discharging into Mud Bay will NOT perform as expected due to the city's history of giving little or no attention to maintaining stormwater conveyance facilities for existing Mud Bay outfall sites. The applicant is relying on city-owned and poorly maintained stormwater management facilities to support the proposal's conclusions that the project will not impact receiving waters (Mud Bay). There will be probable, significant environmental impacts resulting from poorly maintained stormwater treatment and management BMPs the proposed project will be using. These impacts are not mitigatable due to the applicant having no ownership or control over these city-owned BMPs.

Consequences of Unmanaged and Untreated Runoff

The enormous volumes of untreated runoff that will be allowed to drain from the proposed project will significantly impact the community and harm the environment. Potential adverse impacts include the following:

Figure 9. Comparing the project property before development (Diagram 1) to the red-outlined area of the project property (Diagram 2) after development

Diagram 1: Current property profile

Source: USGS National Map Viewer

Diagram 2: Proposed property area that is developable and planned to be excavated and cleared for development of 36 of the 38 homes

Source: Google Earth Flyover; Red outlines added by PMBC

[10] Edgemoor Neighborhood Plan, p. 3 https://cob.org/wp-content/uploads/edgemoor.pdf

Runoff volumes and speed will increase tremendously when existing forested land is replaced with impervious surfaces, and the increased runoff will be carrying an array of pollutants and sediment.

Compared to the property's current pre-developed conditions, the project property's post-developed conditions will have:

- Much greater runoff volumes, greater rates of runoff flow, and an increased potential for erosion.
- Wetlands inundation during and after wet weather.
- Much greater runoff volumes carrying much greater pollutant and sediment loads to Mud Bay.
- Many new residential areas contributing pollutants to the site's runoff, including oil and grease, polynuclear aromatic hydrocarbons (PAH's), lead, zinc, copper, cadmium, road salts, as well as herbicides, pesticides, nutrients (from fertilizers), bacteria and viruses (from animal waste).

➢ "*All of these contaminants can seriously impair beneficial uses of receiving waters*."[11]

The increase in runoff volume and peak flow rates from new development is well documented in the scientific literature:

- According to the U.S. Environmental Protection Agency (EPA), "*the presence of roads, rooftops and other impervious surfaces in urban areas means a typical city block generates more than five times more runoff than a forested area of the same size*."[12]
- "*... Runoff from an acre of pavement is about 10–20 times greater than the runoff from an acre of grass*."[13]
- *Stormwater draining from excavated and cleared slopes will see increases in temperatures and sediment load*.[14]

Increased runoff will cause increased erosion hazards.

Soil erosion is largely caused by the force of falling and flowing water, particularly runoff, and will be a serious problem for this project site. As slope length and/or steepness increase, the rate of runoff and the potential for erosion increases. The soil erosion potential of an area is determined by four interrelated factors[15]: Soil characteristics; Vegetative cover; Topography; and Climate. The post-developed project site will have all four factors for high erosion potential features:

a) Soil characteristics: The site primarily consists of erosion-prone Nati-Loam 30-60% slopes, NRCS Soil Map Unit #110 and Hydrologic Soil Group rating C

[11] Ecology Manual, p. 44-54.
[12] https://www.chesapeakebay.net/issues/threats-to-the-bay/stormwater-runoff
[13] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257665/
[14] https://cfpub.epa.gov/npstbx/files/ksmo_sediment.pdf
[15] Ecology Manual, p. 253-254

b) Vegetative cover: There will be significant, if not total, loss of natural vegetative cover in Management Area #2, the buildable land area on the property.
c) Topography: Very steep topographical features with shallow restrictive subsurface layers exist throughout the developable area of the site and are very conducive to erosion.
d) Climate: A rainy, high precipitation climate is correlated with higher erosion potential.

<u>The new pollutant and sediment load contribution to Mud Bay from the proposed developed project will be enormous and will likely lead to significant adverse impacts.</u>

> *"Mud Bay, located in Bellingham, Washington at the north end of Chuckanut Bay, is filling with sediment at a rate greater than projected sea-level rise. This is worrisome as the bay is an important habitat for eelgrass meadows, shellfish beds, and birds*." [16]
>
> *"Suspended sediment can have numerous ill effects on estuarine life. Suspended sediments affect the physical, chemical and biological aspects of aquatic environments. Mobile organisms such as fish can move away from areas of increased sediment loads, but filter feeding benthic organisms such as oysters and clams are at particular risk due to their sessile nature. . . sedimentary particles can foul an organisms' filtering apparatus and require the investment of high levels of metabolic energy for removal, energy that would otherwise have been used for physiological activities such as growth and reproduction. This can lead to death by smothering or hypoxia/anoxia, to reduced fitness due to lower reproductive energy allocation, or to poor health due to immunologic stress*." [17]

The Ecology Manual has considerable information on stormwater pollutants and their adverse impact.[18]

> *"Many shellfish are filter feeders, collecting food by pumping seawater through a filter in their bodies. Unfortunately, along with the food they can also collect pollution, which can later be consumed by humans."* [19]
>
> *"The stormwater pollutants of most concern are total suspended solids (TSS), oil and grease, nutrients (phosphorus and nitrogen especially) , pesticides, other organics, pathogens, biochemical oxygen demand (BOD), heavy metals, and salts (chlorides)."* [20]

<u>Toxic Organics</u>

"A study found 19 of the U.S. Environmental Protection Agency's 121 priority pollutants present in the runoff from Seattle streets. The most frequently detected pollutants were pesticides, phenols, phthalates, and polynuclear aromatic hydrocarbons (PAHs)." [21]

<u>Heavy Metals</u>

[16] https://digital.lib.washington.edu/researchworks/handle/1773/45012
[17] http://chnep.wateratlas.usf.edu/upload/documents/SedimentsShellfishCaloosa_FGCU.pdf
[18] Ecology Manual, p. 49-53
[19] http://www.whatcomwatch.org/php/WW_open.php?id=1176
[20] Ecology Manual, p. 53
[21] Ecology Manual, p. 54

"Stormwater can contain heavy metals such as lead, zinc, cadmium, and copper at concentrations that often exceed water quality criteria and that can be toxic to fish and other aquatic life. Research in Puget Sound has shown that metals and toxic organics concentrate in sediments and at the water surface (microlayer) where they interfere with the reproductive cycle of many biotic species as well as cause tumors and lesions in fish." [22]

The proposed project's Stormwater Management Plan (SMP) is flawed and in violation of virtually all 9 DOE Minimum Requirements and BMC regulations 15.42.060.F.1 through 15.42.060.F.9.

Because of the project's flawed SMP, the developed property's polluted runoff will inundate neighboring properties and adversely impact Mud Bay.

There will also be pollutants in the project's runoff that will contribute to existing water-quality 303(d) impairment in Chuckanut Creek (located just feet away from the project's stormwater dispersion discharge tee). "*It can be assumed that the water quality issues that affect Chuckanut Creek are also present in Chuckanut Bay*." (SMR, p. 8)

For example, Chuckanut Creek has a dissolved oxygen Category 5 impairment listing, and two pollutants found in the proposed project's runoff will contribute to this water-quality issue, including nitrogen and phosphorous:

a) "Water running over the land surface carries nutrients such as nitrogen (N) and phosphorus (P) to adjacent [receiving] water bodies causing harm to aquatic ecosystems."[23]
b) "Nutrients transported by sediment can activate blue-green algae that release toxins and can make swimmers sick."[24]
c) Nitrogen in runoff pollution will decrease dissolved oxygen in waters. "Excess nitrogen is the main pollutant causing low, unhealthy oxygen levels in Puget Sound, and a cascade of problems for fish and other marine life."[25]
d) "Nitrogen pollution can lead to excess marine algae growth, which in turn uses up dissolved oxygen in the waters..."[26]

Increased sediment loads will affect the temperature of receiving waters.

It is well documented that, "*Stormwater draining from excavated and cleared slopes will see increases in temperatures and sediment load*."[27] The project area is especially susceptible to this influence:

[22] Ecology Manual, p. 54
[23] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5467952/
[24] https://cfpub.epa.gov/npstbx/files/ksmo_sediment.pdf
[25] https://ecology.wa.gov/About-us/Who-we-are/News/2021/Dec-1-Puget-Sound-Nutrient-Permit
[26] https://www.usgs.gov/special-topics/water-science-school/science/nitrogen-and-water#:~:text=Excess%20nitrogen%20can%20cause%20overstimulation,block%20light%20to%20deeper%20waters
[27] https://cfpub.epa.gov/npstbx/files/ksmo_sediment.pdf

> *"Mud Bay, located in Bellingham, Washington at the north end of Chuckanut Bay, is filling with sediment at a rate greater than projected sea-level rise. This is worrisome as the bay is an important habitat for eelgrass meadows, shellfish beds, and birds."* [28]

Increased sediment in runoff leads to increasing water temperatures, and higher water temperatures lower dissolved oxygen levels in water. Chuckanut Creek is listed as a Category 2 impaired water body for temperature. Runoff from the proposed property will likely register higher temperatures due to the developed land's increase in impervious surfaces and decrease in tree and shade canopy. An off-site assessment of possible temperature effects from the development is required. "*Research shows that urban forests have temperatures that are on average 2.9°F lower than unforested urban areas*." [29] "*A rise in water temperature can have direct lethal effects. It reduces the maximum available dissolved oxygen and may cause algae blooms that further reduce the amount of dissolved oxygen in the water*." [30]

> *"Increased temperature also decreases the water's ability to hold oxygen, which has a further detrimental effect on the aquatic life. Warm temperatures can cause a variety of problems for fish, including decreased egg survival, retarded growth of fry and smolt, increased susceptibility to disease, and decreased ability of young fish to compete for food and to avoid predation. Especially affected are species that require cold water throughout most stages of their lives, such as trout and salmon."* [31]

> *"Many shellfish are filter feeders, collecting food by pumping seawater through a filter in their bodies. Unfortunately, along with the food they can also collect pollution, which can later be consumed by humans."* [32]

> *"Suspended sediment can have numerous ill effects on estuarine life.. Mobile organisms such as fish can move away from areas of increased sediment loads, but filter feeding benthic organisms such as oysters and clams are at particular risk due to their sessile nature…. sedimentary particles can foul an organisms' filtering apparatus and require the investment of high levels of metabolic energy for removal, energy that would otherwise have been used for physiological activities such as growth and reproduction. This can lead to death by smothering or hypoxia/anoxia, to reduced fitness due to lower reproductive energy allocation, or to poor health due to immunologic stress.*" [33]

CONCLUSIONS

The hydrology of this property's peaks, slopes and ridges will adversely and significantly impact the land and waters located downhill. Building on and near the slopes requires strict adherence

[28] https://digital.lib.washington.edu/researchworks/handle/1773/45012
[29] https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands#:~:text=Trees%20and%20vegetation%20also%20provide,lower%20than%20unforested%20urban%20areas
[30] Ecology Manual, p. 50.
[31] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257665
[32] http://www.whatcomwatch.org/php/WW_open.php?id=1176
[33] http://chnep.wateratlas.usf.edu/upload/documents/SedimentsShellfishCaloosa_FGCU.pdf

to regulations protecting the affected downhill properties and water bodies. However, the proposed project as currently planned violates all nine of DOE Stormwater Management Minimum (MR) Requirements and Bellingham's parallel regulations, namely (BMC) 15.42.060(F)(1) through 15.42.060(F)(9). Should city planners intend to hold this project accountable for increasing risks to public health and safety, and damaging Mud Bay and the environment forever, a SEPA threshold Determination of Significance is mandatory, especially given the following concerns:

1. "*Stormwater running off impermeable surfaces is the top pollution source impacting Puget Sound*." [34]

2. The applicant does not demonstrate a Stormwater Management Plan, nor any alternative stormwater management plan, capable of managing and treating the drainage from the entire property's complex hydrogeomorphic conditions. The engineered site plan drawings and the Stormwater Management Plan do not "*account for stormwater contribution from lot development including subsurface foundation and access driveway drainage*." (Exhibit C, p. 3)

3. The project's non-compliance with the regulations to treat drainage before discharging it off-site is one of the most egregious of the significant impacts from this proposed project. Even though the water quality treatment units proposed to be used by the project, Modular Wetland System (MWS) units are GULD/Ecology approved, the proposed units will not be in compliance because they haven't been carefully sized and cited, and units will not be maintained according to manufacturer exacting specifications and explicit *conditions of use*.

4. An Environmental Impact Statement is sorely needed to sort through and evaluate alternative development activity and designs, as well as assess the numerous significant adverse impacts from this poorly treated drainage.

5. Hydrological assessment is necessary to determine stormwater runoff peak volumes for proper sizing of the MWS. Yet the applicant has yet to submit a hydrologic analysis.

6. The applicant falsely determines, with no supporting evidence that, "*All storm water discharged to the Bay will meet enhanced treatment requirements, eliminating the potential for water quality impacts to the Bay*." (Project Narrative, p. 21)

7. All three acknowledged drainage basins, including TDA 1, TDA2, TDA 3, are mis-characterized and will have been significantly altered in post-developed conditions. There are no substantiating hydrogeologic studies to support such arbitrary changes, nor is there modeling to analyze impacts of such changes. The drainage basin for TDA 3 should not change pre- and post-development. TDA 3 is a major hydrologic volume

[34] https://stateofsalmon.wa.gov/statewide-data/salmon/

flowing west off the property's highest elevations. Two building lots, part of a private roadway, and a fire vehicle turn-around are proposed to be located in TDA 3, and there will be pollution generating surfaces. **Water quality treatment and flow control should be required.**

8. Mud Bay is a fragile Category I Estuarine Wetland and does NOT qualify for exemption from DOE's Minimum Requirement #5 for Stormwater Management for Flow Control. Flow control Best Management Practices (BMP) are required and have not been proposed.

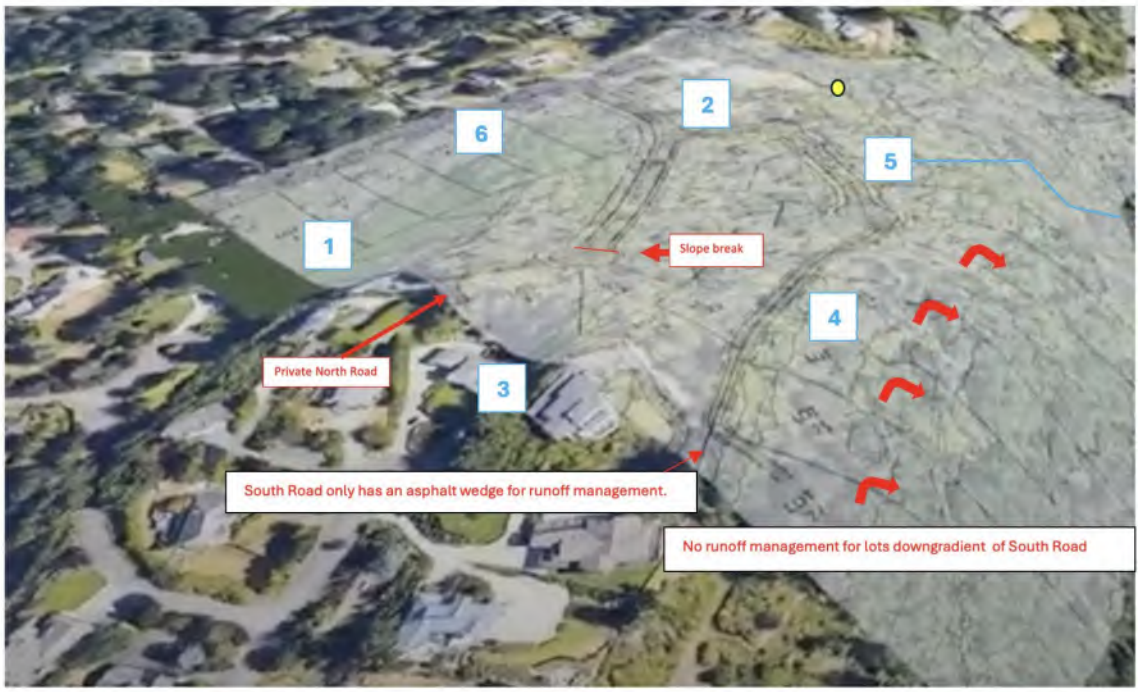
9. The party identified as responsible for maintenance and operation of the proposed project's stormwater management facilities has been the City of Bellingham, Public Works Department. Said party has on record a history of improper facility maintenance, and there is no demonstration that the treatment facilities proposed for this project will be adequately inspected and maintained. (See Violation of MR#9 and BMC 15.40.170).

Thank you for this opportunity to submit these comments. We welcome your questions and feedback.

Sincerely,
Paul Brock · Ava Ferguson · Larry Horowitz · Wendy Larson
Janet Migaki · Gary Ranz · Brent Woodland
Protect Mud Bay Cliffs Coordination Committee Members
Info@MudBayCliffs.org

Appendix I: Overview of Project Drainage Paths

The map below highlights six major drainage areas within the proposed project that will be discharging polluted runoff to Mud Bay. This polluted runoff will cause significant adverse impacts to the fragile ecosystems in and around Mud Bay.



Area 1: Drainage from Lots 8 + 9 and most of the North Road will flow too far WNW to reach the conveyance system along Viewcrest Road directed to treatment.

Area 2: Drainage flowing NE downgradient from the slope break at the top of the property will be routed for discharge into a small gravel spreader located within a small but steep landslide hazard area within Wetland B buffer (shown on the map as a yellow circle). Currently this large runoff volume flows NE downgradient from the slope break at the top of the property out past Viewcrest Road then more westerly towards conveyance to Bellingham Bay. Neighbors north of Viewcrest Road have reported being impacted from this runoff volume after large rain events.

Area 3: Drainage flowing west, downgradient from the slope break at the top of the property, will flow unmanaged and untreated into the South Clarkwood neighborhood. Flooding and property damage has occurred in the past, and risks will increase post-development.

Area 4: Drainage flowing south, and southeast, downgradient from the private South Road and portions of the East Road, will flow unmanaged down the steep ridge to Mud Bay.

Area 5: Some interior drainage will be routed for discharge into Mud Bay via an overland pipe and dispersal tee at the shoreline.

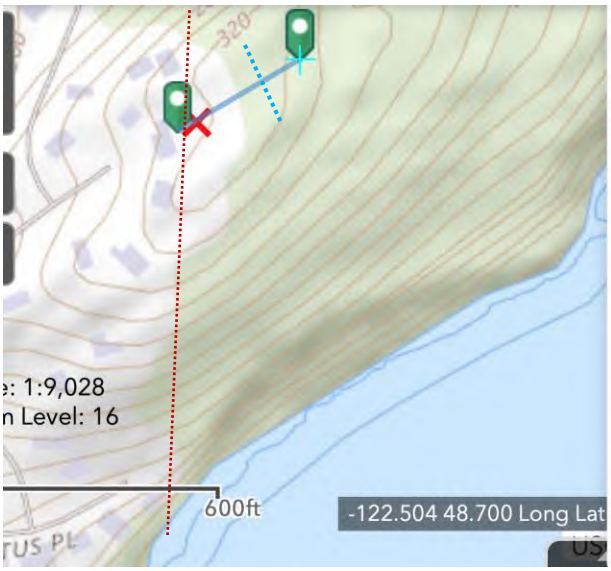
Area 6: Drainage flowing north downgradient from the slope break at the top of the property will be routed for discharge into City conveyance pipes discharging into Mud Bay at Arbutus.

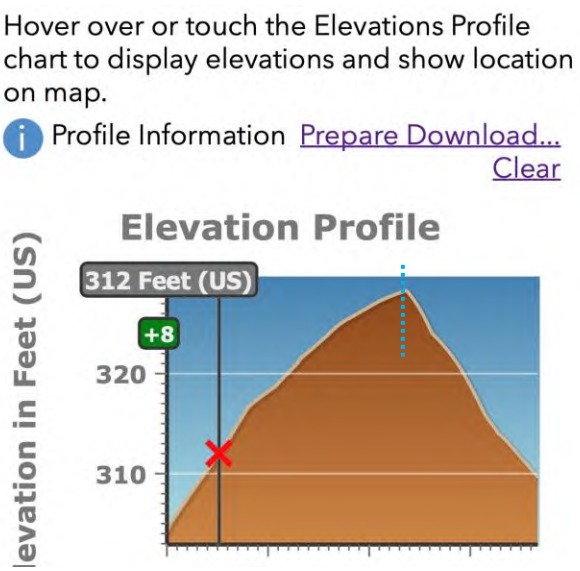
Appendix II: Elevation Changes at Threshold Discharge Area 3

Source: https://apps.nationalmap.gov/viewer/

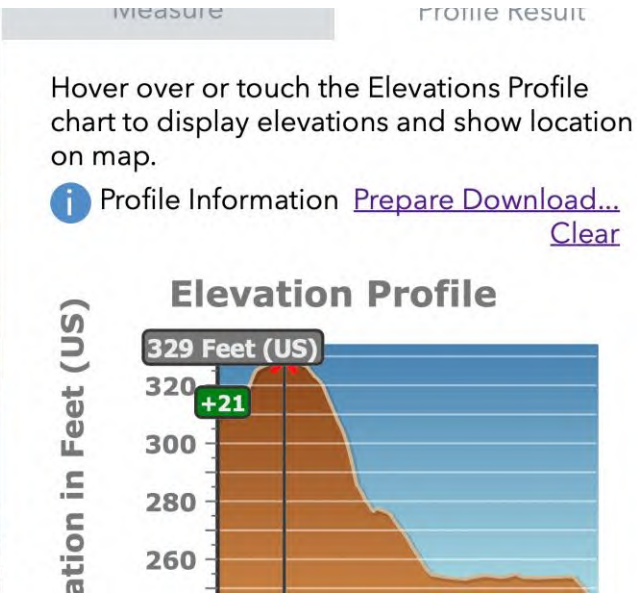
KEY: is approximate property line Is approximate slope break

(A) Starting at the X on the property line with S. Clarkwood homes, going up and over the slope break on the West Road





(B) Starting at the property line with S. Clarkwood homes, going up and over the slope break marked with an **X**, then going downhill to the entrance road near Viewcrest Road



APPENDIX III: Violation of MR#9 and BMC 15.40.170:

The City's stormwater conveyance system treatment facility that discharges into the NW corner of Mud Bay has only been cleaned and inspected once in over 20 years. This is the same stormwater conveyance system the proposed project at *The Woods at Viewcrest* proposes to use. The proposed project will also use a city conveyance system for the discharge of drainage through a dispersion tee at the shoreline.

Public Records Request Reference #: B016835-021723

What came back from the City of Bellingham Public Records Center:

[Since the year 2000, 23 years ago, when records were requested] this water treatment facility has had one "cleaning," and on one occasion, "a new grate on oil water separator manhole was installed."

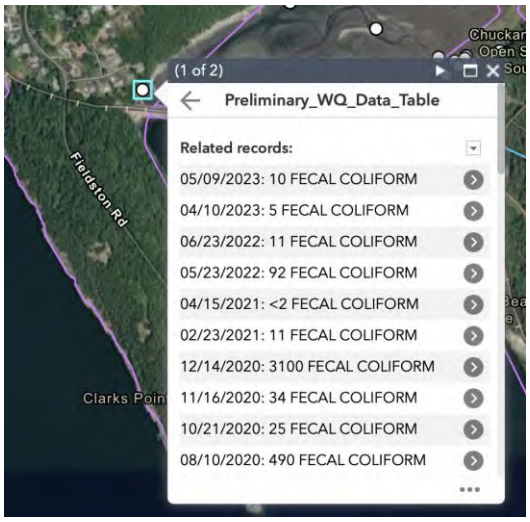
By contrast, here is an example of a Maintenance Schedule for an Oil Water Separators (OWS) from the City of Tacoma:[35]

- Prepare, regularly update, and implement an O & M Manual for the oil/water separators.
- Inspect oil/water separators monthly during the wet season of October 1-April 30 (WEF & ASCE, 1998; Woodward-Clyde Consultants) to ensure proper operation, and, during and immediately after a large storm event of ≥1 inch per 24 hours.
- Clean oil/water separators regularly to keep accumulated oil from escaping during storms. They must be cleaned by October 15 to remove material that has accumulated during the dry season (Woodward-Clyde Consultants).

Chemical contaminants and sediment loads discharged into Mud Bay are not monitored. However, the city does monitor the harmful bacteria levels being discharged into Mud Bay from the city's stormwater conveyance water-quality facility.

[35] https://cms.cityoftacoma.org/surfacewater/swmm2003/v5-c11.pdf

Appendix IV. Surface-water monitoring for fecal coliform bacteria by the City of Bellingham
Source: https://www.whatcomcounty.us/2618/Interactive-Water-Quality-Maps

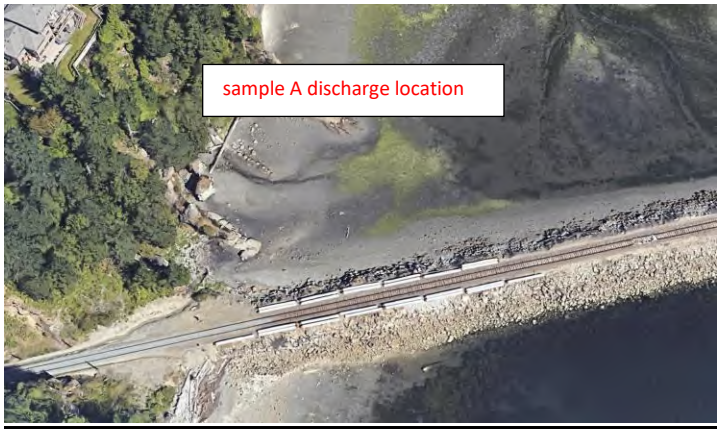


-A- 10/50 samples: 20% > Target [200 f.c./100ml]
And HAD the highest single sample amounts of F.Coliform

-B- 0/12 samples 0% > Target [200 f.c./100ml]
And 0 samples > 10 f.c./100 ml

-C- 1/62 samples 2% > Target [200 f.c./100ml]

-D- Mouth of Chuckanut Crk at end of footpath
4/76 samples 5% > Target [200 f.c./100ml]



** The highest detections of fecal coliform were taken from sample A discharge location = the discharge outfall end pipe for the city's stormwater conveyance system.[36]

[36] https://www.whatcomcounty.us/2618/Interactive-Water-Quality-Maps

APPENDIX V: Hydrologic Performance Testing

To evaluate the stormwater treatment performance of the MWS-Linear based on Ecology's TAPE guidelines, hydrologic performance testing is done.

TAPE guidelines indicate that a technical evaluation report (TER) must be completed for any stormwater treatment system under consideration for a GULD. Specifically, the TER should document treatment performance of a technology to show that it will achieve Ecology's performance goals for target pollutants, as demonstrated by field testing performed in accordance with the TAPE.

This website link[37] is a summary of the Herrera-prepared TER for the MWS-Linear, to demonstrate satisfactory performance of the MWS-Linear in meeting goals specified by Ecology (2011) for basic treatment and enhanced treatment. It collected data from a test installation of an MWS-Linear installed at the Portland Oregon Maintenance Bureau Albina Maintenance Facility. This monitoring was performed over a 14-month period, from April 14, 2012, through March 31, 2013.

The water quality treatment goal for the test system was to capture and treat 91 percent of the average annual runoff volume. Monitoring data showed that stormwater bypassed the AMWS test system during 49 out of 81 monitored events during the 14-month monitoring period. The system was able to treat 75 percent of the total volume that entered the system over this period. Consequently, the goal of treating 91 percent of the volume from the site was not achieved.

[37] https://swbmp.vwrrc.vt.edu/wp-content/uploads/2022/04/Filter_Application_MWS-Linear_Document-4-1.pdf

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT K

Protect Mud Bay Cliffs Organizing Committee
Public Comment Letter re:
SEPA Checklist Deficiencies

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 19, 2024

Blake Lyon, Planning & Community Development Department Director
Kurt Nabbefeld, Development Services Manager & SEPA Responsible Official
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
City of Bellingham
210 Lottie Street
Bellingham, WA 98225
Sent Via Email

Copy Via Email:
Mayor Kim Lund
Renee LaCroix, Public Works Natural Resources
Bellingham City Council

Re: *The Woods at Viewcrest*: The Flawed Expanded SEPA Checklist

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin:

The Expanded SEPA Checklist submitted for *The Woods at Viewcrest* project proposal has serious misleading, inaccurate, and missing fundamental information. Yet this flawed SEPA Checklist is submitted in the application materials as complete. The SEPA Checklist's deficiencies underscore a project-wide laissez fare inattention to Bellingham Municipal Code (BMC) requirements, an engineering disregard of the property's severe hydrogeomorphic conditions, and application materials insistent on promoting the unsubstantiated opinion that the development will have no impacts.

For years, the community - and *Protect Mud Bay Cliffs* (PMBC) in particular, have tried to work collaboratively with city planners to recognize and address the significant adverse environmental impacts this proposed land use project will cause. Public concerns appear to have fallen on deaf ears. A few revisions in some project documents have been submitted since 2021, but the few and cursory changes made are generally found buried within adjustments in wording, not substance. Only a few months ago, the following was submitted in the 6/19/23 Element Solutions Memorandum #1: "*No additional field work or analysis has been completed at this time. The findings and recommendations of the original work are not superseded by the new information below*." (p. 1)

The project's flawed Expanded SEPA Checklist does not provide the adequate and accurate information that would otherwise alert city planners to the dangerous adverse impacts from this project. According to BMC 16.20.110.C.2, when the applicant has provided inaccurate information on previous proposals or on proposals currently under consideration, the responsible official may step in and require someone other than the private applicant to complete the environmental checklist.

Over the years, city planners have requested from the applicant missing and/or unclear project information; however, such information remains missing and/or unclear. Requiring an Environmental Impact Statement (EIS) is now warranted due to: 1) The applicant's failure to acknowledge and submit information on harmful impacts of the project; and 2) city planner's failure to submit an accurate, complete Expannded SEPA Checklist for this proposed project.

Should there be any doubt as to the significant adverse impacts of the project, a strong argument is made that an Environmental Impact Statement (EIS) will resolve the question of significance of impacts.

TOPIC: The Flawed Extended SEPA Checklist

Table of Contents

PART I: Executive Summary

The SEPA Checklist submitted for *The Woods at Viewcrest* proposed project does not provide the adequate and accurate information essential for making an informed threshold determination. This SEPA Checklist has significant omissions and inaccuracies and a threshold determination using this flawed SEPA Checklist will be flawed and SEPA noncompliant. The following information is submitted for inclusion in the Administrative Record for this proposed project.

SEPA A. Background information
The hydrologic and geomorphologic complexities and constraints of the project property severely limit how much of the property is developable. Because of the property's harsh environmental conditions, the small amount of developable land area within the project site must be held to exacting adherence to city BMC regulations for public and property protection and the protection of the environment. As expert Lyndon Lee, Ph.D. states in his expert Technical Memo (Exhibit D, p. 6): "*The overall development design and the associated SWPPP plans are required to be at the highest level sufficient to protect the Mud Bay complex. Specifically, they need to be well thought out, well-constructed, and well maintained*."

The project documents reflect a different intent and approach for how the development design and SWPPP addresses the harsh complexities and constraints of the project property: "*These physical constraints make construction of the full improvements required by the referenced codes (BMC 23 and 13)* ***impractical, difficult,*** *and will result in an undesirable land division*." (Project Narrative, p. 17) The applicant requests variances and diminished standard BMC regulations to avoid, not comply with, and circumvent the highest level development design needed to protect the Mud Bay complex. (See Exhibit L for more information).

SEPA B. Environmental Elements Information: 1. Earth

1) The soils analysis is inaccurate; and there are surface indications, and history of, unstable soils throughout the entire property (including the portion of the site proposed for development).

2) Significant erosion will occur from the ultimate use of the site for single family residential purposes.

3) Wildlife habitats and marine ecosystems will be significantly impaired by the project's increased impervious surfaces, runoff, erosion, windthrow, and pollutants (including sediment) disposed on the shoreline.

4) A complete geology hazard and risk assessment should be required of the property's severe SE landslide hazard area uphill from the shoreline. The very steep slopes flanking the southern project area extend to and include lots 23 through 33 (proposed for development within a thin ridge toe) and the South Road (traversing the designated landslide hazard area at the top of the ridgeline).

5) The proposal is non-compliant with BMC 23.08.060.D.1. Several proposed building envelopes are encumbered by geologic hazard areas. "*The analysis and corresponding adjustments to proposed lot boundaries were done to ensure that a minimum 60' x 60' "building envelope" is available on each of the proposed lots <u>that is not within a delineated geohazard slope area</u> (pursuant to BMC 23.08.060.D.1).* "
(Geotechnical Investigation, p. 26) (Emphasis added)

6) See Rebuttal Map #6: Building Envelopes and Landslide Hazard Areas.

SEPA B. Environmental Elements Information: 3. Water

1. Hydrologic assessments, calculations, drainage patterns and flow paths for the project are missing, and post-developed threshold discharge areas (TDAs) are inaccurate.
2. The project's Stormwater Management Plan does not manage the plat-wide stormwater contribution from lot development. Only a storm water management system serving the roadways is proposed.
3. The applicant has not demonstrated that the Modular Wetland Stormwater Treatment System units will not cause or contribute to water quality standards violations in Mud Bay, the project's receiving waters.

4. Stormwater saturation of the geology will significantly increase risks and impacts to: a) the site, b) property in the immediate vicinity, and c) Mud Bay.

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See Exhibit I (PMBC's Forest, Trees & Vegetation Letter) regarding the flaws with SEPA Environmental Elements Information: 4. Plants.

See Exhibit H (PMBC's Wildlife & Wildlife Habitat Letter) regarding the flaws with SEPA Environmental Elements Information: 5: Animals.

The presence of a variety of salmon in Mud Bay has been well documented,[1] and this project's urban pollution (poorly treated runoff, or not treated at all) will adversely impact the salmon population.

> "*One can expect significantly elevated levels of road runoff such as oils, brake pad material, and crumb rubber, fertilizers, herbicides, insecticides, and pharmaceuticals to enter the Mud Bay system. All of these constituents are documented to be harmful to salmon, and to the range of aquatic and semi-aquatic vertebrates and invertebrates that depend on maintenance of the integrity of the Mud Bay ecosystem to complete all or essential portions of their life cycles"*. (Exhibit D, p. 7)

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SEPA B. 8. Land and Shoreline Use

The proposed project will significantly impact current land uses on nearby or adjacent properties and Mud Bay.

Expert opinions technical memos submitted as public comment weigh in clearly on Shoreline Use regulatory contexts for this proposal:

1. Lyndon Lee, Ph.D. states: (Exhibit D)

   "There is tiered and long-standing U.S. Federal, Washington State, and City of Bellingham jurisdiction regulating most activities in Mud Bay.

   "a. U.S. Federal Jurisdiction – The Mud Bay estuarine complex is a Type 1 'Water of the United States' (WOTUS) and a so-called "Traditional Navigable Water" (TNW) (Table 1). It is also designated as a "Special Aquatic Site" which are -...geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general

[1] https://cob.org/wp-content/uploads/chuckanut-village-marsh-water-quality-improvement-monitoring-report-2013.pdf

overall environmental health or vitality of the entire ecosystem of a region. (See § 230.10(a)(3)).

"The geographic extent of federal jurisdiction in the Mud Bay ecosystem extends to the 'High Tide Line' (HTL) or to the upland edge of wetlands that have a continuous surface connection to the TNWs of Mud Bay. Activities such as dredging and filling, direct or indirect impacts to water quality or to aquatic habitats are regulated by (at least) the combination of Section 10 of the Rivers and Harbors Act, Sections 402 and 404 of the Clean Water Act, the Endangered Species Act, and Section 106 of the Historical Preservation Act. Embedded within this suite of federal regulations and policies is the requirement for "sequencing" of proposed activities to first avoid impacts, second minimize impacts, and third mitigate for any unavoidable impacts.

"*b. Washington State Jurisdiction - At the Washington State level of jurisdiction, activities in Mud Bay are regulated by Section 401 of the Clean Water Act (Water Quality Certification), by the Shorelines Management Act, and by the Washington State Department of Fish and Wildlife (WDFW) "Hydraulic Projects Approval" program. The statewide Construction Stormwater General Permit also applies to projects such as the Woods at Viewcrest (Construction stormwater permit - Washington State Department of Ecology).*

"c. City of Bellingham Jurisdiction - At the City of Bellingham level of jurisdiction, activities impacting Mud Bay are regulated primarily by the Shorelines Management Program."

2. Dan McShane, L.E.G. states (Exhibit C, p. 4, Comment 7): "*A shoreline substantial development permit is required for the proposed stormwater discharge (BMC.08.010.B.4.g.) as well as a shoreline conditional use permit. These permits will require a critical area report(s). The proposal is non-compliant with BMC.08.010.B.4.g. There are other feasible alternatives with less impact to disposing rerouted drainage within a required buffer*."

SEPA B. 12. Recreation

Mud Bay is a popular and cherished recreational public resource afforded special protections and federal jurisdiction under the Clean Water Act. The proposed project will significantly and adversely disrupt these recreational opportunities and harm water quality in Mud Bay.

SEPA B. 14. Transportation

The calculations and observations used for the Traffic Impact Analysis were prepared during the middle of the COVID epidemic (September 2022) with businesses, work, and schools closed and traffic volumes uncharacteristically low.

PART I:
The Flawed SEPA Checklist with Highlights (next page)
https://www.dropbox.com/t/dtH2dgrVJ44AZIe4

This SEPA Checklist has been updated to incorporate edits to the project plans, reports and other supporting materials, in response to the City Request for Information (RFI) issued April 28th, 2022. Updates and edits are reflected in blue text.

Additional updates have been made in response to the City Request for Information (RFI) issued December 21st, 2022. Updates and edits are reflected in green text.

SEPA ENVIRONMENTAL CHECKLIST

Additional updates have been made in response to the City RFI issued August 7th, 2023. These updates/edits are reflected in red text.

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants*:** [help]

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. BACKGROUND [help]

1. Name of proposed project, if applicable: [help] The Woods At Viewcrest

2. Name of applicant: [help] Ann Jones Family Limited Partnership

3. Address and phone number of applicant and contact person: [help]
   Contact Person: Ali Taysi / AVT Consulting LLC, 1708 F Street, Bellingham, WA 98225, (360) 527 9445

4. Date checklist prepared: [help] 01.31.2022 Updated 12.04.23

5. Agency requesting checklist: [help] City of Bellingham

6. Proposed timing or schedule (including phasing, if applicable): [help]
   Land Use Permitting in ~~Q1-Q3 2022~~ Q1 2022 - Q2 2023, Construction Permitting in ~~Q3-Q4 2022~~ Q3 2023 - Q1 2024, Construction in ~~Q1-Q4~~ Q1 2022 - Q4 2023 Q1 2022 - Q1 2024 Q1 2024 - Q32024 Q2 2024 - Q4 2024

Q2 2024 - Q2 2025 (Phase 1). Q3 2024 - Q3 2025 (Phase 1) Q1 2025 - Q4 2025 (Phase 1)
~~2023~~. Phasing of the development in three phases is proposed.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [help]
   There are no plans for future additions, expansions or further activity at this time. In the future, the proposed ~~Reserve Tract~~ (Lot 38) may be further subdivided, but there are no current plans for this subdivision. There are plans for future construction after completion of this proposal- see Earth 1.c.
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [help]
   The following environmental reports have been prepared and are attached hereto as exhibits and incorporated by reference: All Project Plans and Reports have been updated to reflect project edits made through
   Exhibit A – Project Plans ~~11.07.22.~~ 06.18.23 12.04.23
   Exhibit B – Critical Areas Reconnaissance & Delineation Report, Elizabeth Binney, 01.2010.
   Exhibit C – Wetland Delineation Update & Critical Areas Summary, Northwest Ecological Services, 10.31.2021. Incorrect Updates
   Exhibit D – Wildlife Habitat Assessment, Raedeke Associates Inc, 01.22.2022.
   Exhibit E – Geotechnical Investigation & Geohazard Report, Element Solutions, 11.03.2021.
   Exhibit F – Storm Water Report, Pacific Survey & Engineering, 01.22.2022 11.30.2023
   Exhibit G – Traffic Impact Analysis, TENW, 07.30.2021. missing Exhibits W, L, S, R,
   Exhibit H – Cultural Resources Report, Drayton Archaeology, 07.20.2020.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [help]
   The applicant is not aware of any applications pending for governmental approvals of other proposals that are in the vicinity that could affect the proposed project.

10. List any government approvals or permits that will be needed for your proposal, if known. [help]
    City of Bellingham Preliminary Plat.
    City of Bellingham Critical Areas Permit.
    City of Bellingham Shoreline Substantial Development and Conditional Use Permit (for outfall only).
    City of Bellingham Public Facility Construction Permit.
    City of Bellingham Subdivision Variance.
    Various City of Bellingham Building, Fire, Public Works, Storm Water, Street Tree and other associated permits.
    ~~(Potential) Department of Fish and Wildlife Hydraulic Project Approval (HPA), for outfall only.~~
    ~~(Potential) United States Army Corps Joint Aquatic Resource Permit (JARPA), for outfall only.~~
    ~~Project proposes to connect to existing storm system in Sea Pines Lane, no work near OHWM.~~

    Outfall placed above High Tide Line (HTL)

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [help]
    The proposed project is the development of a 38 Lot Single Family Long Subdivision, located on an approximately 37.7-acre property. ~~In addition to 37 single family lots, the project includes a Reserve Tract (Lot 38, with 1 building site)~~, two large Open Space Tracts containing all the shoreline buffer area, construction of two new public roads, four shared private driveways, public and private water, sewer and storm water infrastructure, pedestrian improvements to abutting public street frontages, internal roads, and other accessory improvements. (much has been omitted here) see "Section A.11; B.1.a; B.1.b."
12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available.

While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [help]
The property is generally located in the Edgemoor Neighborhood, in Area 7, south of Viewcrest Road, north of Chuckanut Bay, east of the Briza development and west of the Clarkwood development. The property is more specifically located at 352 Viewcrest Road, approximately ½ mile west of the intersection of Chuckanut Drive and Viewcrest Road, with primary frontage on Viewcrest Road. The property is located in Township 37, Range 02 East, Section 13, and consists of four tax parcels.

B. ENVIRONMENTAL ELEMENTS [help]

1. Earth

a. General description of the site [help]
☐ Flat ☐ Rolling ☒ Hilly ☒ Steep Slopes ☐ Mountainous
☐ Other Click here to enter text.

(much has been omitted here)
see "Section A.11; B.1.a.; B.1.b."

b. What is the steepest slope on the site (approximate percent slope)? [help]
The steepest slope on the site is approximately 80 %.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [help]
Everett-Urban Land Complex (NRCS Map Unit 52) and Nati Loam (NRCS Map Unit 110). See attached Geotechnical Investigation & Geohazard Report for additional details, Exhibit E.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [help]
The portion of the site that is proposed for development does not exhibit surface indications or history of unstable soils (See Geotech Investigation, Section 4.1.1). There are areas of the site with steeper gradient, which are not proposed for development, which do exhibit evidence of unstable soils and may be classified as special hazards (Section 2.4.2).

FLAWED; see " Section B.1.c. + B.1.d."

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [help]
Excavation, fill and grading will be necessary for the construction of infrastructure including new roads and utilities, as well as for future construction of single-family residences after completion of the proposed subdivision. Grading activities, including excavation and fill, will occur in all designated road rights of way and easement areas, and on individual lots. Cuts will occur around existing rock features and, in some instances, will require cut through rock features. Fill will also occur in these areas to support road grades and reduce the need for retaining walls. Exact quantities of excavation, fill and grading activity are not known and could be impacted by conditions generated from City review of the proposed project as well as from construction activities in the field (rock, soil stability, etc.…). Estimated material cut/fill volumes for all roads, driveways and homes is 12,500 cubic yards +/- of cut and 8,200 cubic yards +/- of fill. These numbers are not intended to be "not to exceed" numbers but are reflective of current design drawings plus a safety factor. It is anticipated that cut values could be reduced depending on the consistency of rock found during construction. It is also anticipated that cut/fill volumes will vary for each individual single-family residence that is constructed, depending on design, however an average cut/fill is included in this estimate for each residence.

FLAWED
see "Section B.1.f.+B.1.h."

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [help]
Yes. Erosion could occur as a result of clearing and grading activity. Erosion could result from exposed soils, cuts necessary for roads and utilities, and other construction activities. Erosion is unlikely to occur from the ultimate use of the site for single family residential purposes.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [help]
The project is estimated to include approximately 238,000 square feet of new or replaced impervious surfaces, or 16% of the upland property area. Due to the fact that impervious surface amounts will vary for each individual single-family residence that is constructed, depending on design, an impervious surface safety factor of 20% is being considered, which would increase total impervious surface square footage to approximately 287,000 square feet, or 20% of the upland property area.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [help]
The project will be designed by a licensed civil engineer, utilizing best available science, consistent with adopted regulations governing clearing, grading, and infrastructure design. The design of the project will include compliance with the Department of Ecology Storm Water Manual for Western Washington, current adopted edition, and will incorporate Temporary Erosion and Sediment Control (TESC) Plans, a Storm Water Site Plan (SSP), Storm Water Pollution Prevention Plan (SWPPP) and best management practices for managing erosion and runoff. In addition, due to the proposed area of clearing, a Construction Storm Water Discharge Permit (NPDES) from the Department of Ecology will be acquired, and this permit will require monitoring and reporting from a Certified Erosion and Sediment Control Lead (CESCL), who will be responsible for ensuring that no adverse erosion or runoff results from construction activities.

FLAWED
see "Section B.1.f.+B.1.h. "

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [help]
During construction activity emissions to air could be generated by construction equipment exhaust, mechanized tools, and from dust.
During final occupancy of the finished single family homes emissions to air could be generated by residential vehicle exhaust and residential HVAC system exhaust.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. [help]
None.

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [help]
During construction activity the idling of construction equipment will be monitored, and in dry conditions, watering of exposed soils to reduce dust will occur.
During final occupancy the finished single-family homes will be designed with modern, energy code compliant HVAC systems, which are designed to reduce and limit exhaust emissions.

3. Water

a. Surface Water: [help]

FLAWED
see "Section B.3.a.1) + B.3.a.2)

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [help]
Yes. There are four small wetlands located on the property (Wetlands A-D). See Wetland Delineation, attached as Exhibit C. Wetland A is the largest wetland on site, at 12,358 square feet in size, and is rated a Category IV wetland (lowest quality). Water from this wetland flows into a man-made ditch and then off-site through a culvert on a neighboring property, and ultimately to Chuckanut Bay. Wetland B is 9,476 square feet in size and is also rated a Category IV wetland. Water from this wetland flows into the adjacent forested upland areas and infiltrates on-site. Wetland C is the smallest wetland on site, at 991 square feet in size, and is also rated a Category IV wetland. Water from this wetland flows into the adjacent forested upland areas and infiltrates on-site. Wetland D is 1,813 square feet in size and is also rated a Category IV wetland. Water from this wetland flows south to a rock formation near the primary grade break above Chuckanut Bay, however there is no surface connection to Chuckanut Bay. Chuckanut Bay itself abuts the entire south boundary of the property. There is a steep, rocky bank that extends north from the Bay. Water from Chuckanut Bay flows southeast under the BNSF railroad trestle and ultimately into Bellingham Bay.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [help]
Yes. The project does include work within 200' of Wetland A, B and D. Activity occurring within 200' of these wetlands will include the construction of future single-family residences on Lot 37 and Lot 38, together with associated driveways and other site improvements, as well as the construction of a level spreader to disperse clean storm water runoff into the buffer of Wetland B, specifically to maintain the hydrology of said wetland. This is the only work that will occur within 200' of the on-site wetlands. ~~No work is proposed in the buffer area of any wetland.~~ The primary storm water outfall for the project will extend south down the bank to an outfall energy dissipater located just above the beach of Chuckanut Bay. The pipe and energy dissipater will be located within 200' of Chuckanut Bay but the pipe will be located above ground, and the energy dissipater will be placed above the existing sandstone shoreline edge and will be located above the OHWM and MHWM of the Bay, as well as the HTL of the Bay. These are the only improvements located within 200' of the Bay.

There is the potential that the proposed trail will generate limited impacts along the outer edge of the buffer of Wetland B.

FLAWED: see "Section B.3.a.1) + B.3.a.2)"

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [help]
~~No fill or dredge material would be placed in or removed from the wetlands. Limited fill and dredge activity will be necessary for the construction of the proposed stormwater outfall energy dissipater at the edge of the Bay. The energy dissipater will primarily consist of gabion baskets filled with 6" – 12" quarry spall, sourced from an approved pit. The dissipater will be a rectangle approximately 15' x 12' (168 square feet) in size and will require approximately 10 cubic yards of quarry spall material to be placed within the gabion baskets. This will require excavation and fill immediately above the existing sandstone shoreline edge of the Bay, but no activity at the beach level. The proposed conveyance pipe will sit~~ on the surface of the ground, with anchoring, and will not require excavation or fill on the slope.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [help]
No. FLAWED: see "Section B.3.a.4) "

The revised storm outfall system will not require any excavation or dredge. The energy dissipater will be placed on a level bench above HTL. Sandstone rocks and vegetation will be installed around the dissipater to provide natural screening. No activity is proposed on the beach, below HTL, or below OHWM.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [help]

A portion of the property along its southern boundary, located at the toe of the slope at the beach grade, lies within a 100-year floodplain. The proposed development portion of the site sits several hundred feet above and back from the 100-year floodplain. The proposed energy dissipater will also be located above/outside the 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [help]

All waste material from effluent produced in the future residences will connect to the proposed sanitary sewer system and ultimately be treated in the City's wastewater treatment plant at Post Point. All stormwater runoff will be captured and will be provided with enhanced treatment prior to either conveyance into the City storm system in Viewcrest, conveyance into Chuckanut Bay, or dispersion into Lot 38 for wetland hydration purposes. All stormwater at all three locations will go through enhanced treatment prior to discharge and so no waste materials will be present in this stormwater. See SEPA section C.2 below for additional details.

FLAWED
see "Section B.3.a.6)"

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [help]

No. Potable water and water for other purposes will be provided from the proposed water infrastructure, which will tie into the existing City of Bellingham water network. There are no proposed wells, surface water withdrawals or other non-municipal water sources to serve the project.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. [help]

No waste material from effluent sources will be discharged into the ground from the project. All waste materials of this kind will be captured in the proposed sanitary sewer infrastructure, which will tie into the existing City of Bellingham sanitary sewer network. No septic systems, industrial activities, agricultural or other waste producing activities are proposed.

c. Water runoff (including stormwater):

FLAWED
see "Section B.3.c.1) and B.3.c.3)"

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [help]

Runoff from the completed project will be generated from the new roads, sidewalks, driveways, building roofs and other impervious surfaces incidental to single family development. This runoff will be captured in the engineered storm water management system, via downspouts and roof drains, roadside curbs and gutters and other similar features. This runoff will be routed through piped conveyance systems to three discharge points. Runoff from the northern portion of the site will be routed to a treatment module near the project entry road, then to a detention vault located along Viewcrest Road, then will tie into the existing City stormwater conveyance pipes in Viewcrest Road. The proposed pedestrian improvement along Viewcrest Road will be constructed with pervious materials and runoff from this improvement will infiltrate into the surrounding soils. Runoff from a small section of the internal road will be routed to a treatment

module and then to a level spreader discharging above grade of the buffer of Wetland B (designed to maintain the hydrology of this wetland). Runoff from the southern portion of the site will be routed to a treatment module and then via a piped conveyance down the bank to the stormwater outfall energy dissipater located ~~at the beach level.~~ See the Preliminary Storm Water Site Plan, attached as Exhibit F, for additional details. The proposed energy dissipater will be located directly above the HTL.

2) Could waste materials enter ground or surface waters? If so, generally describe. [help]
No. All runoff will be captured and will either be clean (roof runoff) or treated (road and driveway runoff) before discharge. Enhanced storm water treatment is required for the project and will be provided in the proposed treatment facilities shown on the attached Preliminary Storm Water Site Plan, Exhibit F. These treatment systems will fully clean all runoff to the highest standard required by applicable codes prior to any discharge.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
No. The north portion of the site currently drains to the north towards Viewcrest Road, and the middle and southern portions of the site currently drain south towards Chuckanut Bay. Stormwater runoff generated by the project will continue to drain in the same directions from the same portions of the site.

FLAWED see "Section B.3.c.1) and B.3.c.3)

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

FLAWED see "Section B.3.d."

The project will be designed by a licensed civil engineer, utilizing best available science, consistent with adopted regulations governing infrastructure design and the management of stormwater runoff. The design of the project will include compliance with the Department of Ecology Storm Water Manual for Western Washington, current adopted edition, and will incorporate best management practices and design measures to control impacts to surface and ground water and drainage patterns. All waste material will be captured in proposed new utility infrastructure systems and routed to the existing municipal waste management system. All runoff will be collected and will receive enhanced treatment before being discharged. Clean storm water will be directed to the on-site wetlands to maintain their hydrology.

4. Plants [help]

a. Check the types of vegetation found on the site: [help]

☒ deciduous tree: alder, maple, aspen, other
☒ evergreen tree: fir, cedar, pine, other
☒ shrubs
☐ grass
☐ pasture
☐ crop or grain
☐ orchards, vineyards or other permanent crops.
☒ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
☐ water plants: water lily, eelgrass, milfoil, other
☐ other types of vegetation

Scroll down to Question 8.a. on page 10

b. What kind and amount of vegetation will be removed or altered? [help]
The project will result in the removal of deciduous and evergreen trees, understory shrubs and bushes, and ground cover, in areas of new roads and utilities. During the construction of single-family residences in the future, building envelopes will be cleared of similar vegetation. Based on current

road and utility designs, and assumed building envelopes for each developable lot, approximately 16% of the site will be cleared for these purposes. However, with design of individual single-family residences yet to be determined, a safety factor of 20% has been added to the clearing estimates, resulting in approximately 19% of the site being cleared for these purposes. 84% of the site will be retained in natural vegetation based on current plans, and with the safety factor, this number will be 81% of the site.

c. List threatened and endangered species known to be on or near the site. [help]
There are no threatened or endangered species known to be on or near the site. There are various protected and priority habitats and species located near the site, predominantly in and around Chuckanut Bay. See attached Habitat Assessment from Raedeke for additional details, Exhibit D.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [help]
The project development area is clustered in the northern and middle portion of the property and avoids development in and around the sensitive areas on the site. No improvements are proposed in the on-site wetlands or any of their buffers. No development is proposed within the 200' shoreline jurisdictional buffer (except the required storm water conveyance pipe and outfall at the beach). Roads and infrastructure have been designed to follow the existing topography of the land and avoid rock outcroppings as much as is feasible, which will reduce required excavations and fill and limit clearing activity. Up to 80% of the site will be retained in natural vegetation. The entire shoreline area will be placed in two Open Space Tracts for permanent preservation, as will all wetlands and their buffer areas.

With the exception of a potential small impact to the buffer of Wetland B for proposed trail construction

e. List all noxious weeds and invasive species known to be on or near the site.
None known. For B.5. Animals, refer to "Wildlife Habitat Position Paper " submitted by PMBC under separate cover

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include: [help]
birds: **hawk, heron, eagle, songbirds**, other:
mammals: **deer,** bear, elk, beaver, other:
fish: bass, **salmon**, trout, herring, **shellfish**, other _____
Click here to enter text.

b. List any threatened and endangered species known to be on or near the site. [help]
None.

c. Is the site part of a migration route? If so, explain. [help]
Yes. The entire property is part of the Pacific Flyway.

d. Proposed measures to preserve or enhance wildlife, if any: [help]
The project design avoids any impacts to sensitive areas, including wetlands and wetland buffers. Impacts within the shoreline buffer are limited to a stormwater conveyance pipe and outfall structure. Building lots are setback from the shoreline, where most priority species are located, by a minimum of 200', and practical building envelopes on these lots are 300' to 400' from the shoreline. The shoreline area will be placed in two Open Space Tracts that will be permanently preserved with a conservation easement. This area will provide a wildlife corridor that extends from the east property line to the west property line. There will also be large areas of the property that will be maintained in natural vegetation in the northwest and northeast portions of the property, creating wildlife corridors throughout the site. Up to 80% of the site will be maintained in natural vegetation.

e. List any invasive animal species known to be on or near the site.
None known.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [help]
The single-family residences in the completed project will utilize electricity, and potentially gas, for cooking and heating purposes, and electricity for lighting purposes.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. [help]
The proposed development will not generate any shading that extends off-site and negatively impacts solar access for adjacent properties. The removal of vegetation for roads and building envelopes may provide greater solar access to several select properties that are immediately adjacent to the project development area.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [help]
Future homes will be designed and constructed to meet adopted State energy code requirements, which result in energy efficiencies in building envelope (insulation, windows and doors), lighting, and mechanical (HVAC) systems.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. [help]
No extraordinary environmental health hazards will be generated by the project. It is possible that during construction activity minor environmental health hazards could be generated from fluid leakage or spills associated with construction equipment or materials. These would be ordinary and typical to a residential single-family development. There is no significant risk of any health hazards resulting from the future occupancy of single-family homes on the site.

1) Describe any known or possible contamination at the site from present or past uses.
None known. The site has been vacant for over a century and is currently vacant. There is an extremely low likelihood of any current or historic contamination of any kind on the site.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
None.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
None.

4) Describe special emergency services that might be required.
Regular Fire, EMS and Police service will be required during construction activity and to serve the future single-family residences when occupied. Service demands will be ordinary and typical of a medium sized single-family subdivision.

5) Proposed measures to reduce or control environmental health hazards, if any:
During construction, equipment and vehicles will be appropriately monitored for spills and leaks, and spill repair kits will be provided by the contractor. If spills or leaks occur, immediate action will be taken to address them. During occupancy there will be no need for special actions to reduce or control environmental health hazards.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [help]
Traffic noise from surrounding residential streets. Train noise from the trestle that crosses Chuckanut Bay to the south of the site.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. [help]
During construction the project will generate noise from heavy machinery, and power tools, from the felling of timbers and potentially from blasting activity associated with rock removal on site. These noises would occur during construction only. During occupancy noise will be generated from single family residents, privately owned vehicles, lawn mowers and other similar residential activities.

3) Proposed measures to reduce or control noise impacts, if any: [help]
During construction, operation of heavy equipment, and other construction related noise generating activities will be limited to regular work hours, as dictated by municipal noise ordinances. During occupancy no measures will be necessary to reduce or control noise impacts.

8. Land and shoreline use FLAWED see "Section B.8.a."

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [help]
The site is currently vacant. Adjacent properties to the north, west and east are all developed with single family residential subdivisions, with lots that are similar in size and design to the proposed lots, and contain single family residential uses, similar to those proposed. See Exhibit A, Project Plans, for reference. The proposal is for the development of a single-family subdivision that is very similar in scale to the surrounding development. Current land uses on surrounding properties will not be affected by the proposed project.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [help]
The site has not been used as working farmland. The timber on the site is not old growth, and there are historic skid roads throughout the site, which implies that the site was logged at some point in the past. Available information indicates that any logging activity occurred 100+ years ago on the site. Due to current regulations restricting the location of commercial logging activities the site no longer has forest land of long-term commercial significance. None of the site is designated as resource land.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:
No.

c. Describe any structures on the site. [help]
There are no structures on the site.

d. Will any structures be demolished? If so, what? [help]
N/A

e. What is the current zoning classification of the site? [help]
Residential Single, 20,000 square foot density.

f. What is the current comprehensive plan designation of the site? [help]
Residential

FLAWED
see "Section B.8.h."

g. If applicable, what is the current shoreline master program designation of the site? [help]
Urban Conservancy, Marine Reach K

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [help]
Yes. There are wetlands located on site, and Chuckanut Bay is adjacent to the south boundary of the site. See detailed discussion above in Section 3.a of this SEPA Checklist.

i. Approximately how many people would reside or work in the completed project? [help]
76-114 people would reside in the completed project. It is unlikely that anyone would work in the completed project, aside from incidental home business activities.

j. Approximately how many people would the completed project displace? [help]
None

k. Proposed measures to avoid or reduce displacement impacts, if any: [help]
N/A

FLAWED
see "Section B.8.L."

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [help]
The zoning for this area is Residential Single, which is a land use designation identified in the City's Comprehensive Plan as intended for single family residential development, in this case at a gross density of 20,000 square feet per unit. As noted in Section 8.a in this SEPA checklist, surrounding development patterns predominantly consist of single-family subdivisions developed with lots of similar size to those proposed with this project. The 37.7-acre property is large enough to accommodate a gross density of approximately 80 housing units. The proposed project is the development of a single-family subdivision with 38 housing units, which is less than half of the zoned density. The design of the project includes density, lot sizes and a development layout that is similar to surrounding development, all of which is single family in nature. See Exhibit A for visual reference to the surrounding development pattern. City review of a preliminary and final plat application, critical areas permit, shoreline permit, and other associated permits will ensure that the project is consistent with applicable regulations and that appropriate mitigation is provided for project impacts.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:
N/A

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [help]
38

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [help]
High

c. Proposed measures to reduce or control housing impacts, if any: [help]
The project will result in 38 new single-family homes without displacing any existing homes. These 38 homes will contribute to the City-wide housing supply, which will generate a positive impact on housing in the community.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [help]
N/A. No structures are proposed at this time. Completed single family residences in the project will be required to meet single family height standards, which are 35' utilizing City of Bellingham Height Definition #1.

b. What views in the immediate vicinity would be altered or obstructed? [help]
Views from surrounding properties would be altered but no views would be obstructed. Properties to the east and west have views to the south and west over Chuckanut and Bellingham Bay. These views would have limited to no impact based on the proposed project design; they are mostly closer to the water than the proposed homes, limiting the potential for alteration of their primary viewsheds. Properties to the north across Viewcrest Road currently have limited views of the surrounding forested areas, and neighboring properties, which are predominantly developed single family lots, resulting in a high level of familiarity with views of residentially developed properties in the vicinity. These views would be altered as there would be new homes located along Viewcrest Road, however large areas of mature vegetation would still be preserved within the viewshed of these homes, limiting potential impacts to views.

c. Proposed measures to reduce or control aesthetic impacts, if any: [help]
Retention of mature vegetation across approximately 80% of the site, including along the entire shoreline area (no clearing is proposed within 200' of the shoreline). Clustering of development lots in the middle and northern portion of the site.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [help]
Light and glare will mostly result from the occupancy of the future single family residences and will be generated from vehicle headlights and residential lighting associated with the homes. This light and glare would occur at night.

b. Could light or glare from the finished project be a safety hazard or interfere with views? [help]
No. Light from vehicle headlights and residential occupancy is common in the vicinity and throughout the City, and generally does not create excessive safety hazards or interfere with views. Only 7 homes will be located along Viewcrest Road, and the remaining homes will be situated towards the interior of the site. A minimum of 200' of fully forested mature vegetation will be located between the

southern home sites and Chuckanut Bay, significantly reducing the potential for light and glare to project beyond the site boundaries.

c. What existing off-site sources of light or glare may affect your proposal? [help]
None.

d. Proposed measures to reduce or control light and glare impacts, if any:
See response to Section 11.b from this SEPA checklist.

FLAWED
see "Section B.12.a.+12.b.+12.c.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity? [help]
There are various designated and informal public recreational opportunities in the area. Chuckanut Bay itself, Arroyo Park, Fairhaven Park, Clark's Point and other parks and natural areas in the vicinity provide opportunities for walking, hiking, kayaking, paddle boarding and other activities. There are improved playground facilities at Fairhaven Park and at Fairhaven Middle School, in the vicinity.

b. Would the proposed project displace any existing recreational uses? If so, describe. [help]
No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [help]
The project will incorporate a public access trail that extends from Viewcrest Road through the site to Sea Pines Road (to the east). Sea Pines Road is a public road that links to an improved public access stair/path that extends to Chuckanut Bay. The location of this trail will be determined by the owner during project review and coordinated with City Parks Department to avoid impacts to critical areas.

This trail is also proposed to connect from within the Plat, via East Road, to Viewcrest Road.

A proposed trail alignment has been added to the project plans.

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. [help]
No.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [help]
Along the shoreline of Chuckanut Bay there is limited evidence of Indian or historic use of the shoreline area, which is documented in several prior studies conducted around Chuckanut Bay and also in the attached Cultural Resource Assessment prepared for the project. There is no evidence of Indian or historic use or occupation above the shoreline, or in any proximity to the proposed development portion of the project. A detailed Cultural Resource Assessment was prepared by Drayton Archaeology for this project and is attached as Exhibit H.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [help]
Review of publicly available data, correspondence with DAHP, and preparation of a Cultural Resource Assessment specific to the proposed project.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None needed.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [help]
The project site is served by Viewcrest Road. Viewcrest Road connects to Chuckanut Drive to the east, which leads to Old Fairhaven Parkway, and Old Samish Way, both of which connect to Interstate 5. Viewcrest Road connects to Fieldston Road to the west, which leads to Old Fairhaven Parkway as well. Access to the site will be from a single intersection with Viewcrest Road.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [help]
No. The nearest WTA bus line is line 105, which runs through Fairhaven and has stops along Willow Road and Chuckanut Drive in the Edgemoor Neighborhood. The nearest of these stops is approximately ½ mile from the site.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [help]
Each lot will be developed with a single-family residence that will have a minimum of 2 parking stalls on-site. No shared, common, or on street parking is proposed with the project.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [help]
Yes. Pedestrian facilities will be added along Viewcrest Road on the frontage side of the road. New public internal roads will be constructed to serve the project. There will also be new private shared roads constructed to serve certain lots. New trails will also be constructed providing connectivity from internal plat roads, and from Viewcrest Road, to Sea Pines Road.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. [help]
No.

FLAWED see "Section B.14.f.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [help]
The project is anticipated to generate up to 427 new weekday daily trips, with 32 new trips occurring during the weekday AM peak hour and 40 new trips occurring during the weekday PM peak hour. Less than 5% of the anticipated traffic will be from commercial or non-passenger vehicles, predominantly delivery vehicles (USPS, Fed Ex, UPS, Amazon, etc…). A detailed Traffic Impact Analysis has been prepared for the project and is attached as Exhibit G.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.
No.

h. Proposed measures to reduce or control transportation impacts, if any: [help]
A Traffic Impact Analysis has been completed for the project to evaluate the impact on the surrounding street system. New pedestrian facilities are proposed along Viewcrest Road to facilitate non-vehicular transportation options. Internal roads consolidate to a single point of intersection with Viewcrest Road, limiting conflict points with existing streets. A new trail corridor is proposed from

Viewcrest Road to Sea Pines Road to facilitate pedestrian circulation in the general area. Payment of traffic impact fees will be made for each individual lot that is developed.

15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [help]
Yes. The addition of 38 new homes to the Edgemoor Neighborhood will increase demand on Fire, EMS, Police, Schools, Hospitals and other similar public services. This increase will be typical of single-family development. There will be no extraordinary increase in demand on public services resulting from the project.

b. Proposed measures to reduce or control direct impacts on public services, if any. [help]
Each lot, when developed will pay school, traffic and park impact fees, as well as other fees that go to offset the impact of the new demand on services. Additionally, various taxes (property taxes for example) will be assessed against each new lot; portions of these taxes go to offset the impact of the new demand on services.

16. Utilities

a. Check utilities currently available at the site: [help]
☒ electricity ☒ natural gas ☒ water ☒ refuse service ☒ telephone ☒ sanitary sewer
☐ septic system ☒ other Comcast – Cable and Internet

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [help]
The proposed project will include the extension of electricity, gas, water and sewer, refuse service and communications infrastructure into the site. All of these utilities currently are available in Viewcrest Road, and these lines will be extended into the site along the proposed new public and private roads to serve each new lot. Construction activities will include trenching, laying of conduit and other typical improvements related to utility service extensions.

C. SIGNATURE [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: 

Name of signee Ali Taysi

Position and Agency/Organization AVT Consulting/Principal

Date Submitted: 03.02.2022 Updated 11.07.22 Updated 06.18.23 Updated 12.04.23 in order to amend references to storm system design.

TOPIC: The Flawed Extended SEPA Checklist

PART II: PMBC Rebuttal to the SEPA Checklist Flaws

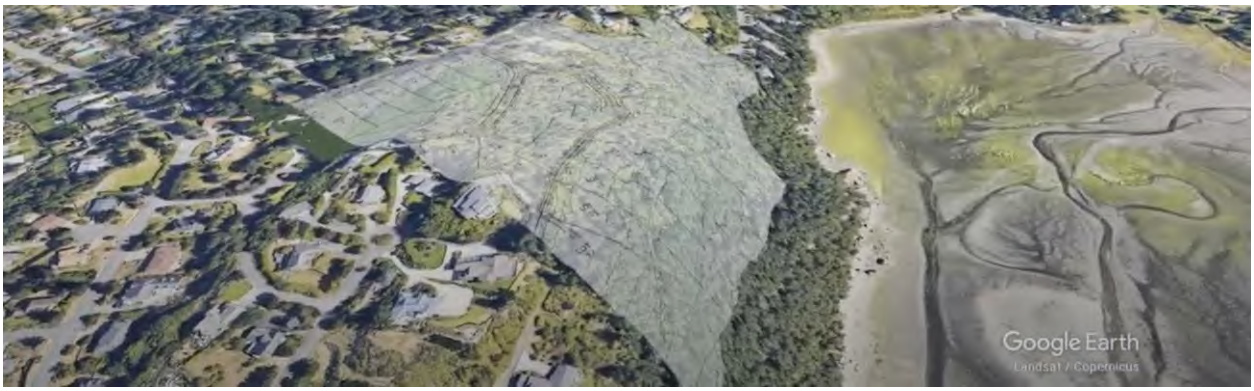
The following SEPA Checklist sections were highlighted as flawed on the document titled The Flawed SEPA Checklist with Highlights found in Part I.
PMBC's rebuttal to these flawed SEPA Checklist sections is found below. Click on each separate section for a description of why that section is flawed, inaccurate, incomplete, or missing important information.

SEPA Checklist Item	**Topic with Active link to PMBC Rebuttal to what was submitted for the SEPA Checklist Item**
A.11; B.1.a ; B.1.b	Description of Proposal and Site
B1cB1d	Soils
B.1.f.+ B.1.h	Erosion; Controlling Erosion and Other Impacts to the Earth
B.3.a.1 + B.3.a.2	Project Surface Waters; Project Work In, or Adjacent to the Described Waters
B.3.a.4	Proposal requiring surface water withdrawals or diversions
B. 3.a.6	Discharges to surface waters
B.3.c.1) + B.3.c.3)	Runoff-method of collection and disposal; Proposal altering or otherwise affecting drainage patterns in the vicinity of the site
B.3.d	Controlling runoff water, and drainage pattern impacts
B.8.a	What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties?
B.8.h	Part(s) of the site classified as a critical area by the city or county
B.8.L	Is the proposal compatible with existing and projected land uses and plans?
B.12.a. B.12.b. B.12.c.	Impacting recreational opportunities in the immediate vicinity
B.14.f	Transportation impacting the vicinity

Rebuttal Information for the Flawed SEPA Checklist

A11, B1a, B1b Description of Proposal and Site
SEPA Section A.11. Complete Description of your proposal
SEPA Section B.1.a. and B.1.b. Description of the site

Figure 1. The Project Property (the shaded opaque area)



[Google Earth]

(1) The project property is encumbered by "significant extraordinary conditions related to physical limitations, exceptional topography, geological problems and environmental constraints. There are steep slopes, exposed rock, wetlands and other environmentally sensitive areas spread across the Property." [page 15 Project Narrative; 03.01.22].

See Rebuttal Maps #1: The Project's Developable Area

(2) Some of the severe geomorphic conditions found throughout the project property are:

- The five highest elevation peaks in southern Bellingham, scattered within two uplifted steep ridgelines within the project property being proposed for development. See Rebuttal Map #2: Ridgelines on Proposed Property.

- Soils susceptible to severe erosion, high susceptibility to windthrow, high site degradation, and shallow subsurface depths to restrictive layers and rock.

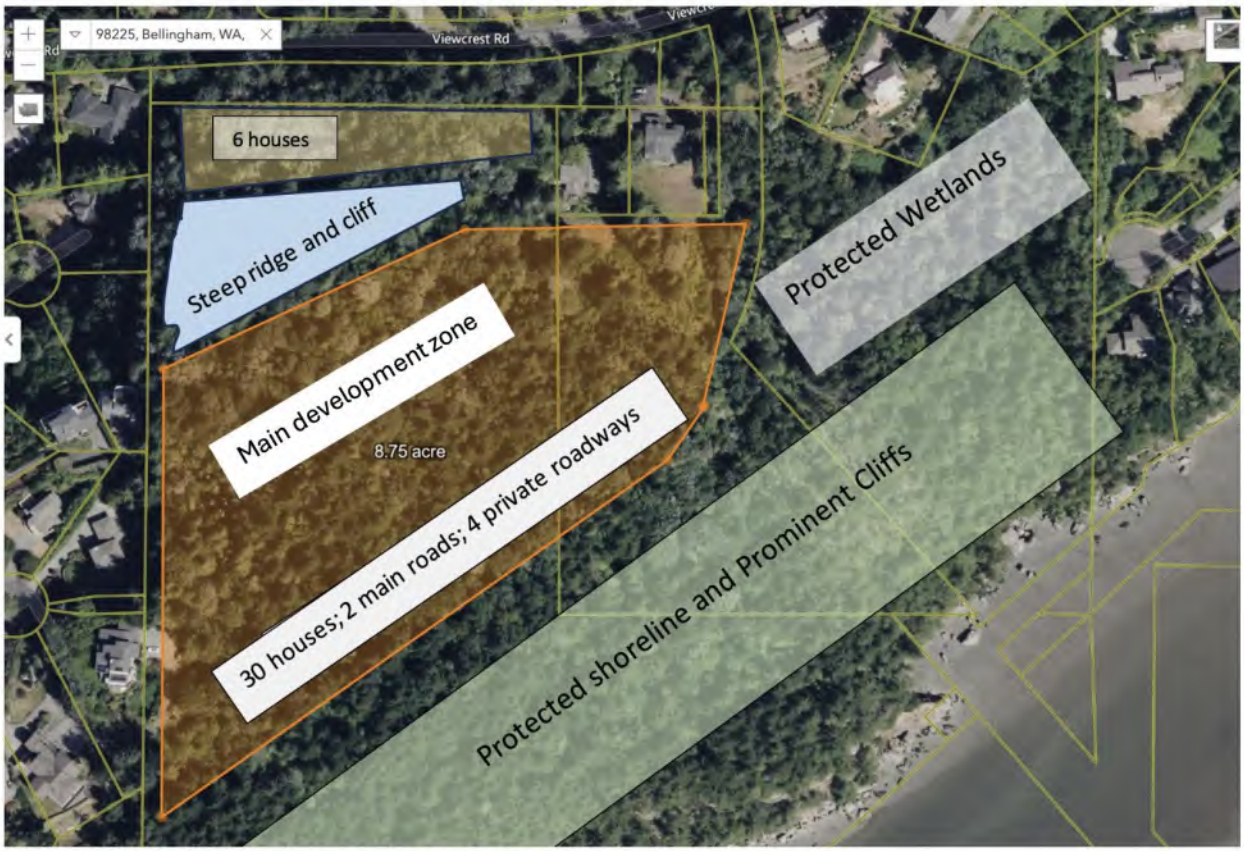
- Steep exposed bedrock faces and outcrops: "In addition to steep topography, several vertical or near vertical bedrock cliffs were observed across the site" [page 5: 2009 Pacific Surveying & Engineering Geologic Feasibility Investigation for the Ann Jones Family Representatives Chuckanut Bay Property)

(3) Development encumbered by such extensive geomorphologic limitations requires <u>exacting</u> adherence to codes and regulations for public safety and environmental protection. However, this project requested, and was granted, many discretionary liberties to avert

strict adherence to city regulations, the Bellingham Comprehensive Plan, and the Edgemoor Neighborhood Plan recommendations.

(4) The majority of the site is not developable due to protections afforded to designated critical areas and critical area buffers.

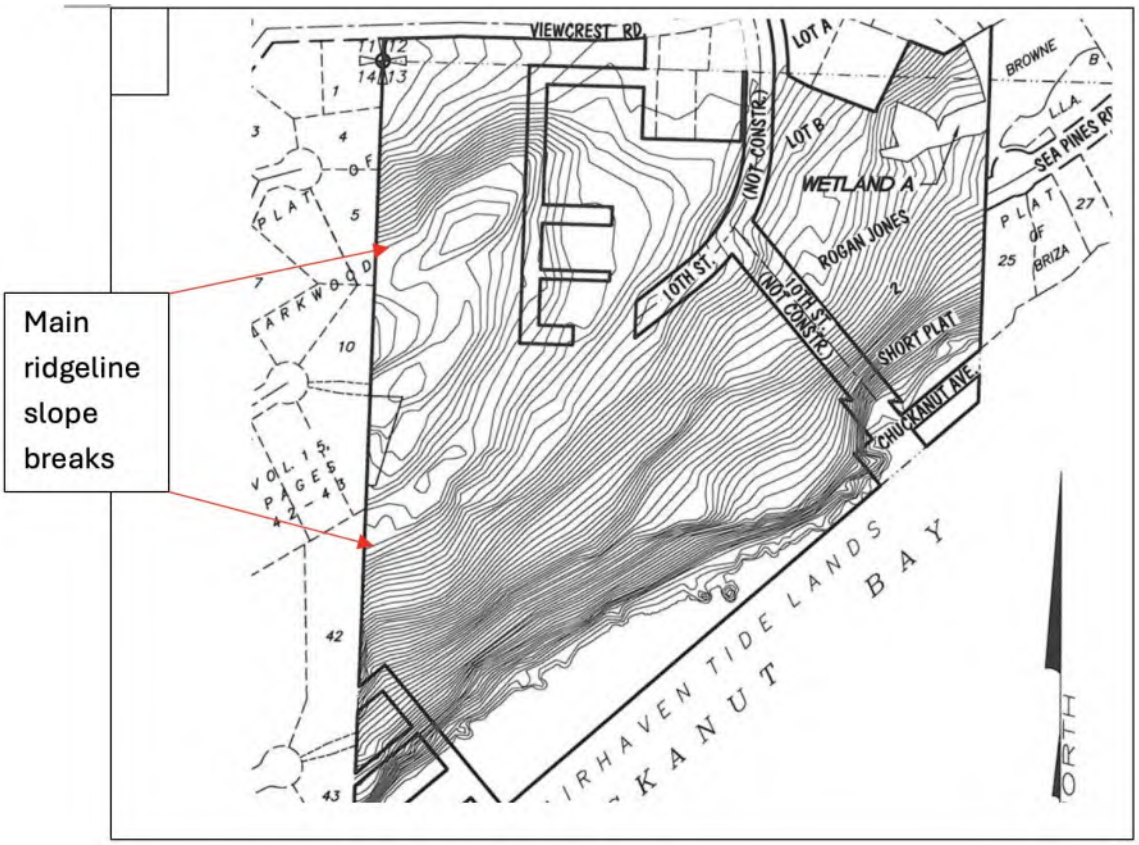
Figure 2: Overview Map of the Project Property (with approximate Locations of Significant Features located within the Proposed Property).



[Source- https://apps.nationalmap.gov/viewer/ with identifications added by PMBC]

(5) The property's two principal ridgelines establish the general north and south borders of the developable land, with the exception of a few lots abutting Viewcrest. See Figure 3 below:

Figure 3. Proposed Property Ridgelines



[Source- https://cob.org/wp-content/uploads/exhibit-b-recon-delineation-report.pdf with identifications added by PMBC]

(6) The proposal's estimated new impervious surface amounts are incorrect.
   (a) Data taken from map p. 114 Exhibit F: 2100 sf+ 181118sf + 37663sf = 220881= 5.1 acres
   (b) Omitted Data; calculations and assessment for the projected amount of newly created impervious pollution-generating roof surfaces of the building envelopes. The applicant incorrectly assumes roof runoff is non-polluting. According to the updated Ecology Manual, the project's roofs are categorized as 'polluting' and will require treatment. [see page 1072 SMMWW]

(7) The clustering of the building envelopes onto such limited developable land space creates a housing density for the proposed Woods at Viewcrest subdivision not consistent with the housing density for south Edgemoor and the Edgemoor Neighborhood Plan.

See Rebuttal Map #3: Housing Density Comparisons.

Rebuttal Information for the Flawed SEPA Checklist

B1c, B1d Soils and Indications of Unstable Soils

SEPA Section B.1.c. Site Soils

SEPA Section B.1.d. Surface indications or history of unstable soils in the immediate vicinity

Earth B.1.c. What general types of soils are found on the site
The applicant has submitted an inaccurate analysis of the soils found on the site. SMR §4.3 EXISTING SOIL CONDITIONS inaccurately reports that the site's soils "*consist of mainly of Everett-Urban loam (unit 52)… Small areas of the project site are composed of Nati loam (Unit 110)*."

The vast majority of project site, including the majority of the area proposed to be developed, is composed of Nati Loam (NRCS Map Unit 110) soil, **not** Everett-Urban Land Complex (NRCS Map Unit 52).

This is very important because, compared to Everett-Urban land complex, ***Nati loam****:*
a) is more susceptible to erosion (severe vs moderate erosion hazard)
b) is more susceptible to site degradation (highly vs moderately susceptible)
c) is less suited for local roads and streets (poorly vs moderately suited)
d) has greater limitations for subsurface water management (very limited vs somewhat limited)
e) has greater limitations for shallow excavations (very limited vs somewhat limited)
f) is more susceptible to windthrow (high vs low windthrow hazard)

See Attachment #1: Soil Survey for SEPA

The soils on the project property are not appropriate for infiltration. Hydrologic **Soil group C not B means less infiltration capability and Hydrologic Soil group C not B means more runoff capability.** According to Ecology Manual infeasibility criteria, BMPs for infiltration and dispersion are infeasible and inappropriate for the project property. (Ecology Manual p.120). The City of Bellingham also identifies the project property as not able to use infiltration.

**See Rebuttal Map #5 City of Bellingham Potential Infiltration Areas.

"*Beyond giving insufficient attention to the topographic challenges to limiting sediment export during construction, the project documents likewise have given little emphasis to the potential erosiveness of site's soils*." (Critical Areas Reconnaissance, p. 6)

B. Earth 1. d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe:

The applicant's inaccurate answer: "*The portion of the site that is proposed for development does not exhibit surface indications or history of unstable soils.*"

In fact, there are surface indications, and history of, unstable soils within, and in the immediate vicinity of, the developable land on the proposed project site.

(1) Indications that there are surface indications and history of unstable soils in the immediate vicinity:

a) Evidence of saturation and a seasonal high water table can be found in the test pit data (indicated by soil mottling observations in many test pits).

b) "Some local evidence of historical rock-fall debris was observed near the base of the northwest slope face, but the incidence of fall did not appear to be high, and fallen materials did not extend far from the slope. No ponding, saturation, or seepage was observed above or on the slope during our visits in the summer 2020 season." (Geotechnical Investigation, p. 15)

c) "Because of the steep slopes and existing groundwater conditions, modifications of groundwater or surface water flow may impact the potential size and frequency of mass wasting events." (2009 PSE Geologic Feasibility Investigation, p. 6)

d) "Creep is the imperceptibly slow, steady, downward movement of slope-forming soil or rock." [2] "Subsurface water and high moisture conditions, including apparent groundwater level, seepage occurrences, and saturated soils, were also noted as encountered during explorations." [Geotechnical Investigation, p. 7)

e) "Although many of the trees on the slope were growing straight, some displayed pistol-butt profiles, leaning trunks, and exposed root, indicating that some degree of long-term shallow soil creep is occurring (as is common for steep slopes)." (Geotech Investigation p.19)

(2) "The most common trigger for shallow instability is oversaturation by groundwater or runoff." (Geotechnical Investigation, p. 13). The best time to assess surface instability and oversaturation, according to Ecology, is during the wet months. (Ecology Manual p. 468) The applicant did not conduct soil/subsurface test pit assessments in the wet months. Site test pits were conducted June 30, July 1, 2020.

Dry summer soil and subsurface conditions are often absent of oversaturation by runoff and could steer an inaccurate assessment of soil characterization and stability. This proposed project will increase stormwater saturation of the geology with probable significant, adverse environmental impacts.

[2] https://www.usgs.gov/media/images/creep#:~:text=Creep%20is%20the%20imperceptibly%20slow,small%20to%20produce%20shear%20failure.

(3) The SEPA checklist guidance [help] website states: Unstable soils refers to areas subject to mass wasting or landslides. This project site has considerable areas and evidence of mass wasting or landslides **in the immediate vicinity.** The following information is taken from the Geotech Investigation:

A. **"**Some local evidence of historical rock-fall debris was observed near the base of the northwest slope face, but the incidence of fall did not appear to be high and fallen materials did not extend far from the slope." (Section 4.2.1)
B. "Small scale rock-fall was observed along the southeastern side of two of the prominent ridge features in the central region of this area". (Section 4.2.1)
C. Section 4.3.4 is all about the site's rock fall characteristics.

Figure 4. Evidence of rock fall along the southern boundary of the property.

(4) The applicant has submitted an inaccurate characterization of the site's soils, and the applicant has submitted an inaccurate assessment of the site's unstable soils. "A proper assessment of soil stability at a project site requires an accurate characterization of the soils, ground water, and site conditions." https://www.nrcs.usda.gov/sites/default/files/2022-10/soil-risks-and-hazards.pdf

(5) Found in Dr. Horner's evaluation of the project [Exhibit B, p. 5] is a lengthy discussion of increasing slope, erosion, soil loss and instability. Erosion destabilizes soil and soil deposits

transported by gravity are called colluvium. The Geotechnical Investigation has many references to the site's colluvium soil, to include:

- Colluvium soils were observed in areas throughout the site. (p. 9)
- "The findings of our explorations are broadly consistent with the geologic and soil survey mapped units. The shallow soil column consists generally of glacial drift or colluvium." (p. 11)
- "We interpret the slope to be comprised of intermittent outcrops of steep resistant bedrock planes, interspersed with colluvium slopes that are reclined enough to support the existing forest vegetation." (p. 6)

(6) "**All slopes** are susceptible to mass movement hazards if a triggering event occurs." https://www2.tulane.edu/~sanelson/eens1110/massmovements.htm

- Water is a trigger event of mass wasting.

- As mentioned earlier, a trigger of surface soil instability is oversaturation of the ground by water, runoff.

Since no appropriately timed winter month test pits and subsurface explorations were performed, the applicant's answer to the SEPA question on unstable soils is just a speculative claim with no supporting evidence.

(7) "Jointing of the Chuckanut Formation is common and evidence of topples and falls were observed at many of the cliff forming outcrops." (2009 Geologic Feasibility Investigation)

(8) "Bedrock stability is based on bedding and jointing within the rock. Chuckanut Formation sandstone can weather very quickly to soil or can be interbedded with less competent rock (e.g. shales) and is also commonly jointed and therefore susceptible to rock fall and topples." (2009 Geologic Feasibility Investigation, p. 3)

Rebuttal Information for the Flawed SEPA Checklist

B1f, B1hErosion; Reducing and Controlling Erosion

SEPA Section B.1.f. Could erosion occur as a result of clearing, construction, or use
SEPA Section B.1.h. Proposed measures to reduce or control erosion, or other impacts to the earth

Earth B.1.f. Could erosion occur as a result of clearing, construction, or use

FLAWED: The applicant has answered with a cursory repeat of the question followed by the answer “yes”.

PMBC rebuttal evidence is summed up by Dr. Horner (Exhibit B, p. 2): “The steep slopes on and adjacent to the development site risk considerable erosion during construction and sediment transport to Mud Bay without excellent controls.”

“Despite this risk, the project documents give little attention to the challenging construction environment and, to the extent they do, provide only inferior controls.

“There has been no hydrologic assessment to estimate the quantities of stormwater runoff that will be generated during construction or in the finished development, or hydraulic analysis to estimate the routing of runoff during either phase. There is thus no basis for the sizing or locations of the management practices vaguely prescribed.”

FLAWED: The applicant states that there will be erosion as a result of the project but follows up with the statement: “Erosion is unlikely to occur from the ultimate use of the site for single family residential purposes.” With no hydrologic assessments, this statement is speculative.

Earth B.1.h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

FLAWED: The applicant does not answer the question and does not demonstrate that the project will reduce or control erosion OR OTHER IMPACTS TO THE EARTH. Averting an answer specific to the project, the reader gets referred to the 1108-page Ecology Manual, and told a permit will be acquired.

The SEPA Earth B.1.h. question asks for the proposed measures to reduce or control erosion for the project and no site-relevant specific measures are given.

The SEPA Earth B.1.h. question also asks for the proposed measures to reduce or control OTHER IMPACTS TO THE EARTH. No impacts to the earth are given, and no measures to reduce or control other impacts to the earth are given.

Information validating erosion’s association with new development, and the measures needed to reduce that erosion:

1. The effects and consequences from clearing, grading, excavating, and developing land for urban use is discussed in the Ecology Manual Section I-1.3 Effects of Urbanization page 44.

2. The entire Vol.II of the Ecology Manual deals with erosion, starting on page 249. Erosion

is a major challenge to be acknowledged and addressed by all new development.

3. "Soil Erosion and Sedimentation Impacts

Soil erosion and sedimentation caused by land development impact the environment, damaging aquatic and recreational resources, as well as affecting aesthetic qualities. Erosion and sedimentation ultimately affect everyone." (Ecology Manual, p. 255)

4. The Ecology Manual fills a page with common examples of soil erosion and sedimentation impacts (p. 255)

5. There are also numerous pages and descriptions of what new development projects need to acknowledge and manage in regard to the negative erosion impacts to the environment from new development and post-development conditions from urbanization. (Ecology Manual, p. 251)

6. "The soil erosion potential of an area, including a construction site, is determined by four interrelated factors: Soil characteristics; Vegetative cover; Topography; Climate". (Ecology Manual, p. 253) The area to be developed for the proposed Woods at Viewcrest development is severely challenged with all four of these erosion potential factors.

7. Dr. Horner clearly explains the egregious erosion/sedimentation problems caused by new developments. The following are some excerpts from his evaluation:
   - "Beyond giving insufficient attention to the topographic challenges to limiting sediment export during construction, the project documents likewise have given little emphasis to the potential erosiveness of site's soils."
   - "Slope is a leading factor in soil erosion and sediment loss from a construction site. Thus, it is especially crucial to comprehensively address means of avoiding sediment transport from this site or, at the very least, holding it to a *de minimis* level
   - "… one year of construction with no or inadequate erosion controls can release into the environment as much sediment loading as occurred over decades or even centuries before the piece of land had been cleared."

8. "Impervious surfaces associated with urbanization **reduce infiltration and increase surface runoff,** altering the pathways by which water (and any associated contaminants) reach urban streams." [3]

[3] https://www.epa.gov/caddis/urbanization-stormwater-runoff#:~:text=Impervious%20surfaces%20associated%20with%20urbanization,flow%20in%20increasingly%20impervious%20watersheds

9. "As storm water runoff water moves down a slope, it increases in velocity and increases the potential for erosion." [4]

Rebuttal Information for the Flawed SEPA Checklist

B3a1B3a2 Surface Water Bodies in the vicinity of the site

SEPA Section B.3.a.1. Describe any surface water bodies on or in the immediate vicinity of the site

SEPA Section B.3.a.2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe.

B. Earth 3.a.1.- Description of surface waters on or in the immediate vicinity
SEPA checklist guidance [help] says: For surface waters, proponents should describe and name any onsite or nearby streams, rivers, ponds, wetlands, lakes, and marine waters — and how these water bodies will be protected from runoff, contamination, and stream flow diversions.

FLAWED: The applicant lists the surface water bodies on or in the immediate vicinity of the site but there is no analysis of how these water bodies will be protected from runoff contamination. In his expert evaluation, Dan McShane states: "Comment 4: Impacts of stormwater flow across the tidelands below the stormwater discharge has not been evaluated. While the proposed discharge location is on a bedrock bench, there will still be a flow of water across fine grained sediments of the tideland of Mud Bay. There has been no evaluation of the potential tideland erosion or changes with the introduction of large flow volumes across the tideland during low tide and how that may impact the tidal channels and tidal waters and biology in and down gradient from the discharge point." (Exhibit C)

B. Earth 3.a.2 - Will the project require any work over, in, or adjacent to (within 200 feet) the described waters?

The Project's Pre-Application letter stated: "Development projects that discharge stormwater off-site shall submit an off-site analysis report that assesses the potential off-site water quality, erosion, slope stability and drainage impacts associated with the project."

There is no adequate Off-Site Analysis Report.

[4] https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/Storm-Water-SESC/training-manual-unit1.pdf?rev=beea1acbe5b24f0984e769d73fa7ccd4#:~:text=As%20storm%20water%20runoff%20water,and%20dislodge%20more%20soil%20particles.

The proposed project's off-site analysis does not comply with the Ecology Manual (p. 149)

FLAWED: The applicant speculates, with no substantiating analysis, that "*the construction of a level spreader to disperse clean storm water runoff into the buffer of Wetland B, specifically to maintain the hydrology of said wetland*."

"A hydrogeologic study **has not been conducted** at this site." (Geotechnical Investigation p. 41)

The Project Pre-Application letter stated: "There must be a hydrologic analysis for projects whose stormwater discharges into a wetland, either directly or through a conveyance."

According to Geotech expert Dan McShane (Comment 5]: "A detailed geohydrology analyses of Wetland Area B and a detailed geology hazard assessment that incorporates the geohydrology impacts to the identified landslide area below the wetland area should be completed prior to approval of Lots 34, 35, 36 and 38 and approval of the split flow system in the stormwater plan."

The applicant has not demonstrated compliance with Ecology Manual [p. 114) and Bellingham standards (BMC: 15.42.060.F.4). Natural drainage patterns on the property will not be maintained and preserved, and the manner by which runoff is discharged from the Project Site will cause a significant adverse impact to downstream receiving waters and downgradient properties.

Rebuttal Information for the Flawed SEPA Checklist

B3a4 Surface Water Withdrawals and Diversions
Earth B.3.a.4 Will the proposal require surface water withdrawals or diversions?

FLAWED: Applicant states 'NO'.

SEPA checklist guidance [help] states: "Diversions refer to changes in flow patterns, such as diverting a stream away from a building site or the creation of ponds or inlets. Ecology regulates surface water and groundwater withdrawals. A permit is not required if the withdrawal is less than 5,000 gallons a day for industrial or domestic use, or for stock watering. **Any work that uses, diverts, obstructs, or changes the natural flow or bed of any fresh water or saltwater source may require a Hydraulic Project Approval from the Washington Department of Fish and Wildlife. For projects involving state-owned aquatic lands, a use authorization from the state Department of Natural Resources may be needed."** (Emphasis added)

PMBC analysis reveals this proposed project will be diverting drainage flow from one Threshold Drainage Area (TDA 1) into Wetland B located in a different Threshold Discharge Area, (TDA 2), significantly altering the wetland hydrology.

A portion of the TDA 1 drainage being diverted to Wetland B is currently discharging to Bellingham Bay, not Chuckanut Bay.

"The majority of the site drains to Chuckanut Bay; however, the northwest portion of the site drains toward Bellingham Bay." (2009 Geologic Feasibility Investigation, p.2)

(** see e5 Un-official TDA 4 MAP)

The proposal is non-compliant with BMC.08.010.B.4.g. There are other feasible alternatives with less impact to discharging rerouted drainage within a required buffer.

"It should also be noted that BMC.08.010.B.4.g. states "*Public Stormwater Conveyance Facilities. Conveyance structures may be permitted within a required buffer in accordance with an approved critical area report when all of the following are demonstrated: i. No other feasible alternatives with less impact exist;*

"A feasible alternative that would have less impact would be a different plat that would not require the installation of a new stormwater discharge to the tidal estuary. Given the potential impacts to tide lands and the language in BMC.08.010.B.4.g. an alternatives analysis appears warranted in order to address what is feasible and what is not." (Exhibit C, Comment 7)

Rebuttal Information for the Flawed SEPA Checklist

B3a6 Discharge of Waste, Contaminants

SEPA Section **B. 3.a.6.** Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

SEPA checklist guidance [help] states: Include waste or contaminates associated with industrial wastewater; domestic sewerage; agricultural runoff; stormwater drainage from parking lots, equipment storage areas, chemically-treated lawns and landscaping; etc. Describe the source, the likely contaminates, and quantities if known.

FLAWED: The applicant's answer is speculative, with no substantiating evidence: "All stormwater runoff will be captured and will be provided with enhanced treatment prior to either conveyance into the City storm system in Viewcrest, conveyance into Chuckanut Bay, or dispersion into Lot 38 for wetland hydration purposes. All stormwater at all three locations will

go through enhanced treatment prior to discharge and so no waste materials will be present in this stormwater."

The applicant's answer to SEPA Checklist B.3.a.6) is flawed for these reasons:

1. Project site stormwater will bypass treatment because the proposed MWS units will not be sized, cited, and maintained per product specifications. Pre, and post-developed hydrologic analyses and calculations are required for determining effective MWS systems. The analyses were reference as existing in Exhibit F Section 5.5 but there is no Exhibit F Section 5.5 in the Administrative Record.

Expert Dan McShane states: "The Preliminary Stormwater Management Plan needs to account for stormwater contribution from lot development including subsurface foundation and access driveway drainage. The Preliminary Stormwater Management Plan appears to be only for serving the road infrastructure. It is clear from Element Solutions report that most lot development will require off site stormwater disposal. The off site disposal for lot development needs to be included in the stormwater plan prior to plat approval process." (Exhibit C, Comment 2)

Expert Richard Horner states: "Beyond giving insufficient attention to the topographic challenges to limiting sediment export during construction, the project documents likewise have given little emphasis to the potential erosiveness of site's soils." (Exhibit B, p. 6)

2. The applicant speculates, with no substantiating analysis, the following: "All stormwater runoff will be captured and will be provided with enhanced treatment…"

<u>This statement is flawed because:</u>

- Stormwater from Lots 8 + 9 an infrastructure will flow too far west to be captured by the Viewcrest water quality BMP (MWS);
- Stormwater from Lot 1 and infrastructure will be too far downhill to be captured by the Viewcrest water quality BMP (MWS);
- Stormwater from Lots 10 + 11 and infrastructure do not have any proposed treatment because of applicant-designed TDA3 drainage basin changes that alter the site's hydrology;
- Stormwater runoff from lots and infrastructure downhill/south of the South Road (and some lots south/downhill of the East Road) do not have stormwater management and treatment proposed – runoff from the lots and building envelopes down hill of proposed roads will have flow unmanaged and untreated into Mud Bay. Assuming individual lot owners will be responsible for runoff management is FLAWED- stormwater infiltration and dispersion BMPs are infeasible due to complex plat-wide geomorphologic conditions. (steep slope restrictions; high-water table

levels; severe erosion hazard and runoff prone soils; unacceptable native vegetated flow paths and areas;

3. "Lots 23 through 33 are all located below the proposed road. As such, development of these lots has the potential to impact the hydrology of the SE Bluff Slope. Dispersion of stormwater or infiltration of stormwater on these lots is considered infeasible and poses a potential risk of increasing the slope failures within the SE Bluff Slope area. Foundation and stormwater drainage from these lots will likely need to be tightlined into a drain system for off site disposal. The specifics of the drainage system need to be fully developed prior to approval of these lots." (Exhibit C)

4. The applicant speculates, with no substantiating analysis, the following: "All stormwater at all three locations will go through enhanced treatment prior to discharge and so no waste materials will be present in this stormwater."

This statement is flawed because:

- Many contaminants are not known to be treated by MWS units. The MWS is approved for treating heavy metals (zinc and copper); total suspended solids; phosphorus; nitrogen; and petroleum hydrocarbons. https://www.conteches.com/stormwater-management/biofiltration-solutions/modular-wetlands-linear/
- Dr. Horner discusses water pollutants of concern and their sources and states: "the [Woods at Viewcrest] Preliminary Stormwater Management Plan's provisions for both construction-phase and post-construction stormwater management are ill-defined and overall inadequate to prevent the introduction of pollutants to stormwater runoff during both periods." (Exhibit B, p. 10)
- "Quantification of Residential Land Use Pollutant Releases" and further information about Pollutant Concentrations in Stormwater Runoff can be found in Exhibit B, pages 11-13.
- The Field Testing performance evaluation on the MWS unit found that the MWS system treated only 75 percent of runoff volume, and the goal of treating 91 percent of the volume from the testing site was not achieved.

https://swbmp.vwrrc.vt.edu/wp-content/uploads/2022/04/Filter_Application_MWS-Linear_Document-4-1.pdf

Rebuttal Information for the Flawed SEPA Checklist

B3c1B3c3 Runoff source, collection, and disposal

SEPA Section **B.3.c.1)** Describe the source of runoff (including storm water) and method of collection and disposal and where this water will flow.

SEPA Section **B.3.c.3)** Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

B.3.c.1- Describe the source of runoff (including storm water) and method of collection and disposal and where this water will flow.

FLAWED: The applicant states, incorrectly, and with no substantiating evidence, that "This runoff [captured via downspouts and roof drains] will be routed through piped conveyance systems to three discharge points."

There is no stormwater management plan proposed for serving the drainage from lot development." The Preliminary Stormwater Management Plan needs to account for stormwater contribution from lot development including subsurface foundation and access driveway drainage.

According to Ecology: "**when a plat is approved, the approval includes the stormwater requirements for the entire plat, including the individual lots.**
https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/stormwater-permittee-guidance-resources/municipal-stormwater-permit-guidance/stormwater-management-program

The Preliminary Stormwater Management Plan appears to only serve the road infrastructure. "It is clear from Element Solutions report that most lot development will require off site stormwater disposal. The off site disposal for lot development needs to be included in the stormwater plan prior to plat approval process. (Exhibit C, Comment 2)

According to Ecology Manual infeasibility criteria, BMPs for infiltration and dispersion are infeasible and inappropriate for the project property. (Ecology Manual, p. 120) The City of Bellingham also identifies the project property as not able to use infiltration.
(**See Rebuttal Map #5 City of Bellingham Potential Infiltration Areas.)

The applicant incorrectly assumes and states that site-specific runoff from roofs is considered "clean" and not requiring treatment. The Ecology Manual is quite clear in delineating how this project's runoff meets the criteria as "pollution-generating" and requires management and treatment. (Ecology Manual, p. 122 and 1073)

PMBC analysis shows that for many of the project's lots, the runoff captured via downspouts, roof drains, and perforated stub-outs will flow **downhill** where no stormwater management conveyance is located for connecting to these facilities.

"Lots 23 through 33 are all located below the proposed roads. As such development of these lots has the potential to impact the hydrology and stability of the SE Bluff Slope. Dispersion of stormwater or infiltration of stormwater on these lots poses a potential risk of increasing the slope failures within the SE Bluff Slope area. Foundation and stormwater drainage from these lots will likely need to be tightlined into a drain system for off site disposal. A complete geology hazard assessment should be required of the SE Bluff slope prior to approval of proposed Lots 23 through 33." (Exhibit C, Comment 3)

FLAWED: The applicant states, incorrectly, and with no substantiating analysis, that "Runoff from the northern portion of the site will be routed to a treatment module near the project entry road." There are no hydrologic assessments to validate that the flow paths from the northern portion of the site will reach any sort of treatment facility.

Our analysis shows drainage from lots 1, 8, and 9 will flow too far west to be captured by the proposed treatment module. Runoff from lots 10 and 11 will flow west into the S. Clarkwood neighborhood without treatment or flow control.

FLAWED: The applicant states, incorrectly, and with no substantiating analysis, that "Runoff from a small section of the internal road will be routed to a treatment module and then to a level spreader discharging above grade of the buffer of Wetland B (designed to maintain the hydrology of this wetland)."

Runoff flowing NE and downhill along the internal road(s) potentially will have substantial volume which currently drains NE over Viewcrest and into the abutting Clark neighborhood. If post development drainage gets rerouted, concentrated, and funneled to discharged into a small gravel spreader, a large amount of new drainage released into Wetland B will alter and negatively affect the wetland hydrology.

See Attachment #2: Existing Hydrologic Flow Paths and TDAs

FLAWED: The applicant states, incorrectly, and with no substantiating analysis, that "Runoff from the southern portion of the site will be routed to a treatment module and then via a piped conveyance down the bank to the stormwater outfall energy dissipater."

PMBC analysis shows that runoff from much of the southern portion of the site will have no capture and no routing to a treatment module before draining into Mud Bay. The proposed South Road and East Road are both located too far uphill of lots 23-34 to receive drainage from them. The drainage from lots 23-34 will flow downgradient, away from roadways without treatment. This runoff cannot be considered "non-polluting" or clean, so routing to treatment is required. (Ecology Manual, p. 122 and 1073)
Because the project property is encumbered by such harsh plat-wide hydrogeomorphic features, using on-site dispersion, infiltration, and perforated stub-out BMPs is considered

infeasible by Ecology's infeasibility criteria. The applicant includes a diagram of a perforated stub-out BMP but does not discuss any possible use for them. (Project Plans, Sheet 7)

"The combination of small lot sizes and sloping topography also appears to limit use of individual lot dispersion systems within most of the building lots. " (SMR, p. 86 §5.12.1)

Perforated stub-outs are not appropriate even for a random few lots in the project site because:

1. Runoff draining from the perforated pipe will not adequately infiltrate into subsurface layers and will cause erosion problems to both Mud Bay and lots adjoining and downgradient of the perforated pipes. The project property has been deemed infeasible for infiltration. [see** Bellingham Potential Infiltration map].
2. The seasonal water table is less than one foot below the trench bottom (the seasonal water table has to be at least 12" below the trench bottom which is 18"…. **30" or more of depth is required for installation of the unit**; and
3. The perforated pipe must extend and flow downgradient, AND, connect to a road drainage system routed to treatment and discharge. (Ecology Manul, p. 720)

OMITTED: There is no plat-wide, stormwater management drainage system for serving lot development.

.**B.3.c.3-** Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe?

SEPA checklist guidance [help] says: Identify any effects the proposal would have on drainage patterns, including effects on existing groundwater resources.

FLAWED: The applicant submits the answer "No" to this question with no substantiating analyses.

Note: According to the applicant:
· Threshold Drainage Area (TDA) 1's pre-development area is 3.2 acres larger than its post-development area;
· TDA 2's pre-development area is 4 acres smaller than its post-development area; and
· TDA 3's pre-development area is 1 acre larger than its post-development area.

TDA 1: Pre-developed TDA 1 drainage flows NW from the west side of the basin's large slope break while TDA 1 drainage also flows NE from the east side of the basin's large slope break. The NW drainage flows into the city's stormwater conveyance along Viewcrest, but a large volume from the NE drainage flows NE out over Viewcrest and into the Clark neighborhood. (This Clark neighborhood between Lynden Road and Viewcrest Road has drainage to both Bellingham Bay and Chuckanut Bay.

Post-developed TDA 1 drainage will collect, concentrate, and reroute the large NE flow to a small gravel spreader in the steep buffer of Wetland B. This significant new runoff volume into Wetland B will cause severe alterations to hydrology of Wetland B and receiving waters downgradient.

TDA 2: TDA 2 has drainage flowing downhill from the cliff ridgeline and building envelopes (lots 23-34) with no ability to connect to the proposed stormwater management conveyance uphill at the roadway. These lots will have no collection and routing to treatment BMPs and no possible discharge at the dispersal tee on the shoreline.

TDA 3: As indicated in the notes to the TDA Summary above, TDA 3's pre-development area is 1 acre larger than its post-development area. This unexplained dramatic shift represents a violation of Minimum Requirement 4 *Preservation of Natural Drainage Systems and Outfalls*. In reality, TDA 3's drainage should not change post-development, and the size of the post-development area should be similar to its pre-development area.

Lots 10 and 11 and a portion of the road servicing these lots are part of TDA 3, not TDA 2 as depicted on post-development watershed map. Because two homesites and a portion of a roadway must be included in TDA 3's impervious surface area, TDA 3 will exceed the threshold for flow control requirements. This is a major flaw given the frequency of flooding on S. Clarkwood Drive from runoff flowing west off the proposed property's highest elevations during high rain events.

Figure 4: The proposed property shown as an opaque area along the shoreline of Mud Bay

KEY: Opague area approximates proposed property, [Google Earth]

Red line approximates TDA 3

(**see Rebuttal Map #4: TDA3 Elevation Profile)

Rebuttal Information for the Flawed SEPA Checklist

B3d Reduce or control runoff and drainage patterns impacts

SEPA Section B.3.d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts.

B.3.d.- Describe proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts.

FLAWED: The applicant does not answer the question. Referencing "best available science" and the "Ecology Manual" does not answer the question. There is no discussion of the drainage impacts nor is there discussion of any proposed measures to reduce or control surface, ground, and runoff water.

Some of the plat-wide drainage impacts this project proposal will cause to both the built and natural environment include:

1. Unmanaged and managed, drainage flowing into Mud Bay harming existing ecosystems.
2. Flooding to S. Clarkwood neighborhood from no runoff management of drainage from lots surrounding TDA 3.
3. Wetland B adverse alterations from high volume runoff discharged into its buffer via the small gravel spreader.
4. Stormwater saturation of the geology, increasing slope and ground instability.
5. According to Dr. Richard Horner: "A FINAL WORD; I was one of 14 signatories from the scientific community of a 2006 letter to the Puget Sound Partnership giving recommendations for improving water quality and aquatic and human ecosystems through better stormwater runoff management. The letter recommended actions and practices related to land use as necessary to halt the decline of the Puget Sound ecosystem, provide for recovery of anadromous fish, halt the increase in and reduce the load of pollutants carried by stormwater to Puget Sound, and begin the steep climb toward restoration. The recommendations included means of preserving the least disturbed areas, arranging for no net loss of forest cover, and reducing runoff from impervious areas. The proposed form of the Viewcrest development disregards all of these principles. For this reason and because of the potential harm to Mud Bay, and more broadly the adjacent waters, the proposed development should be subjected to a full environmental impact assessment." (Exhibit B)

Rebuttal Information for the Flawed SEPA Checklist

B8a Current Use of site and adjacent properties, and affects from the proposal

SEPA Section **B.8.a.-** What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties?

FLAWED: The applicant falsely claims: "Current land uses on surrounding properties will not be affected by the proposed project".

The proposed project will have significant, adverse impacts on the current land uses for Mud Bay, the adjacent property on the south. The applicant fails to acknowledge and address the adjacent land to the south, Mud Bay. Land uses for Mud Bay affected by the proposal include:

1. Commercial uses- salmon, oyster, clam, and miscellaneous seafood harvesting
2. Community and public service uses- marine, habitat, education, and leisure uses
3. Natural resource uses- marine tourism, recreational fishers
4. Recreational uses-kayaking, hiking, beach wading and swimming, boating

Mud Bay, as a subset of the waters of the United States, is afforded all the special protections of the Federal Clean Water Act. The applicant is required to assess and analyze how the project will impact Mud Bay.

<u>Richard Horner's Expert Letter Summary of Conclusions: (Exhibit B)</u>
"A project put forward for approval to proceed should collect all underlying data pertinent to the required environmental assessments, conduct those assessments with the best available methods, and provide all of the information regulators and citizens need to make a full and confident evaluation of the proposal and its potential environmental effects. The Viewcrest project documents do not meet this standard, specifically with respect to:

• There is no direct consideration of the special needs for protecting Mud Bay, a Category I estuarine wetland with abundant salmonid fish and avian resources, that would receive stormwater runoff from the proposed development.

• The proposed project poses a number of potential threats to the Mud Bay ecosystem during both its construction and post-construction phases.

• The steep slopes on and adjacent to the development site risk considerable erosion during construction and sediment transport to Mud Bay without excellent controls."

Rebuttal Information for the Flawed SEPA Checklist

B8h Critical Areas

Section **B.8.h.** Has any part of the site been classified as a critical area by the city or county?

SEPA checklist guidance [help] says: **Has any part of the site been classified as a critical area by the city or county? If so, specify.** Indicate if the proposed site has any special protection designation — such as critical area. Other areas designated as protected areas or reserves could also be within or adjacent to the proposed site.

Applicant answer: "There are wetlands located on site, and Chuckanut Bay is adjacent to the south boundary of the site. See detailed discussion above in Section 3.a. of this SEPA Checklist."

FLAWED: There are SIGNIFICANT OMMISSIONS in the applicant's answer:

1. A large portion of the developable area on the property site; as well as a large portion of the entire property, is classified as critical area.
2. The applicant fails to describe and explain that the property's entire southern edge, at the shoreline of Mud Bay, lies within the FEMA high flood risk Flood Hazard Zone AE.

https://msc.fema.gov/portal/search?AddressQuery=-122.504%2C%2048.697

><<><><

BMC Chapter 16.55 and RCW Chapter 36.70A
"Critical areas" include any of the following areas or ecosystems: aquifer recharge areas, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas (Landslide Hazard Areas and Erosion Hazard Areas and their buffer zones), wetlands and their buffer zones.

Information for the Flawed SEPA Checklist

B8L Proposal compatibility with existing land uses and plan

SEPA B.8.L.- Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

FLAWED: The applicant supplies an answer that obfuscates and misrepresents how the proposal complies with city zoning and calculated housing units.

1. The applicant states: **"**The 37.7-acre property is large enough to accommodate a gross density of approximately 80 housing units. The proposed project is the development of

a single-family subdivision with 38 housing units, which is less than half of the zoned density.

Rebuttal: The majority of property is protected in designated critical areas, and could be considered "not buildable".

2. The applicant states: The design of the project includes density, lot sizes and a development layout that is similar to surrounding development, all of which is single family in nature."

Rebuttal: Calculations for this housing density were based on the property's entire acreage, 37.7 acres. However, to comply with the spirit of the Comprehensive Plan, and to comply with the spirit of the Edgemoor Neighborhood Plan, the calculations should be based on the acreage that is not severely encumbered by critical areas and not actually developable. More than 60% of the property is un-buildable due to extraordinary geomorphologic features which regulations protect from development.

The project proposal is NOT compatible with existing and projected land uses and plans:

(1) Land Use (LU) **GOALS** shown on page 2 of the Land Use Chapter:
- LU-4 (Maintain and enhance publicly-owned assets and institutional uses)
- LU-6 (Use transparent processes and involve stakeholders in decisions)
- LU-7 (Protect and restore our community's natural resources (land, water and air) through proactive environmental stewardship), and
- LU-9, if the Lummi Nation gets involved (Preserve historic and cultural resources).

(2) Edgemoor Neighborhood Plan:

- "The entire southern one third of the Edgemoor Neighborhood consists of perhaps the most magnificent property in the city. A large, steep, heavily wooded peninsula, commonly known as Clark's Point, extends into Bellingham Bay, forming the western boundary of Chuckanut Bay. Steep slopes follow the edges of Chuckanut Bay, paralleling Viewcrest Road, and, together with Clark's Point, provide a natural resource amenity identified in the Whatcom County Interagency Park, Recreation, and Open Space Study (l977) as a primary goal for conservation efforts for the benefit of the entire city.
- The western half of the neighborhood contains large single-family homes on well-landscaped one-half acre lots.
- THE PEAK SOUTHEAST OF THE INTERSECTION OF VIEWCREST ROAD AND FIELDSTON SHOULD BE DEVELOPED AS A VIEWPOINT.
- IT IS RECOMMENDED THAT FIELDSTON ROAD FROM CLARK'S POINT TO HAWTHORN ROAD, HAWTHORN ROAD FROM FIELDSTON ROAD TO CHUCKANUT DRIVE, AND WILLOW FROM BAYSIDE ROAD TO CHUCKANUT

DRIVE BE IMPROVED TO 28 FEET IN WIDTH WITH THICKENED EDGES AND A PEDESTRIAN/BICYCLE PATH ON ONE SIDE, EXCEPT THAT WILLOW ROAD FROM FIELDSTON ROAD TO CHUCKANUT DRIVE BE IMPROVED TO 36 FEET WITH CURBS AND GUTTERS.

- FUTURE STREET IMPROVEMENTS WITHIN AREAS 4 AND 7 SHOULD BE A STANDARD OF 24 FEET WITH THICKENED EDGES.
- The proposed property is located in Edgemoor **Area 7:**
  Area 7 is a highly valued natural resource for which conservation has been a consistent recommendation. While a designation as "public" might seem more appropriate for the area, the land is under private ownership, so a land use designation is made which will permit development while maintaining the exceptional natural qualities of the properties.
- **Prerequisite Considerations** : Improvement to Fieldston Road and Willow Road as neighborhood collectors
- **General Use Type** : Residential - Single
  Use Qualifier : Detached, cluster
  Density : 20,000 square feet minimum detached lot size, or
  One lot per 20,000 square feet average overall density
  Special Conditions : Clearing, view buffering from adjacent residential, water distribution design."

Rebuttal Information for the Flawed SEPA Checklist

B12aB12bB12c Recreational opportunities and proposal impacts on these recreational opportunities

SEPA Section **B.12.a. B.12.b. B.12.c. What designated and informal recreational opportunities are in the immediate vicinity, and how will they be impacted by the project?**

SEPA Section **B.12.a. B.12.b. B.12.c.**

B.12.a.- What designated and informal recreational opportunities are in the immediate vicinity?

SEPA checklist guidance [help] says: This information helps reviewers better understand a development project's community impacts. Applicants should be specific and address possible impacts to formally designated recreation areas as well as other uses such as access to state shorelines and common fishing spots. Other examples include:

- Dinner cruises around Mud Bay hired out of Bellingham Bay
- Kayaking to Mud Bay from Bellingham Bay 'Bellingham Boating Community"

- Walking, hiking, picnicking, wildlife viewing
- Recreation swimming, boating, rafting, fishing, and beach combing

B.12.b. -Would the proposed project displace any existing recreational uses?
SEPA checklist guidance [help] says:
Consider how a proposal will directly impede, interfere, or prevent current and reasonably foreseeable future recreational uses. These could include:

- Shoreline access
- Shellfish harvesting
- Swimming, boating, and other water activities
- Wildlife viewing

FLAWED: for SEPA Question B.12.b (Would the proposed project displace any existing recreational uses): The applicant answer: 'No'.

The applicant speculates that "NO" with no supporting evidence, that the proposed project will not displace, directly impede, interfere, or prevent current and reasonably foreseeable future recreational uses for Mud Bay.

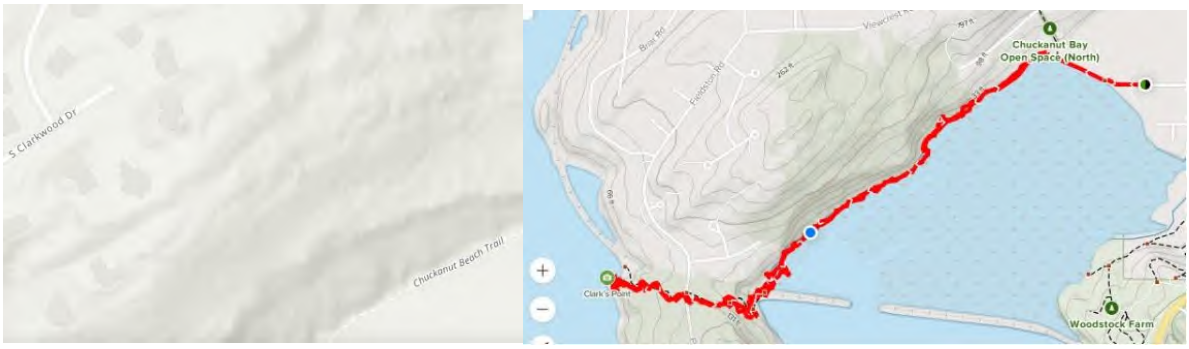
"Impacts of stormwater flow across the tidelands below the stormwater discharge has not been evaluated. While the proposed discharge location is on a bedrock bench, there will still be a flow of water across fine grained sediments of the tideland of Mud Bay. There has been no evaluation of the potential tideland erosion or changes with the introduction of large flow volumes across the tideland during low tide and how that may impact the tidal channels and tidal waters and biology in and down gradient from the discharge point." (Exhibit C)

The applicant does not acknowledge impacts from the proposal's discharge at the shoreline.

The proposal's runoff to be discharged at the beach will significantly and adversely impact:

- Mud Bay marine habitats
- Chuckanut Beach trail walking and strolling
- recreational swimming,
- shellfish harvesting.
- boating, shoreline strolling
- variety of other shoreline and water activities

Figure 5. Chuckanut Beach Trail



Notes from Richard Horner Expert Letter (Exhibit B):
"The potential environmental harm associated with the development as proposed warrants a full environmental impact assessment... flaws in the project documents signify that the proposed development poses threats to the Mud Bay ecosystem. The remainder of my letter elaborates on these points.

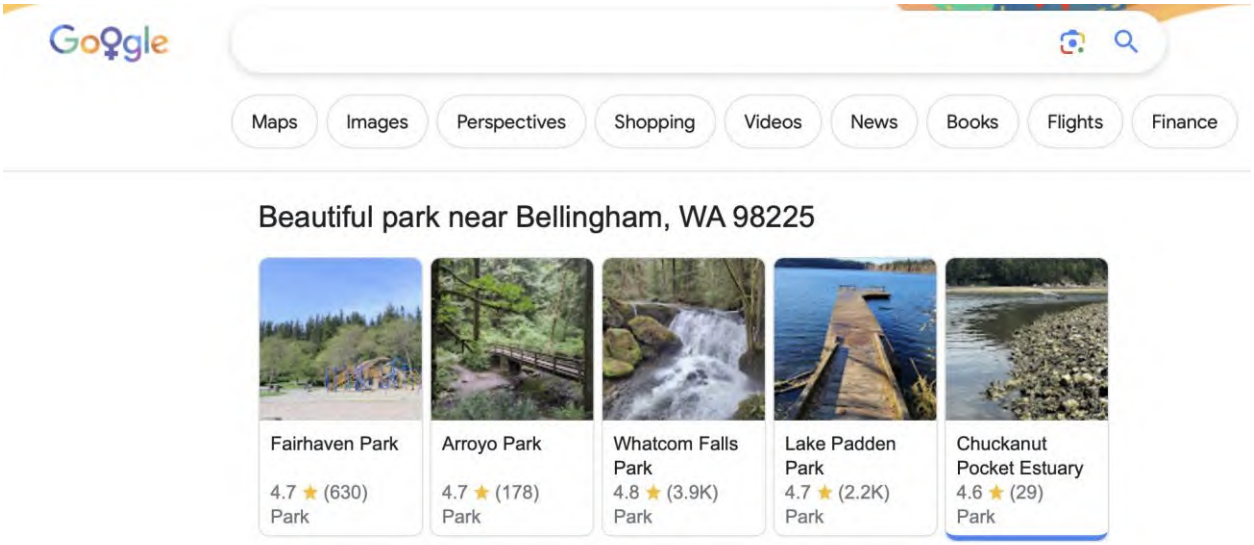
- The steep slopes on and adjacent to the development site risk considerable erosion during construction and sediment transport to Mud Bay without excellent controls.
- Despite this risk, the project documents give little attention to the challenging construction environment and, to the extent they do, provide only inferior controls.
- Eroded sediments from a construction site deposited in a relatively quiescent location, such as Mud Bay, change the character of its bed. The nutrients phosphorus and nitrogen, generally present in soil and transported by the eroded particles, stimulate increased growths of algae, a process known as eutrophication."

B.12.c. - Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant.

FLAWED: The applicant does not provide measures to reduce or control impacts on the recreation in and around Mud Bay. The applicant supplies only a mitigation, but stated public access trail is a requirement for variance application, NOT a separate mitigation for impacting the shoreline.

Examples of Mud Bay Recreational activities promoted statewide:

1. The Chuckanut Pocket Estuary



2. [Redfin property listing]

"…Hardwood flooring throughout. Nicely landscaped 1/2+ acre lot with water views. Walkway access to Chuckanut beach trail from the side of home." [5]

3. San Juan Cruises: Chuckanut Cracked Crab Dinner Cruise
4. Marine Resources Oyster Restoration Project ongoing in Mud Bay
5. Seattle Times, Chuckanut Bay is a kayaker's lazy dream

https://www.seattletimes.com/life/outdoors/chuckanut-bay-is-a-kayakerrsquos-lazy-dream/

Information for the Flawed SEPA Checklist

B14f Transportation

SEPA Section B.14.f. Transportation

SEPA B.14.f.

f. How many vehicular trips per day would the completed project or proposal generate? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?

[5] https://www.redfin.com/WA/Bellingham/220-Sea-Pines-Rd-98229/home/15837045

FLAWED: the applicant prepared the detailed Traffic Impact Analysis for the project in September 2022, during the middle of the COVID epidemic when businesses, work, and school were all closed, and traffic patterns significantly altered and reduced.

TOPIC: The Flawed Extended SEPA Checklist

PART III: Rebuttal Maps and Additional Rebuttal Information

Attachment C **Rebuttal Maps**

C1 The Project's Developable Area

C2 Ridgelines and Hydrologic Flow Paths

C3 Housing Densities

C4 TDA 3 Elevation Profile

C5 Bellingham Potential Infiltration Areas

C6 Building Envelopes and Landslide Hazard Areas

Attachment D **Additional Rebuttal Information**

D1 Hydrologic Flow Paths and TDAs

D2 Ecology's Off-Site Analysis Report

D3 A Corrected Soil Survey

D4 TDA 1 Discharge Contributing to City Conveyance System

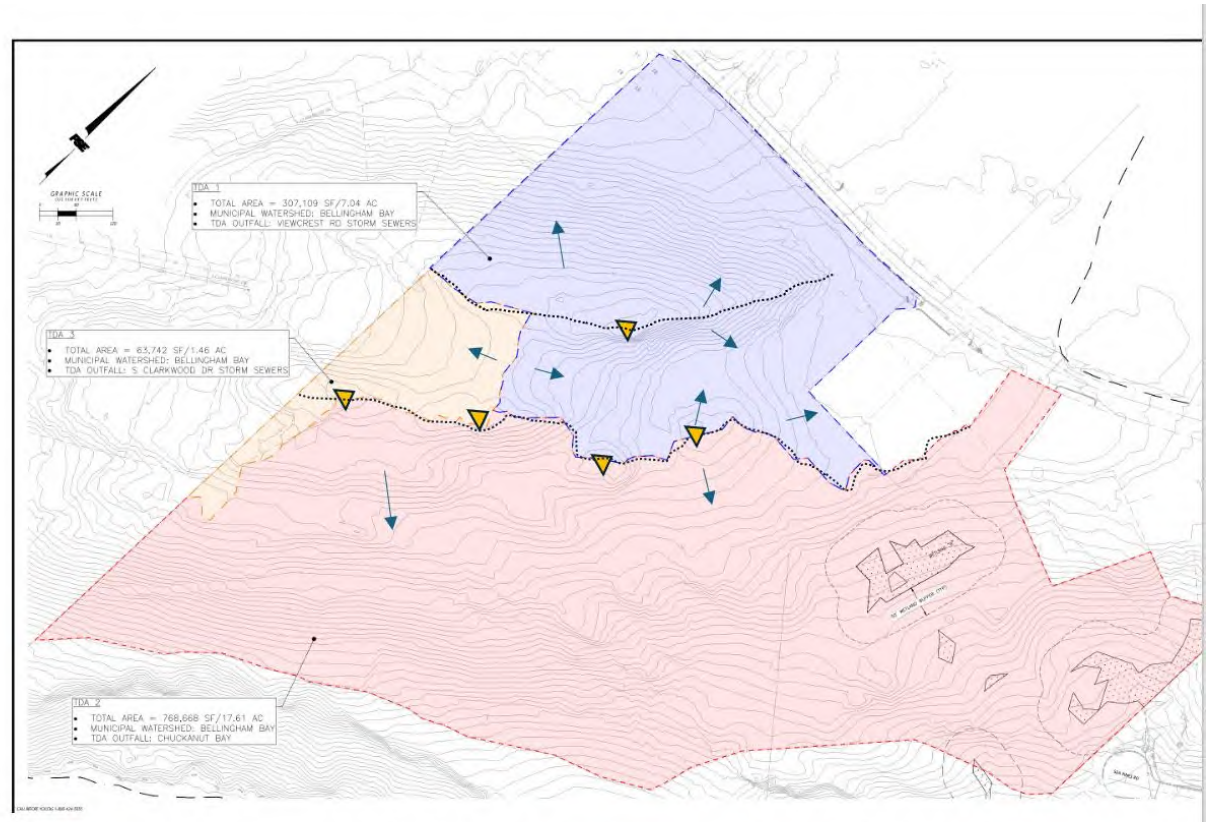
REBUTTAL MAPS C1

Rebuttal Map #1: The Project's Developable Area

[source- https://maps.cob.org/geviewer/Html5Viewer/Index.html?viewer=citytyiq With some roadway and building envelope approximate locations added by PMBC

C2

Rebuttal Map #2: Ridgelines on Proposed Property



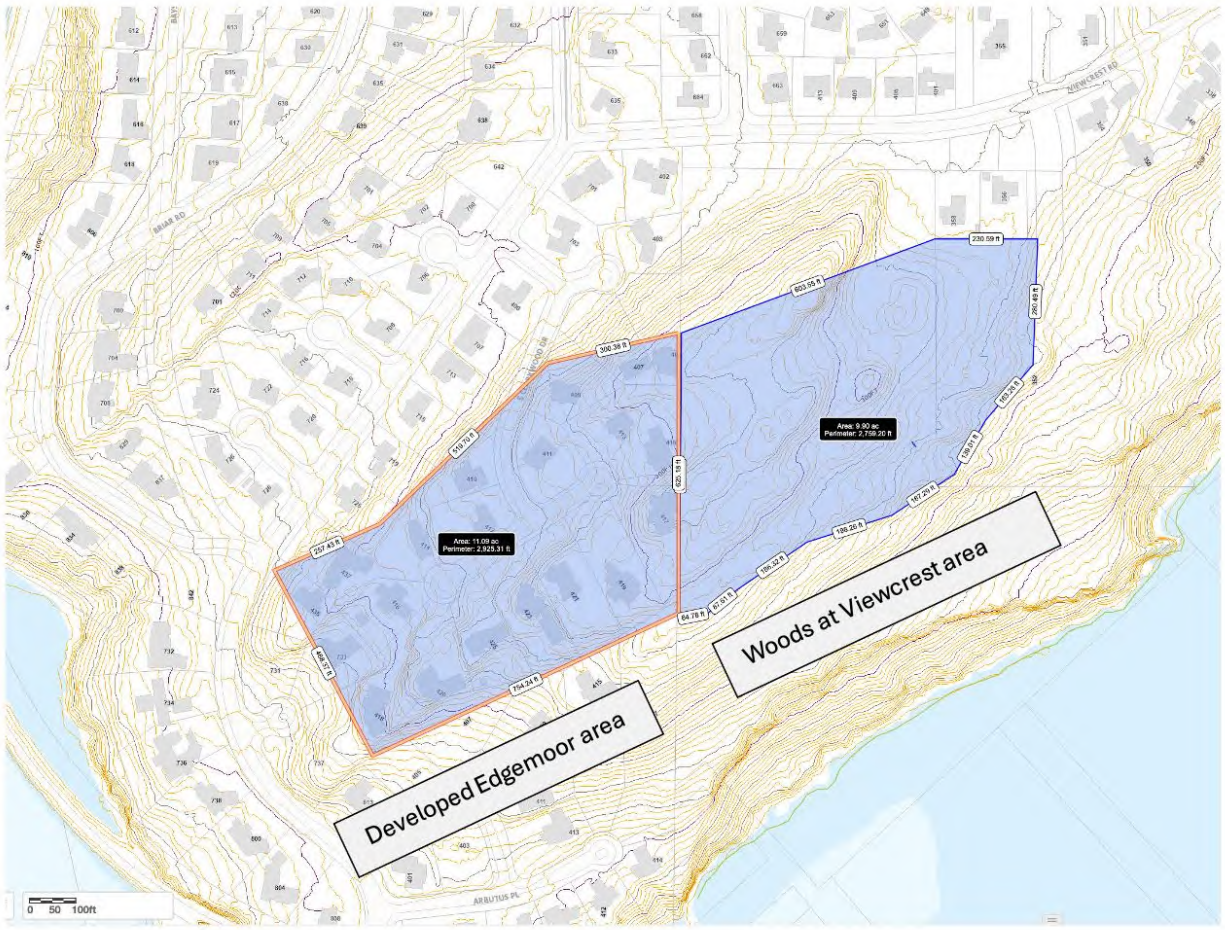
KEY: Slope Crests Ridgeline Slope Breaks Hydrologic Flow path

[source- Sheet 1 of Exhibit F page 113; Identifications are drawn by PMBC]

C3

Rebuttal Map #3: Housing Density Comparisons

The clustering of the building envelopes for the proposed Woods at Viewcrest subdivision is not typical and not consistent with housing density for south Edgemoor and the Edgemoor Neighborhood Plan .



[source: https://maps.cob.org/geviewer/Html5Viewer/Index.html?viewer=cityiq with identifications by PMBC]

KEY

- Section called "Developed Edgemoor area" is outlined in orange:

  11 acres (A), 20 houses (H); 20/11= 1.8 H/A= 1.8 house per acre
- Comparable section called "Woods at Viewcrest area" is the proposed property abutting to the east/right of existing developed Edgemoor :

  9.8 acres, 30 houses ; 30/9.8 = 3.1 H/A = 3.1 houses per acre
  This is 72% increase in houses per acre; the proposed project property has one lot at 8,489 SF; eight lots are less than 11,000 SF (zoning is set at 20,000 SF per house).

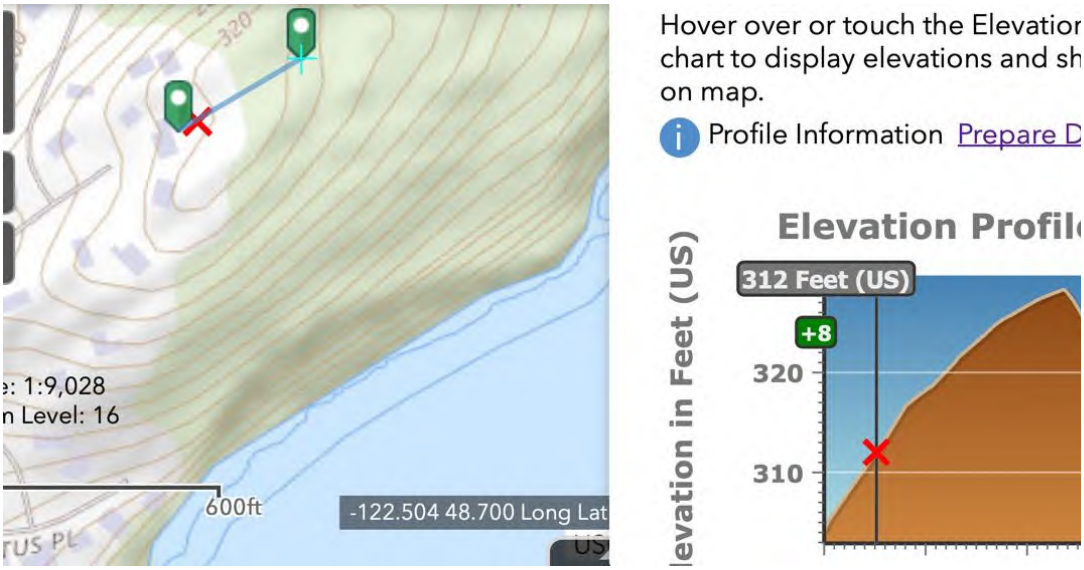
C4

Map #4: TDA3 Elevation Profile

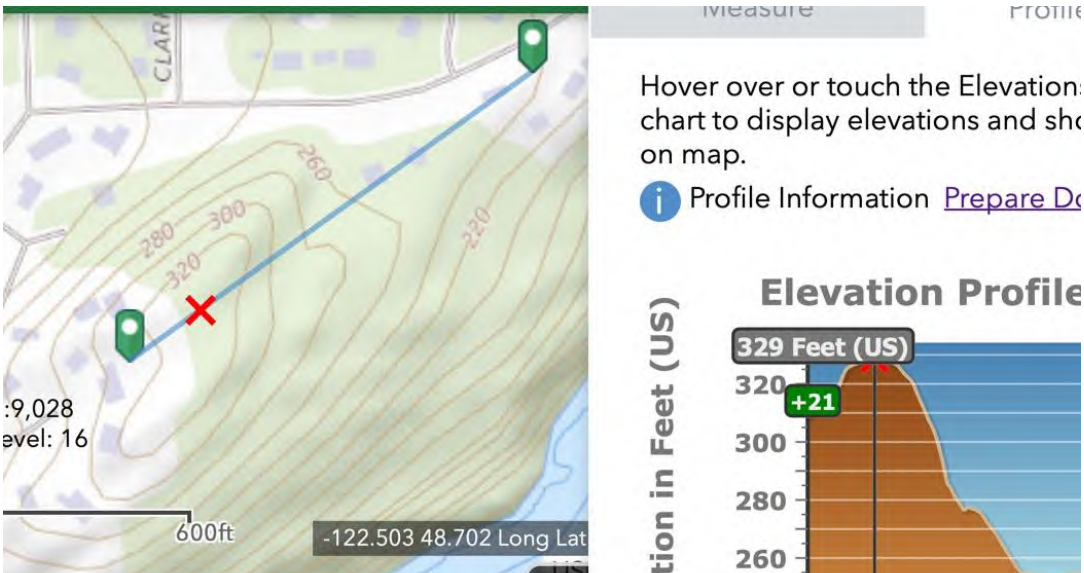
Uphill Elevation change starting at the west property line with S.Clarkwood homes, going up-and-over the slope break at West Road cul-de-sac

KEY: is approximate property line Is approximate slope break

(A) starting at the X on the property line with S.Clarkwood homes, going up and over the slope break on West Road



(B) starting at the property line with S.Clarkwood homes, going up and over the slope break marked with an **X** , then going downhill to the entrance road near Viewcrest Road



C5

Bellingham Potential Infiltration Areas

(Potential Infiltration Areas). If your project site is in a shaded area, you may be able to use infiltration.

KEY: approximate Woods at Viewcrest proposed property outline in red

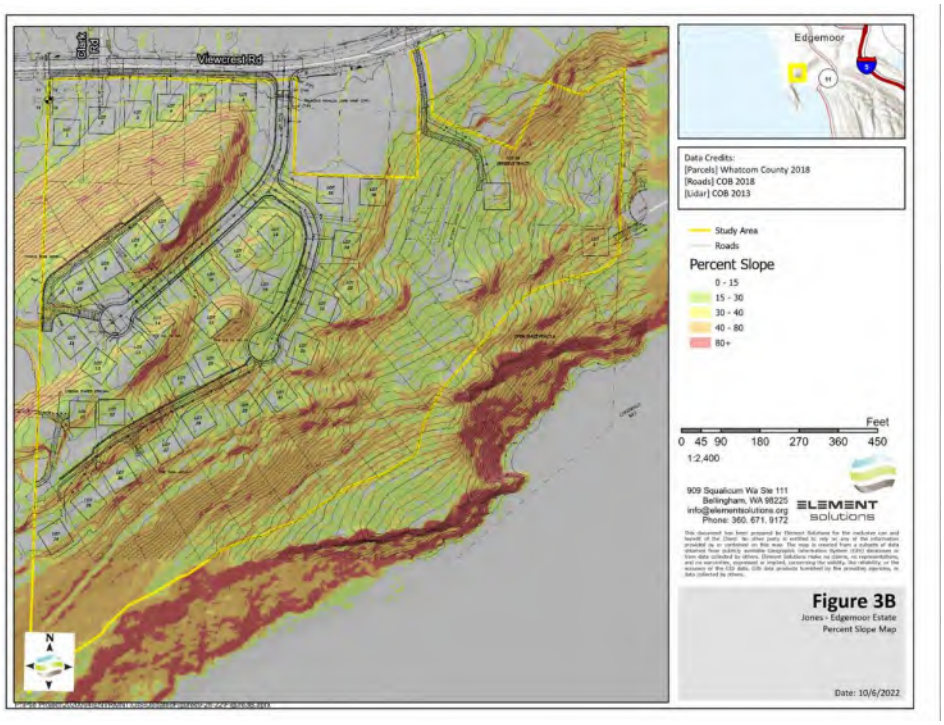
City of Bellingham Infiltration Map:
https://cob.org/wp-content/uploads/public-works-potential-infliltration.pdf

estimated project property outline supplied by PMBC

C6

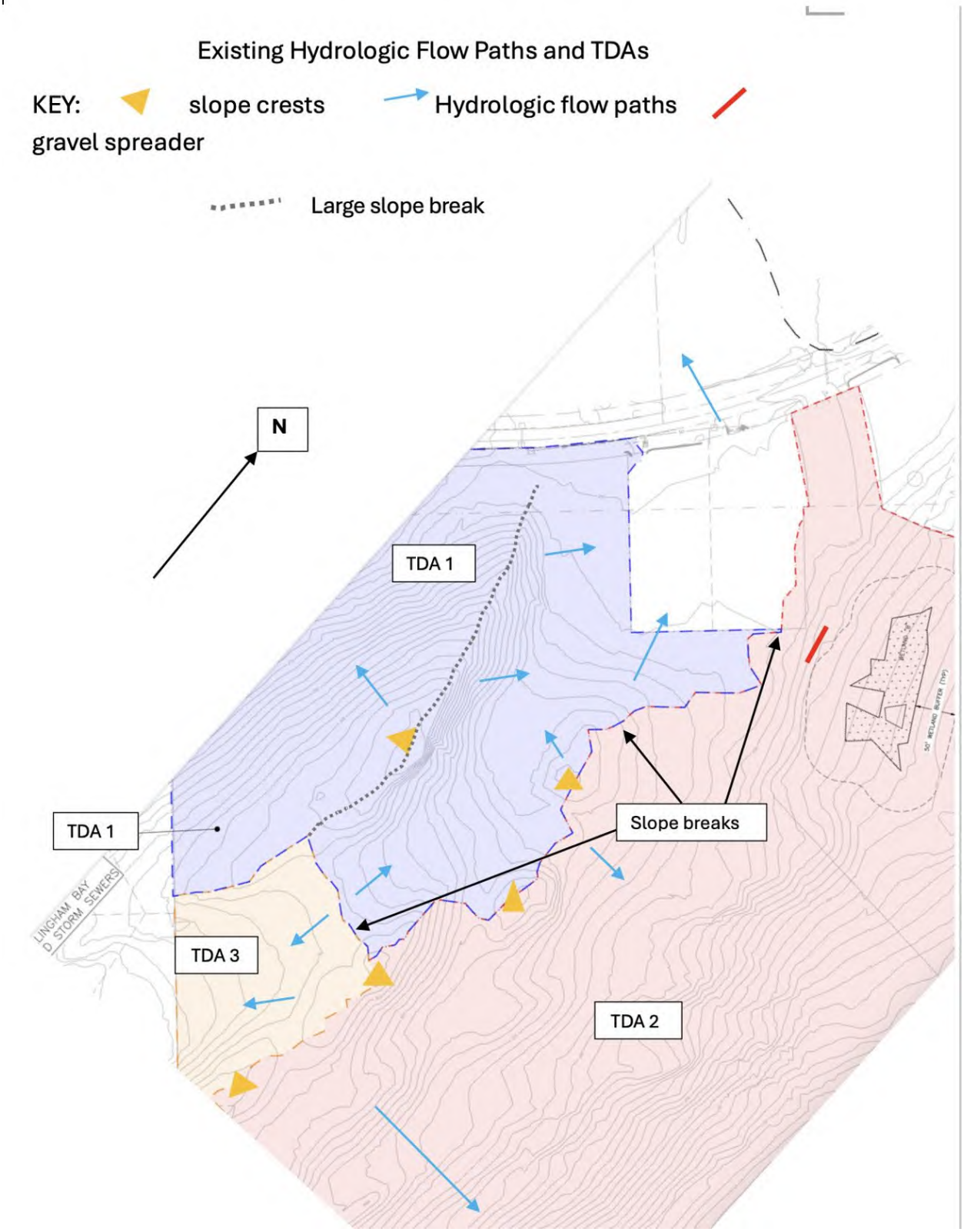
Map #6: Building Envelopes and Landslide Hazard Areas
Figure 3B on page 66 Exhibit E
A current map would show these changes:

1) Lot 7 is taken away from the NW ridge and added into the row of building envelopes along the SE ridgeline (is added between lots 24-30). The South Road traversing the landslidge hazard area further south, but remains within the excavated landslide hazard area)



Additional Rebuttal Information

D1 Existing Hydrologic Flow Paths and TDAs



D2

e2: Ecology's Off-Site Analysis Report- a report that assesses the potential off-site water quality

I-3.5.3 APM2: Off-Site Analysis Report

Ecology recommends that local governments require development projects that discharge storm-water off-site to submit an off-site analysis report that assesses the potential off-site water quality, erosion, slope stability, and drainage impacts associated with the project, and proposes appropriate mitigation for those impacts. The report should also assess the amount of off-site run-on from upstream off-site areas that may affect the site design.

The initial qualitative analysis shall extend along the flow path from the project site to the receiving water, for a distance up to one mile. If the receiving water is within one-quarter mile from the project site, the analysis shall extend within the receiving water to one-quarter mile from the project site. The analysis shall extend one-quarter mile beyond any improvements proposed as mitigation. The analysis must extend upstream from the project site to a point where there are no backwater effects created by the project, and the designer can determine all areas contributing run-on to the project.

The existing or potential impacts to be evaluated and mitigated should include:

- Conveyance system capacity problems;
- Localized flooding;
- Erosion, including landslide hazards and erosion along streambanks and at the outfall location;

D3 Soil Survey Inaccuracies

Exhibit 3 Attachment B: Soils Survey Inaccuracies

Executive Summary:

The developers assert that the predominant soil type covering the 38-acre site is Everett-Urban land complex with 5 to 20 percent slopes (soil map unit #52). In fact, the predominant soil type is Nati loam with 30 to 60 percent slopes (soil map unit #110).

This is important because, compared to Everett-Urban land complex, **Nati loam**:
1) is more susceptible to erosion (severe vs moderate erosion hazard)
2) is more susceptible to site degradation (highly vs moderately susceptible)
3) is less suited for local roads and streets (poorly vs moderately suited)
4) has greater limitations for subsurface water management (very limited vs somewhat limited)
5) has greater limitations for shallow excavations (very limited vs somewhat limited)
6) is more susceptible to windthrow (high vs low windthrow hazard)

The following pages provide evidence of how the applications provided misinformation about soil types, which result primarily due to an inaccurate and misleading Area Of Interest input for the USDA/Natural Resources Conservation Services Web Soil Survey.

The Woods at Viewcrest October 19, 2022 Preliminary Stormwater Management Report Page 21

8.2 NRCS SOILS REPORT

United States Department of Agriculture
Natural Resources Conservation Service (NRCS)
Custom Soil Resource Report for Whatcom County Area, Washington

To get a USDA/NRCS Soils Report, the developer used a software program called Web Soil Survey. This software program is available to the public.

https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Web Soil Survey

D4

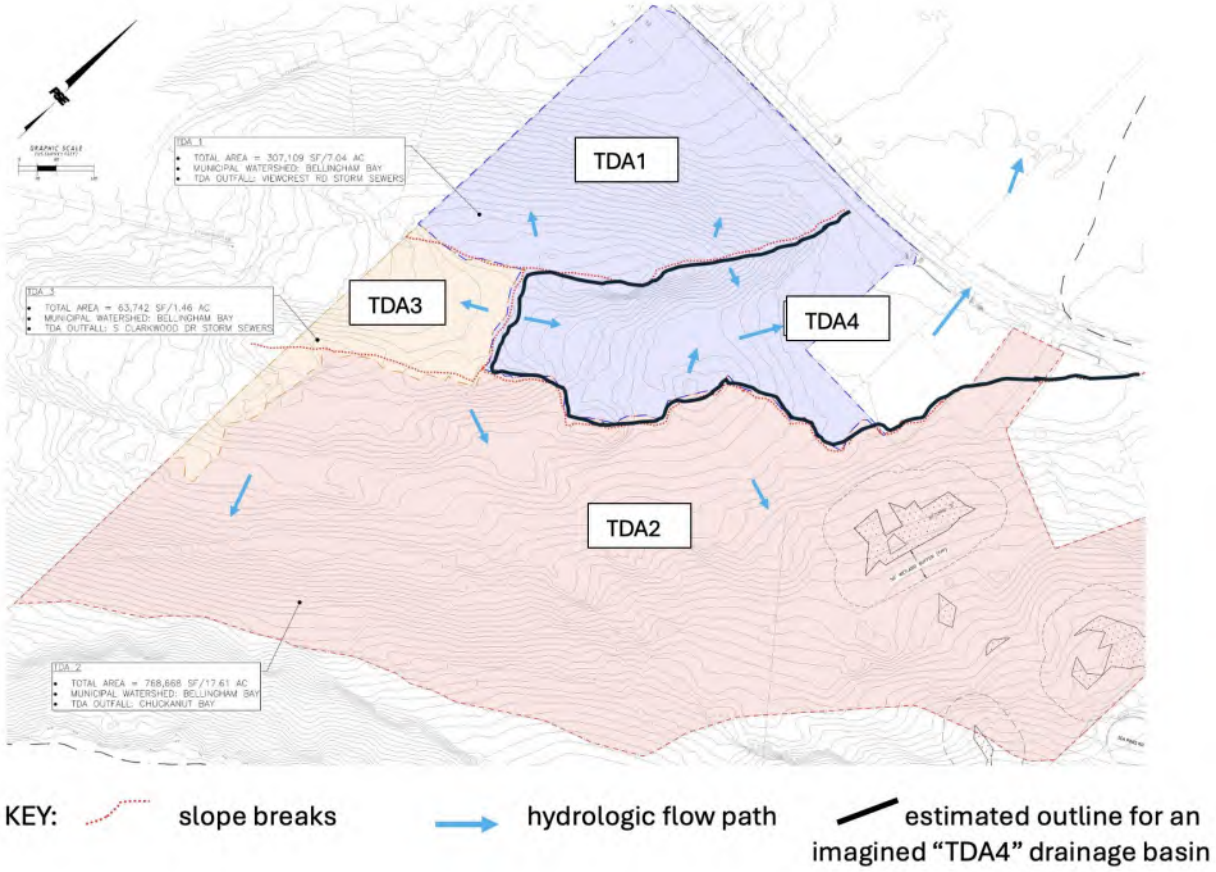
TDA 1 Discharge

TDA 1 discharge to the Viewcrest-Fieldston city conveyance system will be contributing to the existing city conveyance pollution discharged into Mud Bay

Google Earth

D5

The Un-Official TDA 4



Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT L

Protect Mud Bay Cliffs Organizing Committee
Public Comment Letter re:
Excessive Discretionary Liberties

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 19, 2024

Blake Lyon, Planning & Community Development Department Director
Kurt Nabbefeld, Development Services Manager & SEPA Responsible Official
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
City of Bellingham
210 Lottie Street
Bellingham, WA 98225
Sent Via Email

Copy Via Email:
Mayor Kim Lund
Renee LaCroix, Public Works Natural Resources
Bellingham City Council

Subject: The Woods at Viewcrest *Discretionary Liberties*

Dear Mr. Lyon, Mr. Nabbefeld, Ms. Bell, and Mr. Sundin:

The applicant for *The Woods at Viewcrest* proposed project has stated (emphasis added): The *"significant extraordinary conditions related to physical limitations, exceptional topography, geological problems, and environmental constraints… make construction of the full improvements required by the referenced codes (BMC 23 and 13) impractical and difficult."* [1]

Consequently, the applicant has requested that the development be held to less exacting adherence to a variety of BMC standard regulations such as requesting smaller buffer widths and smaller building envelope sizes.

The applicant requested discretionary liberties needed to fit the proposed plat design into the impractical and difficult challenges presented by the property's harsh hydrogeomorphic features and conditions. To date, it appears the city has been willing to accommodate the applicant. When the applicant requests, and is granted by city staff, less exacting adherence to BMC regulations, the granting of the reduced standard is being referred to as a 'discretionary liberty'.

[1] Project Narrative, p. 17 https://cob.org/wp-content/uploads/2024-02-23-project-narrative.pdf

This document addresses the unacceptably high number of discretionary liberties granted to the applicant of this proposed project, and the significant adverse environmental impacts from the cumulative aggregate of these liberties.

TOPIC: Discretionary Liberties for *The Woods at Viewcrest*

Table of Contents

INTRODUCTION

The Bellingham Municipal Codes (BMC) establishes MINIMUM levels of standards to protect the public and the environment. Yet unbeknownst to many, the actual BMC regulations being enforced can be altered and weakened by a simple discretionary decision made by a city official. This document sheds light on the alarmingly excessive number of discretionary liberties requested by the applicant for this proposed project – and apparently accepted by the city. Even if seemingly marginal individually, discretionary liberties considered together can cumulatively result in likely significant adverse environmental impacts the community will be left dealing with for perpetuity.

The application materials state: (emphasis added) "*The Property is constrained by significant extraordinary conditions related to physical limitations, exceptional topography, geological problems and environmental constraints. There are steep slopes, exposed rock, wetlands and other environmentally sensitive areas spread across the Property. These physical constraints make construction of the full improvements required by the referenced codes (BMC 23 and 13) impractical, difficult, and will result in an undesirable land division*".[2]

Photo 1 below shows the proposed property's south-facing slopes, upland from the Mud Bay shoreline. Severe winds funneling and strengthening through the north end of Chuckanut Bay ram full force into the very steep slopes at water's end - which just happens to be the proposed project's property at the north end of Mud Bay.

Compare Photo 1 showing property for the proposed project, to Photo 2, showing the southeast facing slopes of Clark's Point just few away. It is hard for anyone not familiar with the area around Mud Bay to fully realize the brutal conditions unique to the very spot the proposed project wants to develop (as shown in Photo 3).

[2] Project Narrative p. 17 https://cob.org/wp-content/uploads/2024-02-23-project-narrative.pdf

Photo 1

Photo 2

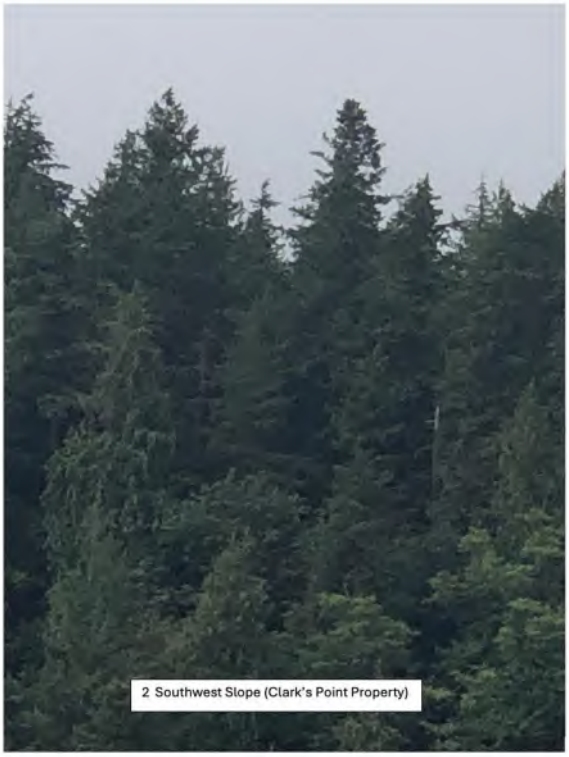


Photo 3 below identifies the general direction of photos 1 and 2

According to the applicant, the harsh/significant extraordinary conditions that constrain the Property make "*construction of the full improvements required by codes impractical and difficul*t." [3] Consequently, the applicant has requested the right to be held to less exacting adherence to standard BMC minimum requirements.

Discretionary liberties provide a way around, a way to avoid strict adherence to BMC code regulations. However, BMCs are already set at MINIMUM levels of standards established to protect the public and the environment, so less adherence to minimum standards leads to diminished enforceable protection to public and the environment. These discretionary liberties can add up to a surprising number of allowances giving an applicant permission to build to less-than-standard regulations. Such is the case with this proposed development project.

This project site requires stricter adherence to regulations due to unique and destructive natural hydrogeomorphic conditions fraught with risks to public safety and property damage. The project site has now and will have post-developed: a) exceptional topography, b) likely geologic instability from increased runoff and erosion; c) exposed rock; d) wetlands; e) horrific winds; and e) environmentally sensitive steep slopes. **Building on this site with its severe natural conditions comes with increased risks and should require more, not less, exacting adherence** to the city's BMCs minimum standards . See Attachment A: *NASA Landslide Susceptibility for Proposed Development*.

However, the applicant has seemingly been given a surprisingly large number of liberties to avoid complying with standard BMC code regulations. The discretionary liberties granted for this project, even if seemingly marginal, will cumulatively create significant adverse environmental impacts.

DISCRETIONARY LIBERTIES

The Discretionary Liberties Requested by the Applicant with City Opposition
The following are examples of discretionary liberties requested by the applicant, which the city has not opposed to date:

Discretionary Liberty #1: The applicant is requesting to circumvent BMC 16.55.460.A.1.a - the minimum standard for landslide and erosion hazard area buffers. For this challenging property, buffers should be preserved and enlarged, not reduced.

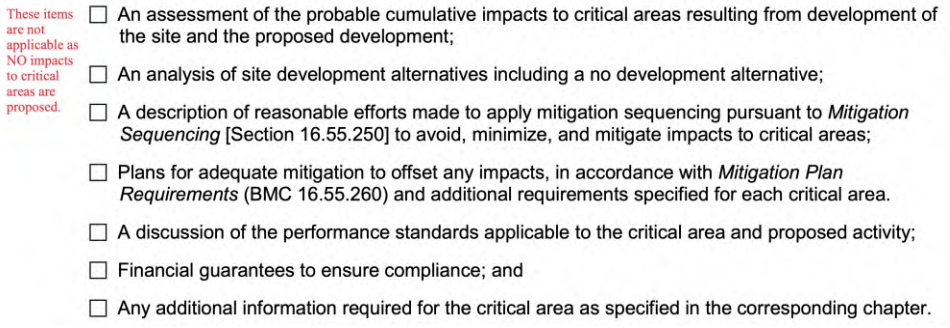
Discretionary Liberty #2: The applicant is requesting to circumvent BMC 23.08.060.D.1 – building envelopes that are smaller than minimum regulations.

Discretionary Liberty #3: The applicant is requesting to circumvent BMC 20.06.030.E.1 - the Edgemoor Zone 7 prerequisite consideration that recommends construction improvements to Fieldston and Willow Roads to happen prior to this new development, and at the expense of the development owner.

[3] Project Narrative p. 17 https://cob.org/wp-content/uploads/2024-02-23-project-narrative.pdf

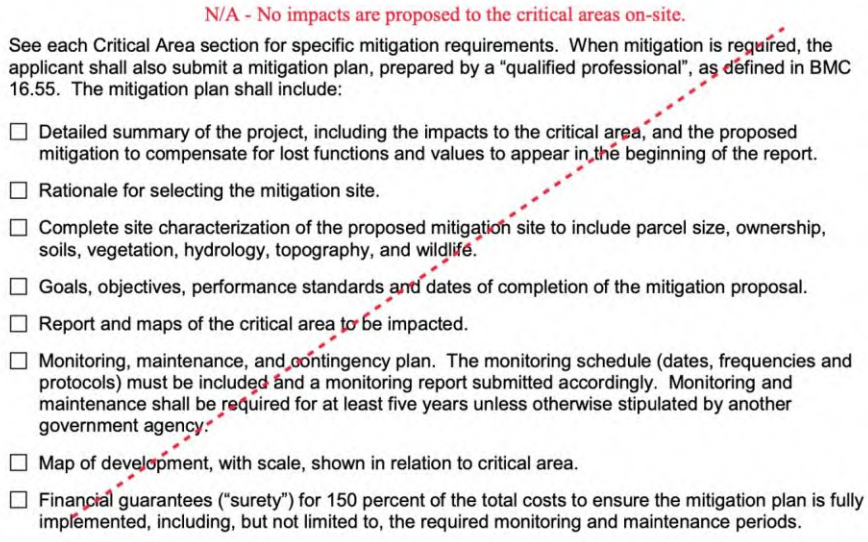
Discretionary Liberty #4: The applicant is requesting to circumvent the requirement that Modular Wetland System units selected for stormwater treatment management will not contribute to pollution discharged to Mud Bay.

Discretionary Liberty #5: The applicant has not met the city's *critical area report* requirements without any objection by the city. On the *Critical Area Report Checklist*, the applicant claims without supporting evidence: "*These items are not applicable as NO impacts to critical areas are proposed*".[4] On several occasions, city planners have requested the applicant submit clarifications and a site map that clearly delineates where building envelopes locations that are not encumbering hazard areas and their buffers. To date, the Administrative Record has no demonstration that 38 building envelopes can exist on the plat design without encumbering geohazards or their buffers.


These items are not applicable as NO impacts to critical areas are proposed.

- ☐ An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development;
- ☐ An analysis of site development alternatives including a no development alternative;
- ☐ A description of reasonable efforts made to apply mitigation sequencing pursuant to *Mitigation Sequencing* [Section 16.55.250] to avoid, minimize, and mitigate impacts to critical areas;
- ☐ Plans for adequate mitigation to offset any impacts, in accordance with *Mitigation Plan Requirements* (BMC 16.55.260) and additional requirements specified for each critical area.
- ☐ A discussion of the performance standards applicable to the critical area and proposed activity;
- ☐ Financial guarantees to ensure compliance; and
- ☐ Any additional information required for the critical area as specified in the corresponding chapter.

Discretionary Liberty #6: The applicant has submitted an inaccurate Mitigation Report Requirements Checklist without opposition by the city, which claims without supporting evidence "*N/A- No impacts are proposed to the critical areas on-site*"[5]. Building envelopes, roadway excavations, the proposed public path, wetland alterations, and improvements within critical areas will all present significant impacts to critical areas and most are not non-mitigable.


N/A - No impacts are proposed to the critical areas on-site.

See each Critical Area section for specific mitigation requirements. When mitigation is required, the applicant shall also submit a mitigation plan, prepared by a "qualified professional", as defined in BMC 16.55. The mitigation plan shall include:

- ☐ Detailed summary of the project, including the impacts to the critical area, and the proposed mitigation to compensate for lost functions and values to appear in the beginning of the report.
- ☐ Rationale for selecting the mitigation site.
- ☐ Complete site characterization of the proposed mitigation site to include parcel size, ownership, soils, vegetation, hydrology, topography, and wildlife.
- ☐ Goals, objectives, performance standards and dates of completion of the mitigation proposal.
- ☐ Report and maps of the critical area to be impacted.
- ☐ Monitoring, maintenance, and contingency plan. The monitoring schedule (dates, frequencies and protocols) must be included and a monitoring report submitted accordingly. Monitoring and maintenance shall be required for at least five years unless otherwise stipulated by another government agency.
- ☐ Map of development, with scale, shown in relation to critical area.
- ☐ Financial guarantees ("surety") for 150 percent of the total costs to ensure the mitigation plan is fully implemented, including, but not limited to, the required monitoring and maintenance periods.

[4] Combined Land Use Application / Critical Area Permit Application https://cob.org/wp-content/uploads/combined-application-form-20230620.pdf

[5] Mitigation Report Checklist https://cob.org/wp-content/uploads/combined-application-form-20230620.pdf

Discretionary Liberty #7: The applicant has submitted an inaccurate Off-site Analysis Report without opposition by the city. Consequently, off-site water quality, erosion, slope stability, and drainage impacts could not be analyzed by the public or planning staff.

The inaccurate and unsubstantiated off-site analysis submitted under §6.1.3 of the *Preliminary Stormwater Management Report* (SMR) does NOT comply with the Washington State Department of Ecology *Stormwater Management Manual for Western Washington* (Ecology Manual; p. 169) for intent and substance of the off-site analysis report: "*The objective of the off-site analysis report is to identify, evaluate, and determine measures to prevent off-site water quality, erosion, slope stability, and drainage impacts that may be caused or aggravated by a proposed project*." [6]

The applicant was requested to provide an Off-site Report for this project in the Pre-application Letter but, to date, has yet to submit this required report. "8) *Development projects that discharge stormwater off-site shall submit an off-site analysis report that assesses the potential off-site water quality, erosion, slope stability, and drainage impacts associated with the project and that proposes appropriate mitigation of those impacts… The analysis shall extend one-quarter mile beyond any improvements proposed as mitigation*. "[7]

The information submitted for Off-Site Analysis does not comply with the Ecology Manual §I-3.5.3 Off-Site Analysis Report. [8]

- The applicant determined that the proposed project will not adversely impact the existing stormwater systems but submits no substantiating evidence for such a claim.
- SMR §4 is not an off-site analysis.
- SMR §6.1.3 is not an off-site analysis.

Discretionary Liberty #8: The applicant has submitted an inaccurate soil survey report and faulty soils characterization for the site that the city has not objected to. The SMR states (p. 5, and Appendix 8.2): "*In the vicinity of the proposed site improvements soils consist mainly of Everett-Urban loam (Unit 52) with a hydrologic soil group rating B*." However, the polygon shown on page 9 of SMR Appendix 8.2 (PDF p. 30) misrepresents the project area. When an accurate polygon is applied, the soils consist mainly of Nati loam (Unit 110) with a hydrologic soil group rating C, which is inferior to Everett-Urban loam for erosion and infiltration. This is a major error and impacts the reliability of the Stormwater Management Plan.

Discretionary Liberty #9: the applicant has not submitted the required hydrogeologic assessment of the project site, and the city has not objected.

According to §5.8.4 of the Geotechnical Investigation, "The scope of work completed to date has not included direct monitoring of groundwater fluctuations through the wet season, or

[6] Washington State Department of Ecology *Stormwater Management Manual for Western Washington,* p. 169 https://apps.ecology.wa.gov/publications/documents/1910021.pdf
[7] Pre-Application Letter, Project Number: PRE2020-0012, page 9 #8
[8] Ecology Manual, p. 139

characterization of flow rates/volumes for subsurface water transmission. A hydrogeologic study has not been conducted at this site."

Hydrologic studies and assessment are necessary to determine stormwater runoff peak volumes and flow speeds required for water treatment BMP unit specifications. (The public and planning staff are directed to Section 4.4 of the SMR, but this section is omitted.) Water treatment units proposed for the project have been inaccurately sized, which will result in stormwater runoff bypassing treatment altogether and discharging into Mud Bay untreated.

Without hydrogeologic studies and calculations submitted, water quality and quantity impacts cannot be analyzed by the public or planning department.

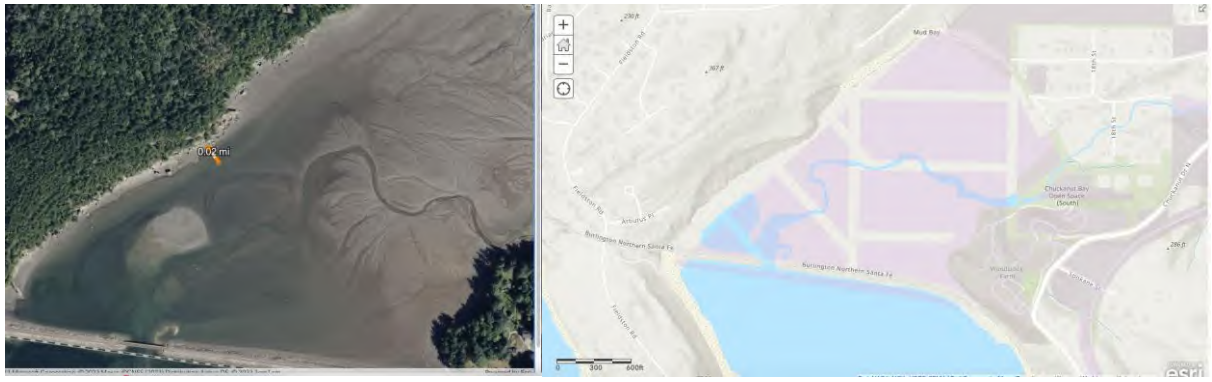
Discretionary Liberty #10: The applicant submitted a cursory Tree Survey Exhibit and Vegetation Management Plan (VMP) without any objection by the city. The applicant submitted simple one-page glossies, omitting analysis of the significant tree loss within Management Area #2. Total tree loss counts, impacts from such drastic tree loss, and mitigation plans are required for the public and planning staff to evaluate significance.

The (VMP) still does not identify which significant trees within both Management Area #1 and Management Area #2 are anticipated to be removed. One of the Action Items on page 4 of the 12/21/22 RFI requested the applicant to "*Either revise the VMP or provide additional documentation that identifies the number, species type and location of significant trees (> 6" diameter at breast height) within Management Area #2 …*" The RFI Response to this Action Item included the following:

> "*Please note that not all vegetation within Management Area #2 is proposed for removal (or will be removed)*." (p. 6)

Discretionary Liberty #11: The applicant has submitted plat designs showing 11 building lots taking access off one private roadway. Variance Exhibit K shows 8 lots for private road access variance; the Exhibit L Vegetation Management Plan shows 11 lots for this private road access variance. The city has not objected to this internal inconsistency.

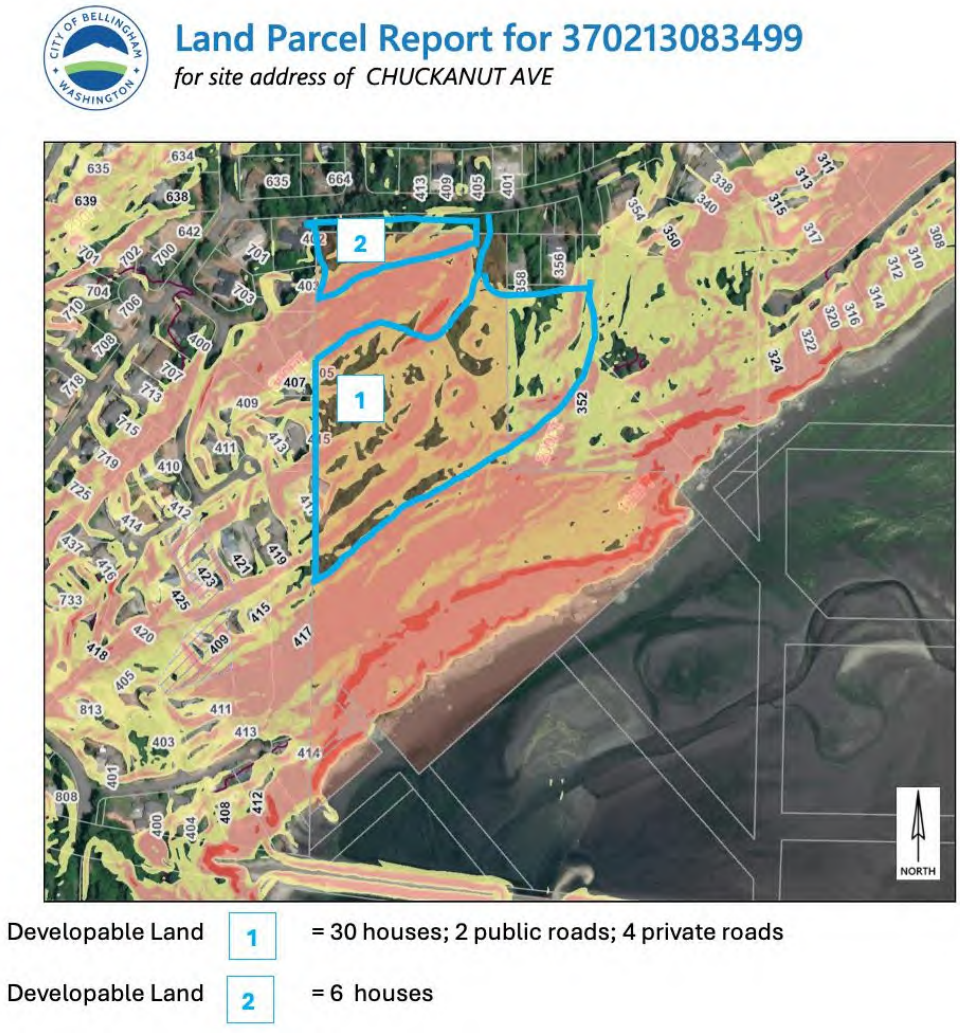
Discretionary Liberty #12: The applicant plans to dispose of polluted project runoff into Mud Bay within feet of the 303(d) impaired Chuckanut Creek that runs through Mud Bay without any objection by the city. Source: https://apps.ecology.wa.gov/coastalatlasmap



Discretionary Liberty #13: The applicant has claimed, with no evidence to support the claim and no objection by the city: *"The development will not increase surface water discharge or sedimentation to adjacent properties beyond predevelopment conditions."*

Discretionary Liberty #14: The applicant has claimed, with no evidence to support the claim and no objection by the city: "*The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties."*

Discretionary Liberty #15: The applicant has been allowed a discretionary interpretation of 'housing density' allowing the clustering of 36 homes and supporting infrastructure into the very small developable area of the property. This is not consistent with the Edgemoor Neighborhood Plan. South Edgemoor has large lots, primarily due to the existing difficult geomorphologic conditions and need for space along the hazard areas. The proposed project has eight lots under 11,000 sq.ft, and one lot less than 9,000 sq.ft. The area is zoned for lots to be at least 20,000 sq.ft.



Land Parcel Report Map, with Identified numbered areas inserted by PMBC

Discretionary Liberty #16: Instead of an official project map depicting BMC-defined critical areas, the applicant has been allowed to submit maps depicting a poorly defined area *defined by the applicant* as a 'geologically significant critical area'.

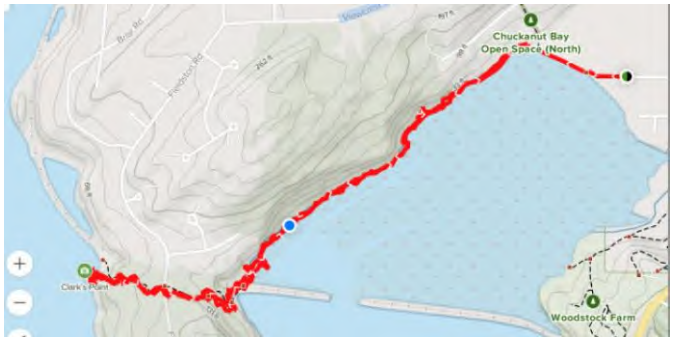
The applicant's-defined "geologically significant critical area" is NOT THE SAME as the BMC-defined Landslide Hazard Area (LHA) and buffer and Erosion Hazard Area (EHA) and buffer AND SHOULD NOT BE ALLOWED TO SUBSTITUTE FOR the required site maps designating City-defined LHA, EHA, and their buffers.

This project is required to submit a map showing all the very specific Bellingham code-defined Landside Hazard Areas (LHA) and buffers found on the property, *as well as* a map showing all the very specific Bellingham code-defined Erosion Hazard Areas (EHA) and their buffers, in addition to wetlands and buffers, roadways, lots, and lot building envelopes not encumbered by these critical areas. Such a map does not exist in the application materials.

Discretionary Liberty #17: The applicant has been granted discretionary liberties allowing the project's geologic soil and subsurface studies to be *conducted in the summer* - geologic soil and subsurface studies were conducted June 30 and July 1, 2020. The 2019 Stormwater Management Manual for Western Washington states that when new developments prepares a Stormwater Site Plan, "site visits should be *conducted during winter months and after significant precipitation* events to identify undocumented surface seeps or other indicators of near surface ground water."

Discretionary Liberty #18: The applicant plans to dispose of project polluted runoff at the Chuckanut Beach Trail, fouling the prized walking trail. The city has not objected. "*Impacts of stormwater flow across the tidelands below the stormwater discharge have not been evaluated*." (Exhibit C, p. 4) The Chuckanut Beach Trail currently suffers from polluted city stormwater discharged from Arbutus Road, and the proposed project will be discharging into this city conveyance system as well as a new overland disharge pipe and outfall extended down to the shoreline.

The Chuckanut Beach Trail



Fouling of Mud Bay Beach at city conveyance outfall from Arbutus

Discretionary Liberty #19: The applicant's SMR includesinaccurate TDA boundaries, which the city has not objected to. Post-developed TDA 3, which includes proposed Lot 10 and Lot 11, are out of compliance with BMC 15.42.060.F and will have their polluted stormwater runoff drain directly downslope into the S. Clarkwood neighborhood without treatment or flow control.

Discretionary Liberty #20: The applicant will be granted discretionary liberties when the City accepts the unrealistic Traffic Impact Analysis conducted during the Covid pandemic with schools, businesses, and offices closed and road traffic uncharacteristically absent.

Discretionary Liberty #21: the applicant will be granted discretionary liberties when allowed to be out of compliance with BMC 16.55.330A.2. A large volume of polluted runoff will be disposed into Wetland B buffer with no impact analysis conducted to support the alterations.

Discretionary Liberty #22: The applicant has applied to construct a public pathway through steep hazard areas (walkways >40% slope) and a wetland buffer without any objection from the city. Safety for the public has not been analyzed. Mitigation for critical area impacts has not been proposed.

CONCLUSION

The impacts caused by overlooking and/or disregarding the cumulative discretionary liberties granted to this applicant could be disastrous.

The Woods at Viewcrest applicant has applied for an excessive number of discretionary liberties that the city has not objected to. These significantly impactful discretionary liberties circumvent strict adherence to minimum code regulations and requirements of the Bellingham Municipal Code that are designed to ensure public safety and protect the environment. Some of the more egregious discretionary liberties applied for are likely to impose significant adverse environmental impacts, including:

- The project has applied to reduce natural buffers (areas left in their natural condition), which will increase risks from mass wasting. This project property has extraordinary amounts of steep and very steep slopes and rock outcrops throughout the developable land area.

- The applicant continues to demonstrate non-compliance with Building Envelope regulations under BMC 23.08.060.D.1 and the city has not objected.

- This project is required to have all stormwater managed on-site, collected and treated before discharged to a receiving water body. The applicant has not demonstrated compliance with BMC 15.42, and the proposal only addresses stormwater management from roadway impervious surfaces. Mud Bay will be significantly and adversely impacted in perpetuity from such disregard to project impacts to Mud Bay's water quality.

- The applicant has been allowed to omit submitting a Hydrogeologic Report with calculations and assessments required for managing drainage flow paths, volumes, and speeds.

- The applicant has been allowed to omit submitting an accurate Off-Site Analysis Report required to assess pre- and post-development impacts of property drainage to adjacent properties. Large volumes of runoff currently flowing NE from the property impacts/floods community neighbors, and post-developed plans will have this drainage collected and funneled into a small gravel spreader into Wetland B. Large amounts of drainage flowing W from the property is currently impacting/flooding community neighbors and post-developed plans show this flooding will be greatly exacerbated.

- The applicant has been allowed to omit submitting an accurate soils report and subsurface characterization for the property. Such information is required for determining the property's susceptibility to runoff, erosion, mass wasting, and slope instability.

Protect Mud Bay Cliffs appreciates the opportunity to provide public comment on *The Woods at Viewcrest* subdivision proposal. Please include this letter in the administrative record.

Sincerely,
Paul Brock · Ava Ferguson · Larry Horowitz · Wendy Larson
Janet Migaki · Gary Ranz · Brent Woodland
Protect Mud Bay Cliffs Coordination Committee Members
Info@MudBayCliffs.org

Attachment A: NASA Landslide Susceptibility for Proposed Development

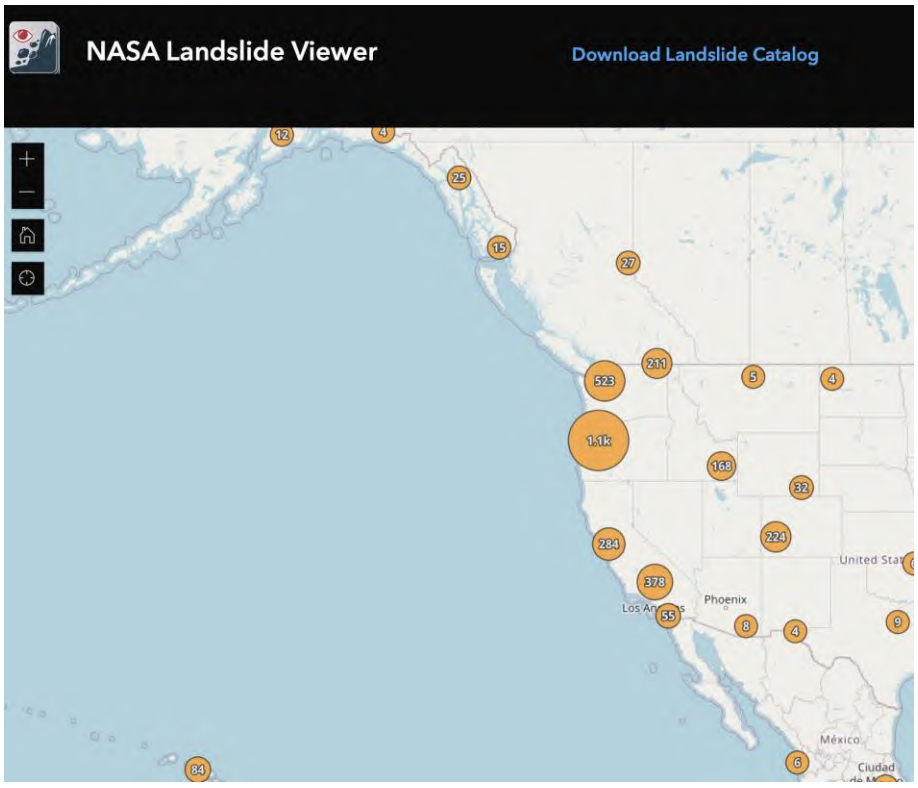
Steep slopes are an important factor making a landscape susceptible to landslides. Other key factors include deforestation, the presence of roads, the strength of bedrock and soils, and the location of area faults.

The post-developed property for this proposed project will be encumbered by not only steep and very steep slopes, but also increased amounts of deforestation and impervious surfaces.

NASA's Susceptibility Map

The NASA Susceptibility Map is a static representation of a terrain's potential for slope failure. The map includes five explanatory variables: slope, distance to fault zones, geology, presence of roads, and forest loss.

According to the NASA Landslide Susceptibility Map, the proposed property has a landslide susceptibility value of "HIGH".[9]



[9] https://maps.nccs.nasa.gov/arcgis/apps/experiencebuilder/experience/?id=29bd25e78fff45f0a6dbfd0328b4d03e

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT M

Protect Mud Bay Cliffs Organizing Committee Public Comment Issue Paper re: Wetland Protection & Mitigation

MudBayCliffs.org · Info@MudBayCliffs.org

Stormwater Outlet Structures & Bellingham's Mud Bay

QUESTION: Can a stormwater outlet structure be placed at the *ordinary high water mark*[1] (OHWM) of Bellingham's Mud Bay?

BACKGROUND

The Washington State Department of Ecology *Stormwater Management Manual for Western Washington* provides *Wetland Protection Guidelines* at Appendix I-C. Section I-C.6 *Compensatory Mitigation of Wetlands* states:

> It is always necessary to treat stormwater prior to discharge to a wetland and its buffer. Any required Runoff Treatment BMPs including the **outlet structure** must be provided **outside of the wetland and its buffer boundaries**. If outflow from a BMP or project site is concentrated, flow should be diffused **prior to discharge into the buffer**.[2] (Emphasis added)

The requirement that stormwater outlet structures must be placed outside of the wetland and its buffer is confirmed by the Department of Ecology *Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance* document. Chapter 8 *Stormwater and Wetlands* states:

> Stormwater needs to receive treatment prior to discharge to a wetland and its buffer. Any required stormwater management Best Management Practices (BMPs) including Runoff Treatment BMPs, Flow Control BMPs, and the **outlet structures** from stormwater facilities, must be provided **outside of the wetland and its buffer boundaries**.[3] Outflow from the stormwater facility or project site should be diffused **prior to discharge into the buffer**. (Emphasis added)

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[1] Dept of Ecology's definition of *ordinary high water mark* can be found at https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-Management-Act-SMA/Shoreline-Management-Act-jurisdiction/Ordinary-high-water-mark

[2] Dept of Ecology Stormwater Management Manual for Western Washington (July 2019) pg. 195 at https://apps.ecology.wa.gov/publications/documents/1910021.pdf

[3] Dept of Ecology Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance pg. 197 at https://apps.ecology.wa.gov/publications/documents/2106003.pdf

As detailed in a separate Protect Mud Bay Cliffs companion document, *Stormwater Flow Control & Bellingham's Mud Bay*, the vast majority of Mud Bay and its shoreline is comprised of Category I estuarine wetlands, including mudflats and saltmarsh.

City of Bellingham documents confirm that Mud Bay's wetlands provide a high level of function for wildlife habitat. Mud Bay has been determined to be Bellingham's "richest and most biologically diverse estuary"[4] that provides "the highest level of functions"[5] among the city's pocket estuaries.

Mud Bay's estuarine wetlands are regulated by the City of Bellingham's *Shoreline Master Program* (SMP), which requires a regulated buffer of 200 feet extending from the Mud Bay OHWM.

CONCLUSION & SUMMARY

The Washington State Department of Ecology *Stormwater Management Manual for Western Washington* and *Wetland Mitigation in Washington State Part 1* documents provide consistent guidance and regulations for stormwater discharged into a wetland and its buffer.

Each document states that outlet structures from stormwater facilities must be provided outside of the wetland and its buffer boundaries.

Due to the presence of Category I estuarine wetlands, a stormwater outlet structure cannot be placed at the *ordinary high water mark* of Mud Bay.

The placement of any stormwater outlet structure at Mud Bay's ordinary would violate Ecology's guidance and regulations. To comply with Ecology's regulations and the Bellingham SMP buffer requirements, a stormwater outlet structure would need to be placed 200 feet from the Mud Bay OHWM.

[4] Chuckanut Bay Shorelands webpage on City of Bellingham website at https://cob.org/services/recreation/parks-trails/parks-guide/chuckanut-bay-shorelands

[5] Management Recommendations for City of Bellingham Pocket Estuaries pg 8 at https://cob.org/wp-content/uploads/pocket-esturary-mgmt-recommendations-02.06.pdf

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT N

Protect Mud Bay Cliffs Organizing Committee
Public Comment Document re:
Summary of Application Deficiencies

The Woods at Viewcrest
Summary of Application Deficiencies

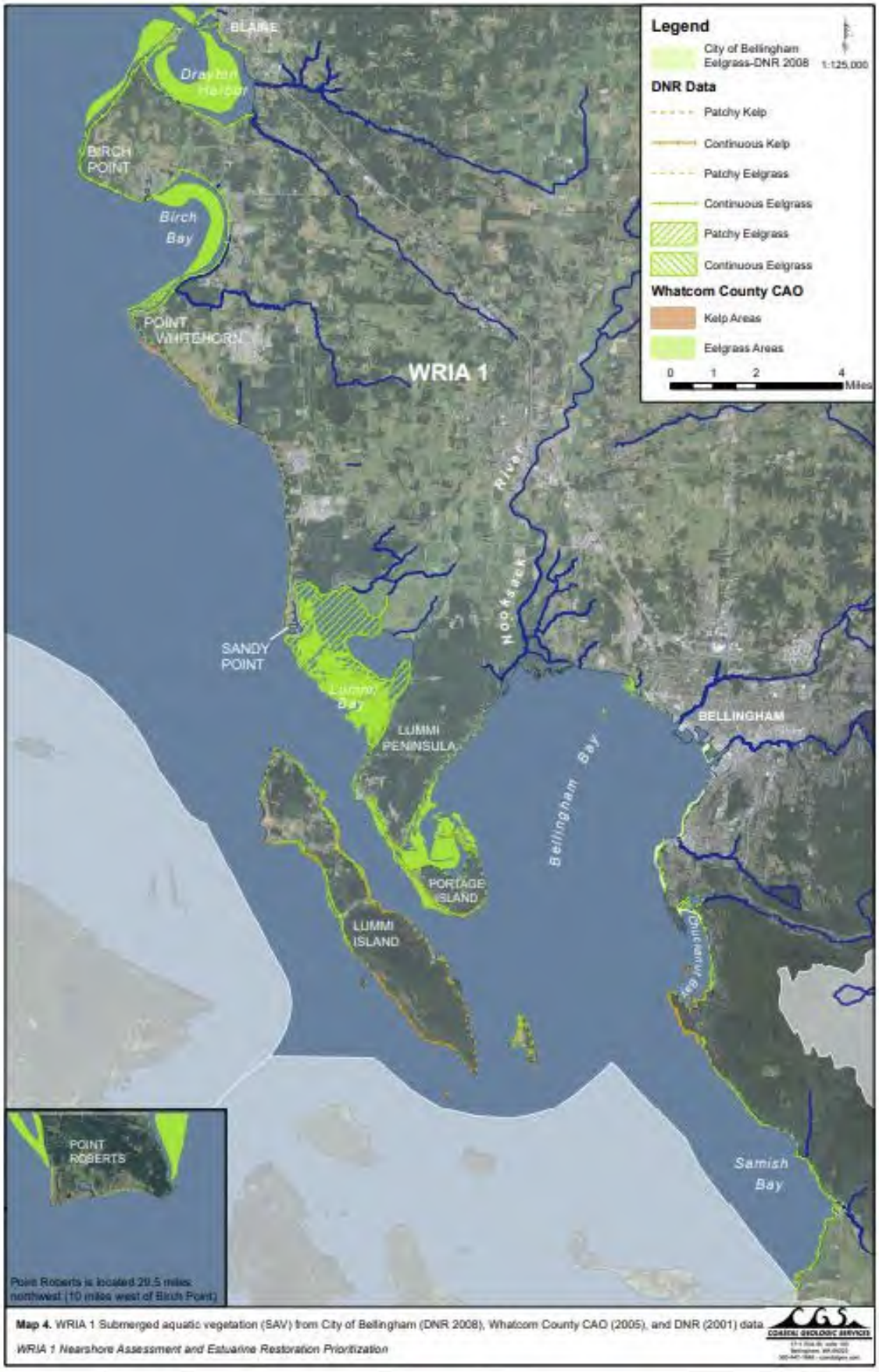
1) **WETLAND DELINEATION & CRITICAL AREAS SUMMARY**: The 2/24/22 Wetland Delineation Update & Critical Areas Summary contains several deficiencies and is unreliable.

   a) **Mud Bay is a Category I estuarine wetland**: The delineation's assertion that Mud Bay is not a wetland is erroneous and has major implications. The entirety of Mud Bay is designated as an estuarine wetland by the U.S. Fisheries and Wildlife Service's *National Wetland Inventory*. However, the wetland delineation erroneously claims that "Within 1,000 ft of the project area, Chuckanut Bay is an unvegetated, intertidal zone and does not meet wetland criteria." This false assertion regarding vegetation is contradicted by several sources:

      i) Expert opinion of John Rybczyk, Ph.D (See Exhibit E): John Rybczyk is an estuarine ecologist and professor at Western Washington University whose work focuses on coastal wetlands. In his 12/14/23 expert opinion letter, Dr. Rybczyk wrote, "I am very familiar with Mud Bay, I have been taking my Wetlands Ecology students there for the past 23 years… In my expert opinion, I concur with the National Wetland Inventory designations. I have also observed the native eelgrass, Zostera marina, growing in Mud Bay."

      ii) Map 4 on page 16 of the 1/17/13 WRIA 1 Nearshore & Estuarine Assessment & Restoration Prioritization, prepared by Coastal Geologic Services for the City of Bellingham, highlights *Submerged Aquatic Vegetation* (SAV) locations, including Eelgrass and Kelp areas, within WRIA 1. This map indicates the presence of Eelgrass in a large portion of Mud Bay along the shoreline of the project site, as depicted by green lines and green polygons in this magnified section of Map 4.

The entire Map 4 of Submerged Aquatic Vegetation (SAV) locations is presented below.



Map 4. WRIA 1 Submerged aquatic vegetation (SAV) from City of Bellingham (DNR 2008), Whatcom County CAO (2005), and DNR (2001) data

WRIA 1 Nearshore Assessment and Estuarine Restoration Prioritization

iii) The 2010 Critical Areas Reconnaissance & Delineation Report prepared by Pacific Ecological Consultants states, "Mud Bay is mapped with the following Priority Habitats: **Eelgrass**; Turf Algae; Potential Smelt/Sand Lance Spawning Areas; and, Hardshell Intertidal Clam. (Emphasis added; Page 4, Section 4.1.4 WDFW PHS Map)

iv) Table 2 on page 7 of the 2006 Recommendations for City of Bellingham Pocket Estuaries document prepared by Northwest Ecological Services indicates the existence of eelgrass within the Chuckanut Creek Pocket Estuary (aka Mud Bay).

b) **Wetland A is a Category III wetland**. The 2010 Critical Areas Reconnaissance & Delineation Report correctly classifies Wetland A as a Category III wetland (Pages 1 and 7) and notes that "Habitat functions are increased by the proximity to Mud Bay and the buffer provided by the undisturbed upland forest. The wetland has snags and logs that provide habitat." The 2022 Wetland Delineation Update erroneously classifies Wetland A as a Category IV wetland (Page 3) based on inaccurate scores for Water Quality (S 1.3 and S 3.2) and Hydrologic Functions (S 6.1).

i) S 1.3 Slope Wetland Water Quality Functions / Site Potential: Based on the photos of Wetland A included in the delineation update and shown below, *Dense, uncut, herbaceous plants* cover **> 90%** of the wetland area, not simply **> ½** of area as indicated. Correcting this response increases the Water Quality Site Potential score from 3 to 6 and from L to M, the Water Quality Rating from 4 to 5, and the Total Rating from 14 to 15.

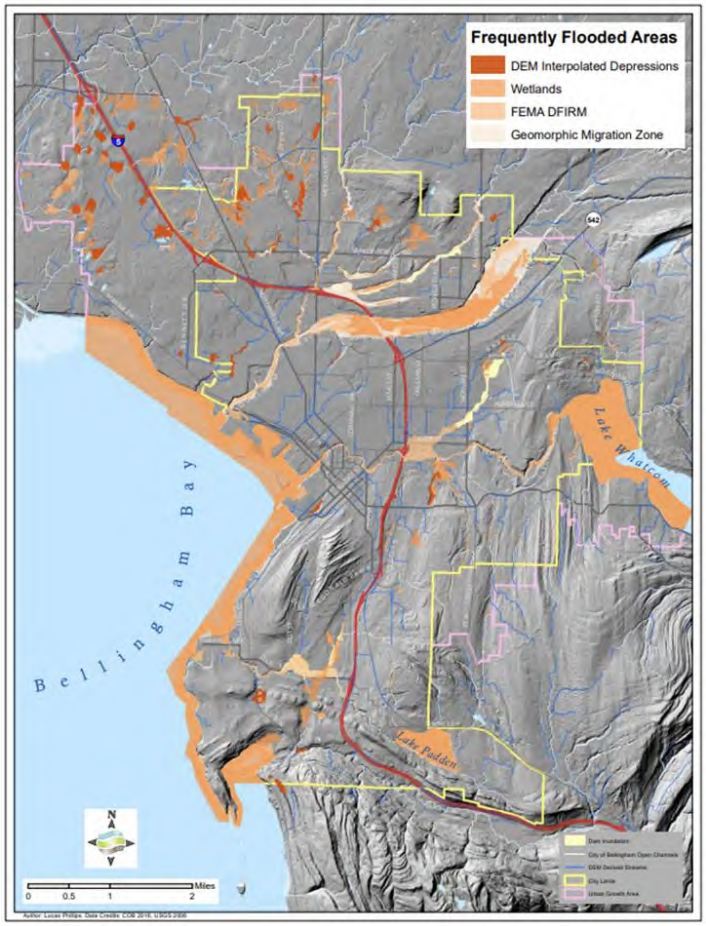
Overview of Wetland A, looking west

Overview of Wetland A, looking northwest

ii) S 3.2 Slope Wetland Water Quality Functions / Value: The delineation update erroneously claims that Wetland A is not "*in a basin or sub-basin where water quality is an issue*;" however, Chuckanut Creek is in the same basin and is on the 303(d) list. Additionally, the water quality of the Mud Bay estuary has always been an issue. The correct response to S 3.2 is 'yes', which increases the Water Quality Value score from 0 to 1 and from L to M, the revised Water Quality Rating from 5 to 6 and

the revised Total Rating from 15 to 16. (See i above) With a revised rating of 16, Wetland A is a Category III wetland.

iii) S 6.1 Slope Wetland Hydrologic Functions / Value: The delineation update erroneously claims that there are "*No flooding problems anywhere downstream*" of Wetland A. In fact, Mud Bay and the Chuckanut Village saltmarsh are depicted as *Frequently Flooded Areas* on page 15 of the 2017 Frequently Flooded Areas Assessment prepared by Element Solution for the City of Bellingham. Additionally, homesites within Chuckanut Village had flood waters reach their decks in November 2021 during the same storm event that flooded and wiped out the 19th Street Bridge over Chuckanut Creek. The correct response to S 6.1 is 2 (and no less than 1), which would increase the Hydrologic Value score from 0 to 2 (and no less than 1) and from L to H (and no less than M), and the revised Total Rating from 16 to 18 (and no less than 17). (See ii above) With a rating of 18 (or 17), Wetland A is a Category III wetland.

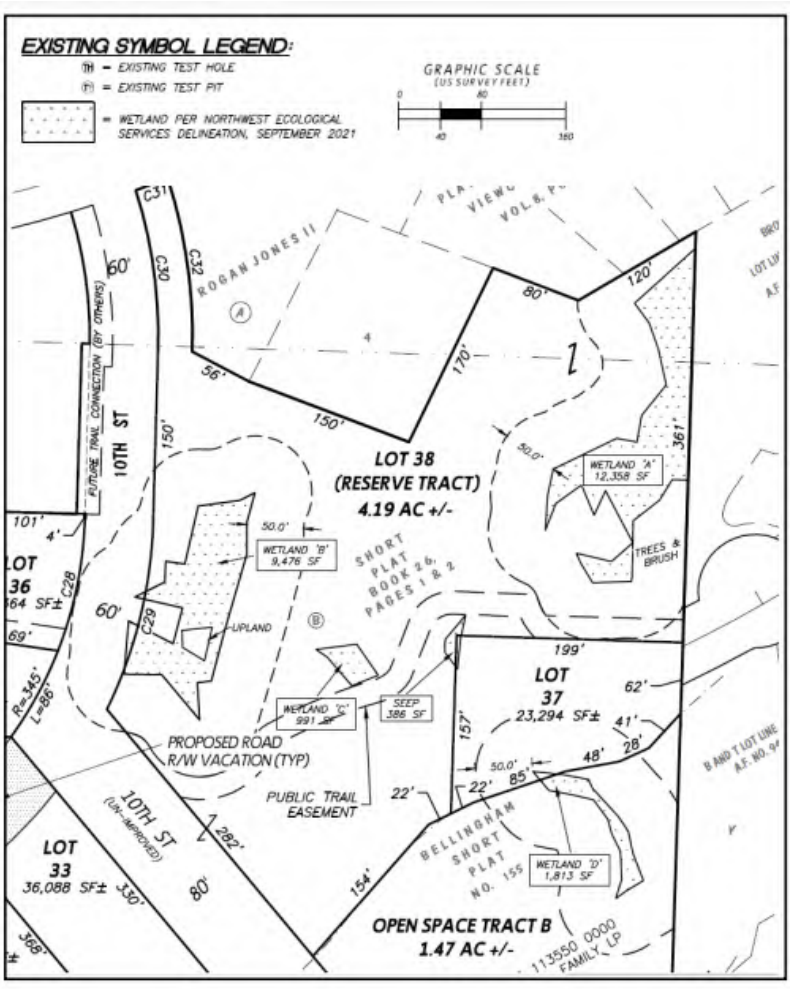


iv) Wetland A Revised Buffer Width is 150 feet: According to BMC 15.55.340.B.2 (Table 16.55.340(B), the Buffer Width for a Category III wetland with a habitat function score of 5 to 7 points within a High Intensity development zone is 150 feet.

Table 16.55.340(B)

	Buffer Width (feet)		
	High Intensity	Moderate Intensity	Low Intensity
Category I	150	110	75
Category II	150	110	75
Category III	150	100	60
Category IV	50	40	25

Based on the *Wetlands Survey Map* (Figure 3) of the delineation update, which reflects an erroneous 50-foot buffer for Wetland A, the correct buffer of 150 feet would preclude development of Lot 37.



NORTHWEST ECOLOGICAL	Wetlands Survey Map (PSE)	Figure 3
	The Woods at Viewcrest Critical Areas Update	SEPT 2022

c) **Timing of site visits**: The three site visits for the 2022 Wetland Delineation Update were all conducted during the dry season on 6/22/20, 6/26/20 and 8/31/21, during which time seasonal seeps, seasonal ponding, seasonal inundations, seasonal flooding, seasonal outlet flow, seasonal water inflow, and seasonal vegetation would not likely be detected. By contrast, the 2010 Critical Areas Reconnaissance & Delineation Report states, "Our reconnaissance and wetland delineation occurred during the typical wet season for this region." (Emphasis added) Site visits exclusively during the dry season is a major deficiency that causes the delineation update to be unreliable for determining the presence of wetlands, streams, seeps, priority species, habitats, and habitat conservation areas in order to evaluate likely adverse impacts to these critical areas and wildlife.

2) **DRAINAGE, STORMWATER MANAGEMENT & HYDROLOGY**: The 12/4/23 Preliminary Stormwater Management Report (SMR) is not consistent with BMC 15.42, the 2019 Department of Ecology Stormwater Management Manual for Western Washington (Ecology Manual) and/or *Minimum Requirements* (MR) of BMC 15.42.060.F and Ecology Manual Section I-3.4.

a) **MR #8 (*Wetlands Protection*)** (BMC 15.42.060.F): The SMR does not comply with MR #8 in terms of runoff discharged into the Mud Bay Category I wetlands. (See 1.a above) Because Mud Bay is a Category I wetland, certain Department of Ecology requirements must be adhered to when designing a stormwater management system for runoff from *The Woods at Viewcrest* Threshold Discharge Area (TDA) 2 that will discharge directly or indirectly into Mud Bay. These requirements include:
   i) The outlet structures from stormwater facilities must be provided outside of the wetland and its buffer boundaries;
   ii) Outflow from the stormwater facility or project site should be diffused prior to discharge into the buffer;
   iii) Wetland Hydroperiod Protection to avoid excessive hydrologic alteration of existing wetlands from development must be provided; and
   iv) Flow Control Best Management Practices (BMPs) must be provided because stormwater cannot be discharged directly into a Category I wetland.

   For more information, see Exhibit M regarding stormwater management wetland mitigations.

b) **MR #7 (*Flow Control*)** (BMC 15.42.060.F): The SMR plans to discharge stormwater runoff from TDA 2 directly into Mud Bay. The SMR does not comply with MR #7 because no on-site flow control BMPs as required by MR #7 are implemented for stormwater runoff from TDA 2. For more information, see 2.a.iv above and Exhibit M.

c) **MR #4 (*Preservation of Natural Drainage Systems and Outfalls*)** (BMC 15.42.060.F: The SMR does not comply with MR #4 because MR #4 requires that natural drainage be

maintained to the maximum extent possible. Currently, natural drainage from higher elevations in TDA 1 discharges downgradient, north west, to city stormwater conveyance pipes along Viewcrest Road. The project design for post development drainage has designated these higher elevations as part of TDA 2 that discharges into Mud Bay.

Existing pre-development natural drainage area for TDA 1 is a little over 7 acres. The post-development discharge area for TDA 1 is considerably less at under 4 acres. Post-development acreage for TDA 2 will increase more than 20% from pre-development acreage indicating that natural drainage has not been maintained.

In addition, the SMR claims that stormwater runoff from a section of the northern portion of the site will be routed to the Viewcrest Rd detention vault; however, based on contour lines, a portion of this runoff will be discharged onto Viewcrest and will not be retained by the detention as the runoff will flow north and east rather than west. The area to the north and east is known to flood frequently; the additional runoff to this frequently flooded area is a major adverse impact.

d) **MR #5 (On-Site Stormwater Management)** BMC 15.42.060.F: The SMR does not satisfy the standard requirement to address stormwater management requirements for the entire plat, including the individual lots, as established by Ecology's stormwater permit guidance documents. (Controlling runoff Question 2) For *Other Hard Surfaces*, the SMR (pages 16-17) claims that all of the following Stormwater Management BMPs are infeasible because the soils are unsuitable for infiltration and because the necessary vegetative area or flow path does not exist. Consequently, the SMR does not indicate how MR #5 is met.
   i) Full Dispersion
   ii) Permeable Pavement
   iii) Bioretention
   iv) Sheet Flow Dispersion and Concentrated Flow Dispersion

The SMR does not explain how lot-specific runoff control will be managed, especially for lots downgradient from the public and private roads. The information provided by the SMR is insufficient.

Additionally, the application materials are internally inconsistent. As noted, the SMR states that dispersion is not feasible; however, the Geotech Report makes this recommendation: "*Divide dispersion to utilize several areas so that stormwater release is not excessive at any one area…*" If dispersion is infeasible, then dividing dispersion is also not feasible. This internal inconsistency is a major flaw impacting the reliability of these reports.

e) **MR #6 (Stormwater Treatment)** BMC 15.42.060.F: The SMR does not meet the requirement for utilizing Modular Wetland System (MWS) devices because:

i) The project plans and documents are internally inconsistent and disagree on the number of MWS devices and their locations. Certain documents indicate two devices while others indicate three.

ii) The modular wetland devices being proposed by the applicant are inadequate. Project maps depict a 4'x 8' device (with 1.25 acre contributing drainage area capacity) and an 8' x 8' device. The largest modular wetland devices on the market can handle approximately 5 acres. Due to the inadequate facilities, polluted runoff will adversely impact properties downgradient, including the sensitive marine environment of Chuckanut Village Marsh and Mud Bay.

iii) Section 5.5, which is referenced on page 17 Section 6.6 of the SMR, is missing. Section 5.5 is the essential data substantiating the applicant's assertion that the project's proposed modular wetland devices are designed and sized correctly for effective runoff treatment. This omission represents a significant flaw.

iv) The SMR fails provide a 5-year stormwater management facility maintenance program regarding maintenance of the proposed stormwater management system, including the proposed modular wetland systems as required by BMC 22.08.210.B.6. The SMR also fails to recognize the city's lack of maintenance of the existing oil/water separator on Arbutus Place and how this will impact maintenance of the project's stormwater management system.

f) **Soils**: Section 4.3 on page 5 and Appendix 8.2 of the SMR indicates that "*In the vicinity of the proposed site improvements soils consist mainly of Everett-Urban loam (Unit 52) with a hydrologic soil group rating B*." However, **the polygon shown on page 9 of Appendix 8.2 (PDF page 30) misrepresents the project area**. When an accurate polygon is applied, **the soils consist mainly of Nati loam** (Unit 110) with a hydrologic soil group rating C, which is inferior to Everett-Urban loam for erosion and infiltration. This is a major error and impacts the reliability of the SMR.

g) The SMR is *preliminary* in both title and content: As addressed in Brent Woodland's 4/15/24 comment letter and Project Management Assessment (Exhibit F), the 12/4/23 SMR "*lacks sufficient detail to assess and address potential significant stormwater impacted on developed areas, shoreline buffer, or Mud Bay… The quantitative scientific detail is not sufficient to assess the Critical Areas impacted by the proposed development. Furthermore, evaluation and mitigation of the significant impact on Mud Bay estuary and buffer zone are completely missing from the report*."

h) **Outdated Ecology Manual is still being followed**: The 12/21/22 RFI (page 5) requires the applicant to revise the 10/19/22 SMR (Section 6.1.5, pages 9-10) to reflect current requirements of the 2019 Ecology Manual (Section III-3.2 Step 5 on pages 472-476).

Although revised 12/4/23 SMR (Section 6.1.5, page 8) correctly references the appropriate section of the current 2019 Ecology Manual, **Sections 6.1.5(1) through 6.1.5(6) still do not comply with the requirements of the 2019 Ecology Manual** and continue to erroneously reflect the steps outlined in the outdated 2005 Ecology Manual. (Section 3.1.5, Volume I, pages 3-3 to 3-5). As illustrated below, three sections from the 2019 Ecology Manual are missing from the SMR, including Summary Section, Low Impact Development Features, and Source Control. The failure to adequately respond to the 12/21/22 RFI and comply with the current 2019 Ecology Manual, as required by BMC 15.42.

2019 Ecology Manual	**2005 Ecology Manual & SMR**
EXISTING SITE HYDROLOGY	EXISTING SITE HYDROLOGY
DEVELOPED SITE HYDROLOGY	DEVELOPED SITE HYDROLOGY
SUMMARY SECTION	
PERFORMANCE STANDARDS AND GOALS	PERFORMANCE STANDARDS AND GOALS
LOW IMPACT DEVELOPMENT FEATURES	
FLOW CONTROL SYSTEM	FLOW CONTROL SYSTEM
RUNOFF TREATMENT SYSTEM	WATER QUALITY SYSTEM
SOURCE CONTROL	
CONVEYANCE SYSTEM ANALYSIS AND DESIGN	CONVEYANCE SYSTEM ANALYSIS AND DESIGN

i) The 12/4/23 SMR contains the outdated 11/3/21 Geotechnical Investigation as Exhibit 8.3 on page 40 of the SMR PDF, which was replaced by the current 10/6/22 Geotechnical Investigation. It's unclear whether the 12/4/23 SMR has taken into consideration any changes in the Geotechnical Investigation. Failure to reference the current version of the Geotechnical Investigation is a potential major flaw of the SMR.

3) **GEOHAZARDS**: Due to the following deficiencies, the 10/6/22 Geotechnical Investigation & Geohazard Report (Geotech Report) is not sufficient for continued processing of the Woods at Viewcrest applications.

a) **Feasibility-Only Analysis**: The Geotech Report (Page 2, Section 1.3) is a "feasibility-level geotechnical evaluation and large-scale geologic hazard assessment." As addressed in Brent Woodland's 4/15/24 comment letter and Project Management Assessment (Exhibit F), "*The use of Feasibility as a construction industry project term implies that further study or examination is expected prior to project commitment/implementation*."

Mr. Woodland, who has extensive professional project management experience, concludes that (1) additional evaluation is required beyond the feasibility scope and (2) because of the higher than typical risks inherent in the Woods at Viewcrest proposal, further engineering is needed. The information provided by the Geotech Report is insufficient.

b) **Hydrogeologic Study**: the 10/6/22 Geotechnical Investigation & Geohazard Report confirms that, "*A hydrologic study has not been conducted at this site. The information and commentary provided is intended only for planning purposes*…" (Emphasis added) This is a major omission given the likelihood that development of the project site will impact the current hydrologic condition and "alter the probability, frequency and magnitude of mass wasting (landslide) activity."

c) **Individual Lot Examination**: The Woods at Viewcrest application requests the City to expand development capacity from 4 lots to 38 lots. The City should not approve an application for additional lots unless the City has sufficient information to determine that these lots can accommodate the construction of residential units. Because the Geotech Report (Page 23, Section 4.4.3) "is not intended to serve as a detailed examination of the conditions on individual lots," it does not provide sufficient information for the City to continue processing an application to subdivide the 4 existing lots into 38 lots. In light of the geohazards and geotechnical risks, doing so will invariably lead to takings claims when subdivided lots cannot accommodate a residential unit.

d) **Bias**: The Geotech Report is strongly biased in favor of the Woods at Viewcrest high-risk development proposal. For example, the Geotech Report states, "We anticipate conventional design and construction practices will be suitable for this project, assuming a typical level of risk is acceptable." (Page 24, Section 5.1) This statement is entirely unfounded based on the fact that the Geotech Report is a feasibility-only analysis lacking any evaluation of individual lots. This bias is reflected throughout the Geotech Report. Because of this strong bias, the report in unreliable on its face.

e) **Test Pits**: The 2019 Ecology Stormwater Manual (page 731) states that soil / subsurface test pits and infiltration rate testing should occur between December 1 and April 1 (the "wet season"). However, according to the Geotech Report (Page 7, Section 3.1), the **test pit investigations were conducted during the dry season**, on 6/30/20 and 7/1/20. **Consequently, the city should use caution before relying on the findings of these test pit logs and laboratory testing**. The applicant should be required to conduct test pit investigations during the wet season, as recommended by the Ecology Manual.

f) **Outdated Plans and Maps**: The 10/6/22 Geotech Report was not updated in response to the City's 12/21/22 RFI. The *Project Area & Lot Layout* (Figure 2 on PDF page 54) and the *Percent Slope Map & Lot Layout* (Figure 3B on PDF page 56) are **outdated and do not reflect changes made to the project plans**.

g) **LIDAR**: The Geotech Report includes a LIDAR image as Figure 4 on page 57 of the PDF. The City should require the applicant to provide a LIDAR image with an overlay of the revised site plan and building envelopes. This information should be displayed both with and without contour lines. **This information is essential to understand how Landslide Hazard Areas will be impacted**.

4) **LANDSLIDE & EROSION HAZARD AREAS AND THEIR BUFFERS**: The *Proposed Building Envelope & Existing CAO Areas* plan on Sheet 5 of the Project Plans reveals that **the City's requirements under BMC 16.55.460.A.1 for Erosion & Landslide Hazard Area buffers have not been met**. The plan fails to indicate either the Minimum Buffer (greater of 50 feet or height of the slope) or the Buffer Reduction (minimum of 10 feet). Because of these omissions, the project plans do not meet the City's submittal requirements and increase the likelihood of erosion, landslides and rockslides.

5) **CRITICAL AREA PERMIT APPLICATION & CHECKLIST**
   a) The Critical Areas Application Checklist claims that no impacts to critical areas are proposed; however, there will be impacts to wetlands onsite and the Mud Bay estuarine wetlands, geologically hazardous area buffers, and fish & wildlife conservation areas. The boxes on the checklist should not be left blank.
   b) The Checklist is missing the mitigation plan that's needed for impacts to all critical areas listed above.

6) **SEPA CHECKLIST DEFICIENCIES**: See Exhibit K for a complete list of SEPA Checkist deficiencies.

7) **TRAFFIC**: See Exhibit G for a complete analysis of adverse traffic and transportation impacts and deficiencies of the Traffic Impact Analysis (TIA)**.** The applicant's Traffic Impact Analysis (TIA) is inadequate and flawed due to issues with scope and timing of data collection, and with methodology. These issues are of a magnitude such that they cannot be compensated for by making adjustments to, or extrapolations from, the data provided, while at the same time protecting the public's interests in traffic safety. The TIA data and methodology include these deficiencies:
   a) Traffic data collection occurred on just one weekday during the COVID pandemic when Phase 2 "stay-home" orders were in effect and nonessential travel was limited, so traffic was extremely different due to highly unusual conditions;
   b) The assumption that traffic data should be collected for just one of the multiple impacted access streets and intersections is profoundly flawed because it is likely subdivision-related traffic would utilize safer alternate streets with similar drive times;
   c) It is based on 38 single-family units; however, the project has the capacity for 38 quadplexes totaling 152 multi-family units;

d) It fails to consider the lack of on-street parking coupled with narrow road widths that will create unsafe conditions and not allow for any visitor parking – noting the substandard streets around the proposed subdivision also fail to meet standard Parking requirements, and would be unsafe and inadequate for "spillover" parking; and
e) It fails to analyze the impacts on the substandard Edgemoor streets with known public safety issues that will be used for Access by this subdivision, including the readily foreseeable unnecessary burdens and safety hazards for Edgemoor residents reliant on substandard streets which generally lack standard Driving Lanes, Parking, and Sidewalks.

8) **WILDLIFE HABITAT ASSESSMENT** See Exhibit H for additional details. The Wildlife Habitat Assessment is incomplete, inaccurate, and misleading. Some of the deficiencies include:
   a) The wildlife inventory provided is not quantitative, nor qualitatively credible, as a result of flawed assumptions, scope, data collection, and methodology. It is an entirely inadequate analysis of this Important Habitat Hub and Area and Valued Ecosystem Component of the Salish Sea and WRIA 1.
   b) It fails to accurately characterize this site as a designated terrestrial Important Habitat Hub and Area, and a critical central part of a documented important, valuable Wildlife Network. It completely fails to consider or to assess the reasonably foreseeable significant negative impacts of the proposed subdivision development to the site as an Important Habitat Hub and Area, and to the surrounding Wildlife Network habitats.
   c) It fails to accurately characterize the mature, natural coastal forest habitat of this site as rare and exceptional, and as a Valued Ecosystem Component of the Salish Sea and WRIA 1. It glaringly mischaracterizes the reasonably foreseeable loss and degradation of this coastal forest habitat. It completely fails to consider or to assess the likely significant negative impacts of the proposed subdivision development to the surrounding wetlands, mudflats, and marsh habitats and wildlife, including the adjacent Category I estuarine wetlands.
   d) Collectively, these deficiencies plus others covered in Exhibit H are substantial, and include information required (i) in order to make a SEPA threshold determination, and (ii) to determine if the plans could be in compliance with BMC 22.09.090 and BMC 22.08.04.The Wildlife Habitat Assessment appears unreliable as it fails to include a bald eagle nest in a tree on The Woods at Viewcrest property that is in plain sight from the shoreline.

9) **PUBLIC TRAIL EASEMENT / 10th STREET VARIANCE**: The 12/21/22 RFI (Page 2) indicates that the City is "likely to recommend that an approval of the variance associated with 10th Street should be conditioned to require construction of the public trail [to Sea Pines Road] … in lieu of the pedestrian facility that would have otherwise been associated with the street construction."

   According to the 5/31/23 letter from Sea Pines Road residents Rud Brown, Sheila Kyle-Browne, and Greg Gudbranson, **the public trail to Sea Pines Road should be completely abandoned because it "would pose an extreme safety hazard** that will ultimately result in serious injury or death of a cyclist or runner, due to the location of its entry onto Sea Pines

Rd." The letter provides details of their concern and references the AASHTO Guide for the Development of Bicycle Facilities (2012), which is listed as a primary resource relied on by the City when developing the Bellingham Bicycle Master Plan.

Because the proposed trail poses a public safety hazard, in a third RFI, the City should require the applicants to include the pedestrian facility that the trail was intended to replace.

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT O

Larry S. Horowitz
Public Comment Letter to Mayor Lund re: Public Safety

Larry Horowitz

212 Sea Pines Road · Bellingham, WA 98229

January 12, 2024

Mayor Kim Lund
City of Bellingham
210 Lottie Street
Bellingham, WA 98225
Via Email

Copy Via Email:
Blake Lyon, Planning & Community Development Department Director

Re: *The Woods at Viewcrest* · The issue of Public Safety

Dear Kim,

Congratulations on becoming Bellingham's newest Mayor. I hope serving as Mayor is both a rewarding and joyful experience. As I mentioned to Blake in a meeting yesterday, when Dan Pike was first elected, he told me that his first weeks in office felt as if he was trying to sip water from a fire hose. I have no doubt you have your hands full.

With the understanding that you have more to do than you have time to do it, I am writing to follow up on a personal email I sent to you on June 6, 2023, after you announced your mayoral candidacy. As you may recall, I was shocked and disappointed that Mayor Seth Fleetwood refused to meet with several of us regarding an issue involving public health and safety. I had asked how you would handle the situation when you were elected Mayor. Unfortunately, the situation I wanted to discuss with Seth has never been resolved and is just another issue you've inherited from his administration.

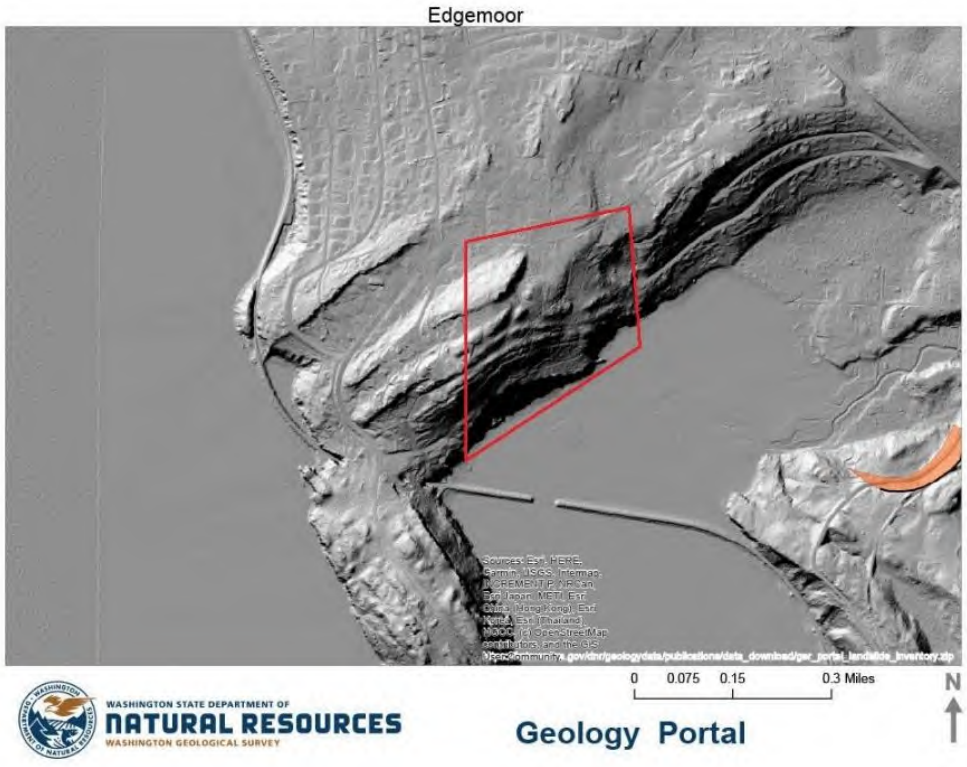
As I described in my June email to you, two homes in the recently approved Hidden Canyon Estates subdivision in Draper, Utah had just collapsed in a landslide and slid down the hillside. The homes were built on steep slopes in landslide hazard areas (LHAs) very similar to the LHAs on *The Woods at Viewcrest* property. Experts have claimed that the landslides were preventable. The City of Draper claimed that they had to rely on the developers technical reports and either failed to - or chose not to - require an independent, objective environmental impact statement (EIS). The homebuilder, Edge Homes, released a statement following the slide that "despite all the engineering and quality control efforts," the retaining wall and hillside slope "experienced a complete failure."

It is well understood that ensuring public health and safety is a primary role of government and the ultimate responsibility of the mayor of a city. To say the least,

Seth's refusal to accept that responsibility was disappointing. Our goal in meeting with Seth was to help him understand the need to require independent and objective technical reports to evaluate the potential adverse environmental impacts of *The Woods at Viewcrest* proposal. The risks are far too great to rely on biased - and in many cases inaccurate and incomplete - reports by firms hand-picked by the developer. One of my tennis friends, who's an engineering geologist and reviewed the project's geotech report, confided in me that a firm would never be hired unless their report supported the proposal.

Since you and I have lived on the same street for the past 17 years, you are well aware of the geology of the cliffs overlooking Mud Bay. Naturally, the homes that will be built on the Jones property have some serious engineering issues to overcome. But what about those of us who live adjacent to the project?

This LIDAR image illustrates how connected the Jones property is to where you and I live. Whatever happens there won't be confined within these red lines. Impacts will be felt in all directions. As you may know, one of our neighbors already experienced major foundation cracks that required complex and expensive repairs.



During the construction and build-out of the subdivision, existing neighbors will be forced to endure the repetitive blasting and industrial rock-breaking for years to come. The impacts will be hard to predict. Each rock blast and hammering has the potential to topple blocks along weak jointing planes, as is already occurring without any blasting or rock-breaking.

This image from page 15 of the 2009 Geologic Feasibility Investigation prepared for the Jones family provides evidence of toppling of blocks that failed along jointing planes.

Photo of a bedrock cliff showing evidence of "toppling" of blocks that failed along jointing planes. The blocks did not travel beyond 20 feet down-slope from the outcrop from which they originated.

I have no doubt that during your walks along Mud Bay's shoreline you've seen firsthand how unstable these cliffs are. Those boulders on the beach – and the pistol-butted and S-shaped tree stems along the cliffs – are clear evidence of instability and landslide creep.

When Seth was Mayor, he refused to meet with us because “The Bellingham Municipal Code is clear that the Mayor has no role to play in this process.” I disagree.

As the City’s Chief Executive & Administrative Officer, the Mayor is ultimately responsible for the public safety of Bellingham’s citizens. The issue at hand is public safety. I am certain that the citizens of Draper, Utah do not care what the Draper Municipal Code says about their mayor’s role. Draper’s citizens are looking to their mayor to explain why Draper did not require an EIS, a process that had the potential to honestly identify the actual risks of building on steep, unstable slopes.

The obvious lesson that Bellingham can learn from Draper is to be absolutely certain to gather sufficient independent and objective information about the potential risks of a proposal on properties that contain substantial geologically hazardous areas, including erosion hazards, landslide hazards, and seismic hazards. The Jones property is littered with all three.

Although the City is always wary of lawsuits, I believe the City can take steps to protect both the public and the municipal corporation. Let's make sure we pursue objective and independent information as the City of Draper, Utah now wishes they had. We can learn from their mistakes so we don't commit them ourselves.

I am in no way suggesting that you interfere with the Planning Department’s application review process. Rather, I am suggesting that you do whatever you can to ensure Bellingham’s citizens don’t experience what Draper citizens have learned the hard way:

- Relying on biased, misleading and inaccurate information only leads to disaster.

The Planning Department’s review of *The Woods at Viewcrest* applications will soon be approaching the point where a SEPA Threshold Determination, which potentially triggers the requirement for an EIS, will be made.

Time is of the essence to ensure the public safety of Bellingham’s citizens.

You and I never did have a conversation that I wrote to you about in June. I hope now that you’ve been elected – and once you are able to come up for air - we can.

Again, congratulations on running a successful campaign. You have my full support and well wishes.

Warm regards,
Larry Horowitz

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT P

Rud & Sheila Browne / Greg Gudbranson
Public Comment Letter re:
Public Access Trail Easement

Rud Browne
315 Sea Pines Road
Bellingham, WA 98229
360-820-9494
Rud@RudBrowne.com
PID 18717 / 3702121400030000

Sheila Kyle-Browne
315 Sea Pines Road
Bellingham, WA 98229

Greg Gudbranson
311 Sea Pines Road
Bellingham, WA 98229
360-671-8969
2014loudog@gmail.com
PID 18791 /3702121560120000

May 31st 2023

Ms. Kathy Bell
Senior Planner
Planning and Community Development Department
City of Bellingham
210 Lottie Street
Bellingham, WA 98225

Via Email: kbell@cob.org

Re: Proposed public access trail easement with The Woods at Viewcrest development

Dear Ms. Bell,
We live in the two properties immediately adjacent to the east of The Woods at Viewcrest site (the "Development"). The proposed new public access trail ("Trail") would intersect Sea Pines Rd within a few feet of where the existing shared driveway serving our two houses joins Sea Pines Rd.

We believe that this Trail would pose an extreme safety hazard that will ultimately result in serious injury or death of a cyclist or runner, due to the location of its entry onto Sea Pines Rd, as illustrated below:

Our driveway has two curves, is about 300 ft long, the slope averages in excess of 25 degrees, and at the bottom where it joins Sea Pines Rd it is cut about 10 feet below the natural grade on the adjacent Development parcel. It is very common to see a visitor who is unfamiliar with it to pick up quite a bit of speed when descending, this is especially true of younger people and new parcel delivery drivers. The latter use vehicles that have poor lateral sightlines.

The Trail will be about 600ft long and drop about 140ft in over its length, an average of over 20 degrees.

Two of the three of us are avid cyclists and trail walkers, we are well aware both the cyclist and pedestrians using the Trail would have little to no line of sight of each other due to the steep terrain, the terrain cut and wild vegetation, and curves. In addition, it is not uncommon for new people visiting our neighbors to partially park across the entrance to our driveway making navigation in this corner often both difficult and distracting.

After reading the AASHTO Guide for the Development of Bicycle Facilities (2012) which is listed as a primary resource the COB relied on in the development of the Bellingham Bicycle Master Plan, we believe no trail can safely be built on the Development if it enters Sea Pines Rd, for the following reasons:

1. AASHTO Section 5.2.4 indicates a Design Speed of 18 mph for flat areas and up to 30 mph for hilly areas. As a car or truck simply rolling down our 300ft driveway in neutral can easily exceed 30 mph we believe the minimum anticipated design speed for a youth on a bike racing down the trail should be at least 30 mph.

2. AASHTO Section 5.2.5 indicates the Horizontal Alignment for a turn on at 30 mph should be a minimum turn radius of 166 ft for asphalt, and if the proposed trail is going to be gravel then according to AASHTO "*On unpaved surfaces, friction factors should be reduced by 50 percent ....*" Which would require the turn radius to be doubled to 332 ft.

   Both these numbers likely assume no camber on the slope, however, as the turn will be across the downslope, one must assume that erosion from use of the trail will create an increasing negative camber over time. Loss of control, and high-speed collisions between downhill cyclists and other trail users will likely be frequent.

3. AASHTO Section 5.2.7 states: *"The maximum grade of a shared use path adjacent to a roadway should be 5 percent, but the grade should generally match the grade of the adjacent roadway…*

   … Grades on shared use paths in independent rights-of-way should be kept to a minimum, especially on long inclines. Grades steeper than 5 percent are undesirable because the ascents are difficult for many path users, and the descents cause some users to exceed the speeds at which they are competent or comfortable."

   While we could not find a specific formula for the recommended grade for a path entering a roadway, straight on (as opposed to 90 degrees) the likely minimum design criteria is at least equal to the above standards. The grade before where the Trail will intersect Sea Pines Rd is clearly in excess of 5% and therefore, we believe it does not meet this AASHTO standard.

4. Most important is AASHTO Section 5.2.8 provides standards for the Stopping Sight Distance, the minimum distance at 30 mph assuming no grade is 300ft, at a 10% grade it is 600ft, and at 15% it is 1,600 ft. Our driveway is only 300ft long and averages over 25%, and the proposed trail averages over 20%. Even if it was possible for the uneven topography to be significantly leveled, the ten-foot hill at the intersection of our driveway/street was removed, and the trees and scrubs in the adjacent wetlands were replaced with grass (none of which we are advocating), it would still be impossible to meet the minimum AASHTO Stopping Sight Distance requirements due to the steep slopes.

   The two curves on our driveway and the seven proposed curves along the Trail further confirms it is even more impossible to meet the minimum Stopping Sight Distance specified in AASHTO.

There are likely other AASHTO minimums that can't be met by a trail in this location, but hopefully the above will be enough to convince you that this is an exceptionally dangerous location for a trail, and it should not be included. We believe that if allowed in any form the trail will create a significant potential source of liability for ourselves, our guests, and the City. I am sure none of us want to see a fatality or serious injury result from circumstances that could have easily been prevented if the Trail had not been allowed.

We therefore request the following:

1. the inclusion of a Trail from the Development to Sea Pines Rd be completely abandoned.

2. As this community has a long history of residents constructing unauthorized trails, we also formally request the project be redesigned in such a way as to prevent the construction of an informal trail for the same safety reasons we have outlined above.

3. This letter be added to the materials provided to the Hearing Examiner

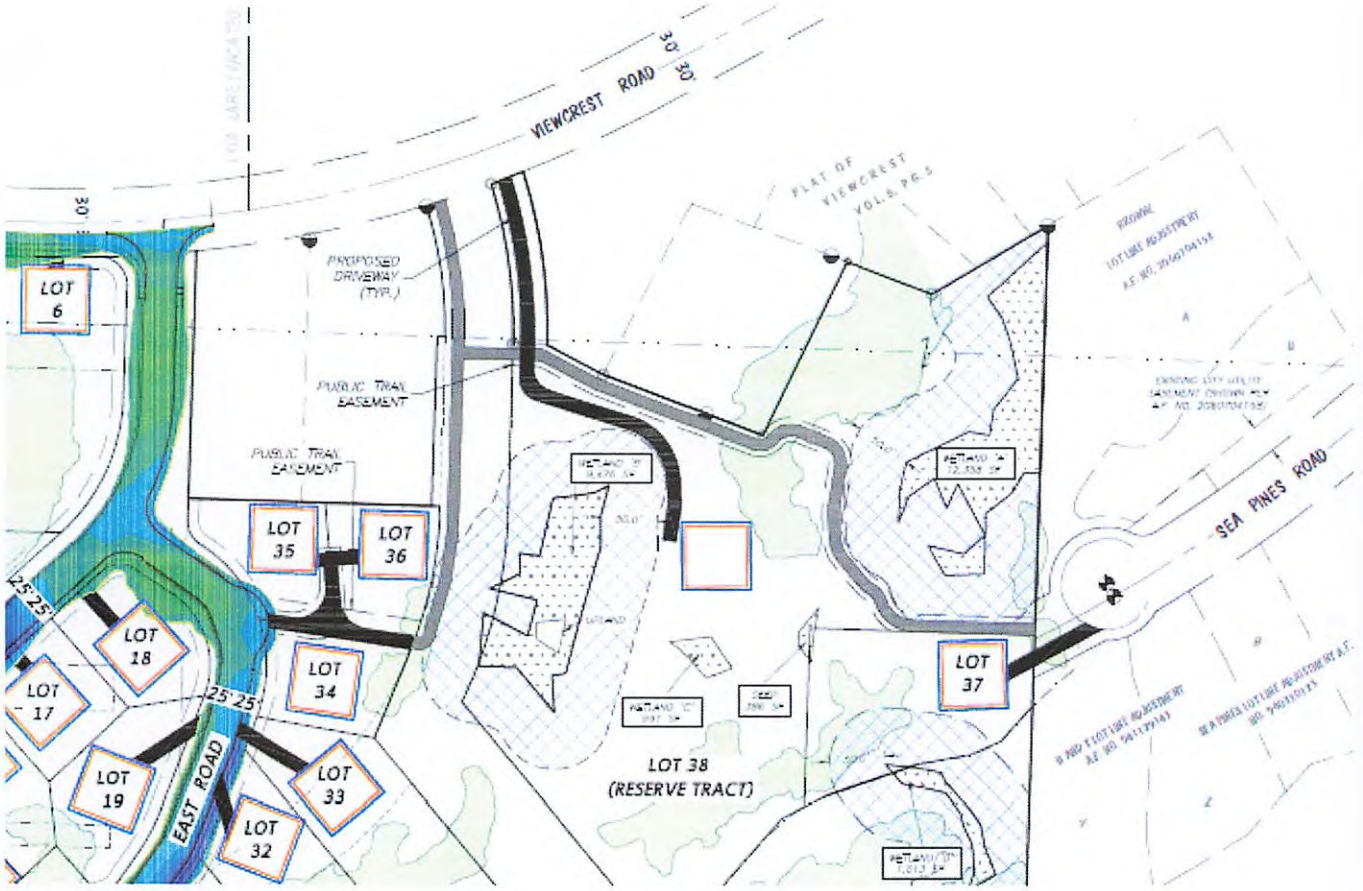
Sincerely

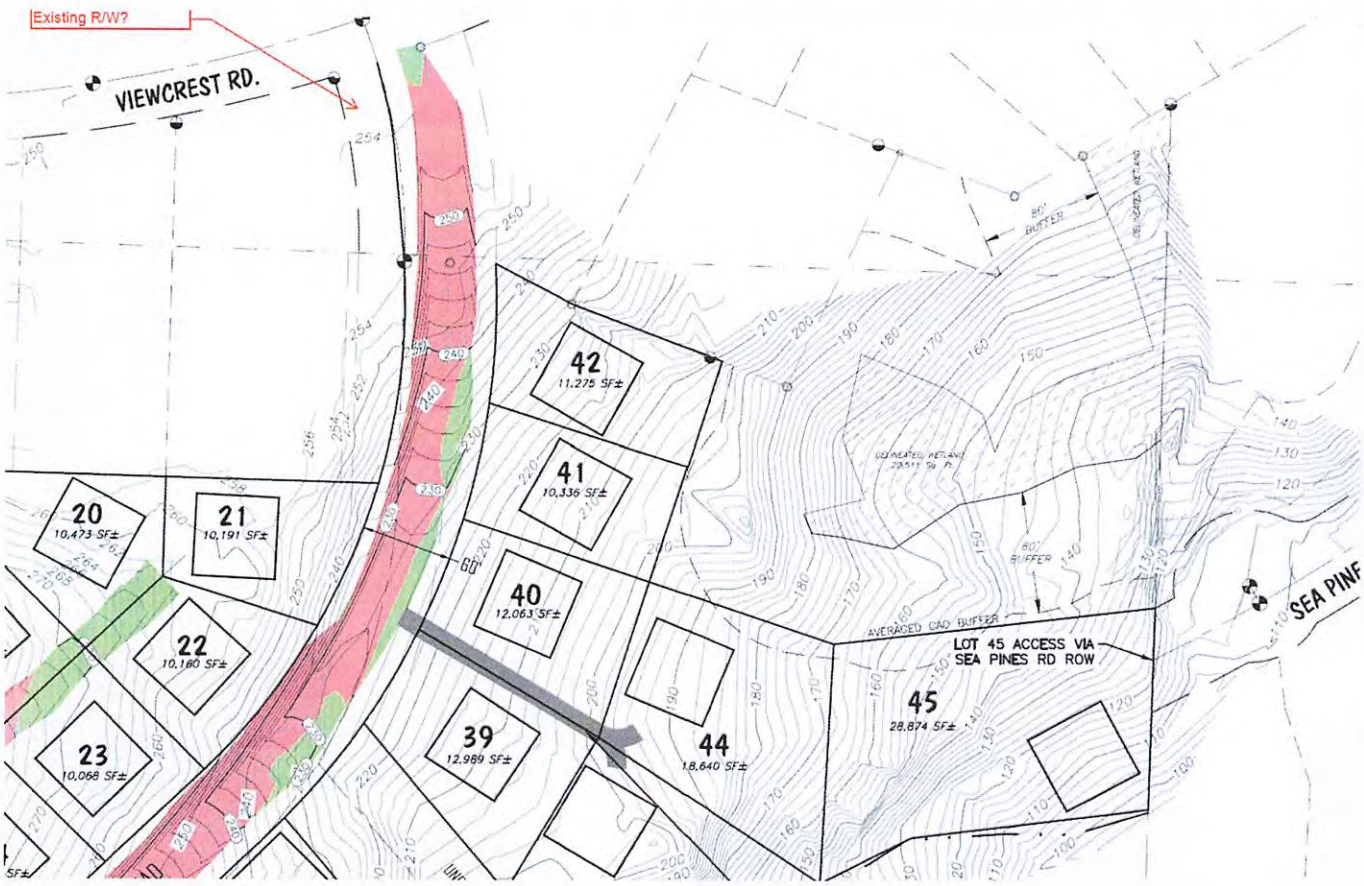
Rud Browne

Sheila Kyle-Browne

Greg Gudbranson

EXHIBIT A


VIEWCREST ROAD
PROPOSED DRIVEWAY (TYP.)
PUBLIC TRAIL EASEMENT
PUBLIC TRAIL EASEMENT
LOT 6
LOT 35
LOT 36
LOT 18
LOT 17
LOT 34
LOT 19
LOT 33
LOT 32
EAST ROAD
LOT 38
(RESERVE TRACT)
LOT 37
SEA PINES ROAD
PLAT OF VIEWCREST VOL.8, PG.5


Existing R/W?
VIEWCREST RD.
20
10,473 SF±
21
10,191 SF±
22
10,160 SF±
23
10,068 SF±
42
11,275 SF±
41
10,336 SF±
40
12,063 SF±
39
12,989 SF±
44
18,640 SF±
45
28,874 SF±
LOT 45 ACCESS VIA SEA PINES RD ROW
AVERAGED CAD BUFFER
80' BUFFER
SEA PINE

Public Comment Submittal for *The Woods at Viewcrest* Administrative Record

EXHIBIT Q

Claudia M. Newman, J.D., Partner
Michael Rea, J.D.
Bricklin & Newman, LLP

Public Comment Letter re:
Legal Implications

BRICKLIN & NEWMAN LLP
lawyers working for the environment

Reply to: Seattle Office

April 24, 2024

VIA E-MAIL TO woodsvc@cob.org

City of Bellingham
Planning and Community Development Department
210 Lottie Street
Bellingham, WA 98225

Re: The Woods at Viewcrest
Project Nos. SUB2022-0011/VAR2022-0002/CAP2022-0005/SHR2022-0007/
SHR2022-0008/VAC2022-0001/SEP2022-0013

Dear Planning and Community Development:

We are writing on behalf of Protect Mud Bay Cliffs to comment on the "Woods at Viewcrest" subdivision proposal. Protect Mud Bay Cliffs has also submitted its own comprehensive comment letter and exhibits, including expert opinions, providing a considerable amount of critical information and input. Rather than repeat every single point that they made in their letter and exhibits, suffice it to say that we echo and agree with the contents and arguments made therein.

Based on our review of the materials, it is plainly evident that this development proposal will have probable significant adverse environmental impacts and, therefore, the City must issue a Determination of Significance (DS) and require that an Environmental Impact Statement (EIS) be prepared pursuant to the State Environmental Policy Act (SEPA), ch. 43.21C RCW. The environmental risks associated with this proposed subdivision on the hazardous steep slopes so close to and above Mud Bay, a vital environmental resource, are extremely concerning and warrant full environmental review.

At this early stage in the application process, we have only just begun to review the full range of legal issues and complicated environmental and technical information associated with this proposal. We anticipate providing additional information and raising new legal issues as this process moves forward, but for now, with this letter, we want to emphasize the importance of issuing a Determination of Significance as soon as possible so that the public has an opportunity for meaningful engagement on this controversial project before any recommendations or decisions are made. A non-EIS behind closed-door type of environmental review that excludes meaningful public involvement would not only undermine public trust in the City, but it will also inevitably lead to excessive delay and costs associated with litigation.

State Environmental Policy Act

A. The Legal Requirements of SEPA.

Under SEPA, when a proposed development may cause more than a moderate adverse environmental impact to an area, the reviewing city is required to fully assess that proposal in an Environmental Impact Statement (EIS) before it can approve the development proposal. When it's evident early in the permitting review process that a proposal "may" have significant adverse environmental impacts, the agency must require an EIS.[1]

"Significant" is defined as "a reasonable likelihood of more than a moderate adverse impact on environmental quality"[2] Synonyms for "moderate" include "modest, average, medium, ordinary and mediocre."[3] "Moderate" is defined as "tending toward the mean or average amount or dimension" and "having average or less than average quality; Mediocre."[4] The definition of "significant" states: "The severity of an impact should be weighed along with the likelihood of its occurrence. An impact may be significant if its chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred."[5]

WAC 197-11-330 specifies criteria and procedures for determining whether a proposal is likely to have a significant adverse environmental impact. That section makes it clear that, among other things, location matters. In determining an impact's significance, the responsible official shall take into account that the same proposal may have a significant adverse impact in one location, but not in another location.[6] The SEPA rules also recognize that the "several marginal impacts when considered together may result in a significant adverse impact."[7] It is of particular concern when a proposal may adversely affect sensitive or special areas.[8] Also, of particular concern is when a proposal may adversely affect endangered or threatened species or their habitat.[9]

The threshold determination is probably the most important single step in the SEPA process.[10] The policy of SEPA, which is to ensure via a detailed statement the full disclosure of environmental information so that environmental matters can be given proper consideration during decision making, is thwarted whenever an incorrect threshold determination is made.[11] When making a threshold determination, the city must collect and review information reasonably sufficient to evaluate the environmental impact of the proposal; take a searching, realistic look at the potential hazards; and,

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1 WAC 197-11-360.
2 WAC 197-11-794(1).
3 *Merriam-Webster Thesaurus* (2023).
4 *Id.*
5 WAC 197-11-794(2).
6 WAC 197-11-330(3)(a).
7 WAC 197-11-330(3)(c).
8 WAC 197-11-330(3)(e).
9 *Id*.
10 WAC 197-11-310; *Norway Hill Pres. & Prot. Ass'n v. King Cnty. Council*, 87 Wn.2d 267, 273, 552 P.2d 674, 678 (1976)
11 *Id.*

with reasoned thought and analysis, candidly and methodically address the environmental concerns.

SEPA regulations require that the lead agency "shall prepare its threshold determination … at the earliest possible point in the planning and decision-making process, when the principal features of a proposal and its environmental impacts can be reasonably identified.[12] The threshold determination "shall be made as close as possible to the time an agency has developed or been presented with a proposal."[13] The SEPA rules state that a proposal exists when an agency is presented with an application.[14]

The benefits of the EIS process as contrasted with that of the DNS and MDNS process cannot be overstated. It is especially critical that an EIS be prepared when a project is highly controversial, such as this one. The EIS process promotes transparency, accountability, and inclusivity. When an EIS is prepared, the public is given an opportunity for meaningful involvement. Public involvement is of primary importance with regard to SEPA and is one of its main objectives – *i.e.*, that the public be informed so that they can be involved in the decision making process.[15]

A Draft EIS provides comprehensive information about the project's impacts and suggested mitigation *before* the public submits comments, allowing people who are directly impacted by and interested in a project to fully understand its potential effects on the environment and their community, before they provide their written input. Because it provides an opportunity for the community to voice fully informed and educated concerns, in addition to asking questions and offering suggestions, it can lead to improvements in project design and mitigation measures. This process also fosters public trust in and accountability of the governmental agency.

When an DNS or MDNS is issued for a highly controversial project instead of an EIS, expensive and time-consuming litigation inevitably becomes a poor substitute for the EIS process. Requiring an EIS at the beginning of the process tends to ultimately save time and resources in the long run for everyone in situations where it's a certainty that the DNS or MDNS will be appealed.

B. The Woods at Viewcrest subdivision proposal will have significant adverse environmental impacts.

It is plainly evident that the proposed subdivision will have significant adverse environmental impacts and, therefore, that an EIS must be required for the Woods at Viewcrest proposal. We address each element of the environment that is impacted by this proposal in turn below.

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12 WAC 197-11-055(2); *see also Lands Council*, 176 Wn. App. at 803-04.
13 WAC 197-11-310.
14 WAC 197-11-055(2)(a).
15 WAC 197-11-500 through 570.

1. Mud Bay is a Category I estuarine wetland.

Perhaps the most stunning omission and error in the application materials is the developer's attempt to ignore that Mud Bay is a regulated estuarine wetland.

In the project documents, the developer oddly refers to Mud Bay as "Chuckanut Bay." This error is perplexing, considering that Mud Bay and Chuckanut Bay are clearly separate geographical features, each with their own unique traits and importance. Mud Bay is known for its extensive mudflats and marshy areas. It is an estuarine habitat that serves as an important feeding and nesting ground for various bird species. Mud Bay is also subject to regulations aimed at protecting its sensitive ecosystem, while those same regulations don't apply to Chuckanut Bay. Chuckanut Bay is a very different and distinct body of water. Foremost in distinction -- it is not classified as an estuarine environment. The Bay is an inlet of the larger Salish Sea and is known for its clear waters and recreational opportunities, such as boating, kayaking, and sightseeing.

The mislabeling of Mud Bay leads to a significant issue: the developer has refused to recognize Mud Bay as a regulated wetland. For example, the Wetland Delineation Update & Critical Areas Summary for the Woods at Viewcrest Project (Feb. 24, 2022) states: "Within 1,000 ft of the project area, Chuckanut Bay is an unvegetated, intertidal zone and does not meet wetland criteria."[16] The area that is referred to in this quote as "Chuckanut Bay" is actually Mud Bay. The claim that Mud Bay is not a wetland is a fundamental error that has no basis in science, law, or fact. Mud Bay is, unequivocally, a regulated wetland.

The City of Bellingham has formally designated Mud Bay as an E2USN, estuarine wetland.[17] The National Wetland Inventory also designates Mud Bay as an estuarine wetland with a specific classification of E2USN, which stands for an Estuarine,[18] Intertidal,[19] Unconsolidated Shore,[20]

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[16] Wetland Delineation Update & Critical Areas Summary for The Woods at Viewcrest Project (February 24, 2022) at 4

[17] *See* Attachment A to this letter**.**

[18]

> The Estuarine System consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semienclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of sea water. Offshore areas with typical estuarine plants and animals, such as red mangroves (Rhizophora mangle) and eastern oysters (Crassostrea virginica), are also included in the Estuarine System.
> Wetland Classification Codes | U.S. Fish & Wildlife Service (fws.gov).

[19] The substrate in these habitats is flooded and exposed by tides; includes the associated splash zone. Wetland Classification Codes | U.S. Fish & Wildlife Service (fws.gov)

[20] Includes all wetland habitats having two characteristics: (1) unconsolidated substrates with less than 75 percent areal cover of stones, boulders or bedrock and; (2) less than 30 percent areal cover of vegetation. Landforms such as beaches, bars, and flats are included in the Unconsolidated Shore class. Wetland Classification Codes | U.S. Fish & Wildlife Service (fws.gov)

Regularly Flooded[21] wetland.[22]

For regulatory purposes, wetlands are generally defined the same way by the City of Bellingham, by Washington state, and by the relevant federal agencies – and that definition includes the following language:

> Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[23]

In Bellingham, "relatively undisturbed estuarine wetlands larger than 1 acre" are Category I wetlands.[24] Category I wetlands require a high level of protection to maintain their functions and the values society derives from them."[25]

Freshwater indicators are not applied to an estuarine wetland. The DOE Wetland Manual states: "The rating system is intended for use primarily with vegetated, freshwater, wetlands as identified using the federal wetland delineation manual and the appropriate regional supplements."[26] The Manual states:

> Estuarine wetlands are also put into a separate category because the indicators used to characterize how well a freshwater wetland functions cannot be used for estuarine wetlands. No rapid methods have been developed to date to characterize how well estuarine wetlands function in the state at the time of this update.[27]

Also, Ecology defines "estuarine wetland" to include "mud flat intertidal areas" like Mud Bay.[28]

Dr. John Rybczyk, Ph.D., the Academic Director of Marine and Coastal Science for Western Washington University, wrote to our client about Mud Bay in an email, which is in Exhibit E of the Project Mud Bay Cliffs comment letter. Dr. Rybczyk is an estuarine ecologist and professor at

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21 Tides alternately flood and expose the substrate at least once daily. Wetland Classification Codes | U.S. Fish & Wildlife Service (fws.gov).

22 *See* Attachment B to this letter.

23 BMC 16.55.510; WAC 365-196-200(23); RCW 90.58.030(2)(h); 40 C.F.R. § 120.2; ACE Wetlands Delineation Manual (army.mil) at A14.

24 BMC 16.55.280(A)(1).

25 Wetland Manual at 5.

26 The Bellingham code states that wetlands "shall be rated" according to the Department of Ecology's (DOE) Washington State Wetland Rating System for Western Washington (DOE Wetland Manual).

27 Wetland Manual at 6 (emphasis added).

28 Stormwater Manual at 1049 (2019SWMMWW (wa.gov)).

Western Washington University whose work focuses on coastal wetlands. Dr. Rybczyk has been taking his Wetlands Ecology students to Mud Bay for the past 23 years.

Dr. Rybczyk explained that Mud Bay is classified by the U.S. Fish and Wildlife Service as an E2USN wetland. He also explained that he concurred with this classification, and that he had in fact observed vegetation within Mud Bay. He also explained that the presence of vegetation does not change whether Mud Bay is a wetland:

> I have also observed the native eelgrass, Zostera marina, growing in Mud Bay. This would perhaps change the designation of region one above, from Estuarine, Intertidal, *Unconsolidated Shore*, Regularly Flooded, to Estuarine, Intertidal, *Aquatic Bed*, Regularly Flooded. However, the USFW wetlands inventory requires 30% aerial coverage of aquatic vegetation to change the designation from Unconsolidated Shore to Aquatic Bed. I don't have any data regarding the exact % coverage. Nonetheless, both designations are wetland designations.

Dr. Lyndon Lee also reviewed the Woods at Viewcrest proposal and drafted a technical memorandum that addressed Mud Bay's status as a wetland. Dr. Lee is an estuarine ecologist. Dr. Lee served as the Senior Wetland Ecologist for the U.S. Environmental Protection Agency (EPA) Headquarters Office of Wetlands Protection, Washington, D.C. In 1995, he earned certification as a Professional Wetlands Scientist (#385). Since 1987, Dr. Lee has led over 100 waters/wetlands training courses for EPA and several other federal, state, and local agencies and organizations through the National Wetland Science Training Cooperative. In his opinion memo, which is attached as Exhibit E to Protect Mud Bay Cliffs' comment letter, Dr. Lee states:

> Based on its large size and current condition and using the "Special Characteristics" rating criteria in the Washington State Wetlands Rating System (Hruby, 2014), Mud Bay is a Category I estuarine wetland. According to guidance provided in the Washington State Wetlands Rating System, Category I wetlands are those that –
>
> 1. Represent a unique or rare wetland type; or
>
> 2. Are more sensitive to disturbance than most wetlands; or
>
> 3. Are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or
>
> 4. Provide a high level of functions. We cannot afford the risk of any degradation to these wetlands because their functions and values are too difficult to replace.[29]

[29] Dr. Lee Technical Memorandum (April 18, 2024) at 5.

Because the errors in the project materials regarding Mud Bay are so foundational and fundamental to the environmental and regulatory review of this project, the City must require that this error be corrected before proceeding with any additional review of impacts and/or regulatory requirements associated with Mud Bay. As an example of how deeply this error permeates into the project materials, none of the developer's reports or assessments that address critical areas mention Mud Bay as a wetland, so all of those reports are incomplete because they all fail to identify critical areas within/adjacent to the project site. The City will see upon review of PMBC's submitted comments that this threshold error must be resolved before any meaningful review can occur.

2. The project will cause significant adverse impacts to Mud Bay.

As established above, Mud Bay is a Category 1 estuarine wetland. Ecologically rich, Mud Bay provides crucial fish and wildlife habitat. Mud Bay provides food for a wide variety of bird species, including migratory birds who flock there to rest during their migrations. Bellingham recognizes and protects a Great Blue Heron Colony that is to the north and west of the project site. The great blue herons are observed regularly flying from their colony site, over the proposed development site, and then landing in Mud Bay immediately downslope from the project site. The herons then use this area to feed for the day before returning to the colony. The area is mapped as having several Endangered Species Act protected species that rely on Mud Bay. This includes threatened and/or endangered anadromous fish that travel in Mud Bay. The Mud Bay mudflats provide crucial habitat for a variety of marine invertebrates, serving as nurseries for young fish. Protecting Mud Bay is essential for preserving biodiversity, supporting local fisheries, and ensuring a healthy environment for the community. It is a rare coastal gem that is not only picturesque, but also a vital sanctuary for countless species of plants and animals, making it a haven for nature lovers and environmentalists alike.

As demonstrated in detail by Protect Mud Bay Cliffs and the expert opinions included with their comment letter, the proposal poses a number of threats to the Mud Bay ecosystem. Among other things, the steep slopes on and adjacent to the site risk considerable erosion during construction and sediment transport to Mud Bay and stormwater runoff from the project will discharge directly into Mud Bay. Meanwhile, as it stands, the project materials don't even acknowledge the existence of Mud Bay or acknowledge that it is a regulated wetland. There is no consideration of the specific and unique impacts to this Category 1 estuarine wetland.

Rather than repeat the evidence here, suffice it to say that the information provided by Protect Mud Bay Cliffs demonstrates that, without question, an EIS must be required for this project. The Woods at Viewcrest subdivision will clearly have significant adverse impacts to Mud Bay and the project materials provide incorrect, incomplete, and inadequate information upon which to assess those impacts.

3. The Project will cause significant adverse geohazard and unstable slope impacts.

Attempts have been made in past decades to develop the subject property, but apparently the terrain and impacts associated with this unique site have proven too risky to move forward. This alone tells us that the risks associated with development of this property are quite serious and any proposal must receive a high degree of scrutiny and careful review.

In 2009, the Ann Jones LP family representatives retained Pacific Surveying & Engineering to perform a reconnaissance-level geologic investigation of the subject property for purposes of exploring development options. Pacific prepared a Geologic Feasibility Investigation for the subject property dated December 31, 2009. That report highlighted significant risks associated with development of the site due to existing geohazards, including erosion, landslide, and seismic hazards. The information in that report must be carefully considered by the City during its environmental review.

More recently, engineering geologist Dan McShane reviewed the Element Solutions report and provided his opinion about the potential steep slope impacts in a memo dated March 19, 2024. That memo, which is attached as Exhibit C to Protect Mud Bay Cliffs' comment letter, provided a summary of the risks associated with steep slopes and geohazard impacts of the project. The issues that he raised therein reveal major omissions and errors in the project materials.

Protect Mud Bay Cliffs also provided important information about potential geohazard impacts in its April 22, 2024 comment letter. Rather than repeat everything here, suffice it to say that the information provided by Protect Mud Bay Cliffs and Dan McShane demonstrates that an EIS must be required for this project. The Woods at Viewcrest subdivision will clearly have significant adverse geohazard impacts to Mud Bay and the project materials provide incorrect, incomplete, and inadequate information upon which to assess those impacts.

4. The project will cause significant adverse traffic impacts.

Protect Mud Bay Cliffs also provided important information about potential traffic impacts that will be caused by the project in its April 22, 2024 comment letter and in Exhibit G to that letter. Like the others, the information provided by Protect Mud Bay Cliffs demonstrates that an EIS must be required for this project. The Woods at Viewcrest subdivision will have significant adverse traffic and transportation impacts and the project materials provide incorrect, incomplete, and inadequate information upon which to assess those impacts.

5. The project will cause significant adverse impacts associated with the removal of mature coastal forest.

Protect Mud Bay Cliffs also provided important information about impacts associated with the removal of mature coastal forest in its April 22, 2024 comment letter and in Exhibit I to that letter. Again, the information provided by Protect Mud Bay Cliffs demonstrates that an EIS must be

required for this project. The Woods at Viewcrest subdivision will have significant adverse tree and forest removal impacts and the project materials provide incorrect, incomplete, and inadequate information upon which to assess those impacts.

Preliminary Plat

In Bellingham, preliminary plats are approved only if an applicant can demonstrate that it meets the criteria listed in BMC 23.16.030(A). An early review of the application materials indicates that the development proposal falls short of meeting these criteria. We discuss each of the relevant criterion in turn below.

As we stated at the beginning of this letter, we have only just begun to review the full range of legal issues and complicated environmental and technical information associated with this proposal. As this process moves forward and we have more time to review the materials and collect information, we may present additional grounds to the planning department or to the Examiner related to preliminary plat approval under BMC 23.16.030.

A. The proposal violates Bellingham Municipal Code provisions.

In order to be approved, the Woods at Viewcrest application materials must demonstrate that the proposal is consistent with the Bellingham Municipal Code.[30] The Preliminary Plat for the Woods at Viewcrest cannot be approved because it violates several code provisions.

1. Stormwater code violations.

The proposal fails to satisfy the minimum requirements for stormwater management set forth in BMC 15.42.060 as required by BMC 15.42.040(A). Many of these violations are rooted in the fact that the developer has failed to acknowledge that Mud Bay is a wetland.

The purpose of the city's stormwater code is to minimize "water quality degradation in streams, ponds, lakes, wetlands and other water bodies," the "degradation of habitat and habitat forming processes in streams, ponds, lakes, wetlands…;" and to "minimize the impact of increase runoff, erosion and sedimentation caused by land development and maintenance practices."[31] The developer's failure to acknowledge that Mud Bay is a wetland violates these policies.

Highly qualified stormwater engineer, Dr. Richard Horner, Ph.D., prepared a comment letter on the stormwater issue dated March 18, 2024, which is attached to the Project Mud Bay Cliffs comment letter as Exhibit B. In his letter, Dr. Horner demonstrated that the proposal fails to satisfy Minimum Requirements. He also explained how an improperly designed stormwater system could have devastating impacts on the project site including Mud Bay. We refer the City to Mr. Horner's

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30 BMC 23.16.030(A)(1).
31 BMC 15.42.010(C).

letter for purposes of demonstrating that this proposal is inconsistent with the City's stormwater code.

2. Violation of BMC 23.08.060(E)(2).

The Bellingham Code limits the number of lots that can be served by a private access easement. Specifically, BMC 23.08.060(E)(2) limits a private access easement to serve a maximum of four lots. The proposed project design includes a private shared driveway that extends off the terminus of the East Road. That private access easement is proposed to serve 8 lots in violation of BMC 23.08.060(E)(2).

The developer acknowledges that the proposal violates the code and requests that the City approve a variance (Variance #1) to excuse the project from adherence to this provision. This request should be denied because the developer has requested a waiver of this provision solely for the purpose of maximizing development.

A subdivision variance may be only if it is shown to be consistent with the following criteria:

> 1. a. Because of unusual shape, the location of preexisting improvements, other extraordinary situation or condition, or physical limitation including, but not limited to, exceptional topographic conditions, geological problems, or environmental constraints, in connection with a specific piece of property, the literal enforcement of this title would involve difficulties, result in an undesirable land division or preclude a proposal from achieving zoned density; or
>
> b. The granting of the variance will establish a better lot design resulting in a development pattern found to be consistent with the neighborhood character including, but not limited to, development orientation to the street, setbacks, lot orientation, or other contextual element associated with the proposed development; and
>
> 2. The granting of any variance will not be unduly detrimental to the public welfare nor injurious to the property or improvements in the vicinity and subarea in which the subject property is located.[32]

The variance request does not meet the criteria listed above. The enforcement of the 4-lot maximum would not create difficulties, result in an undesirable land division, or preclude the proposal from achieving zoned density. The only thing that will happen is that the developer's proposed plat would lose four lots. The impacted lot layout could be redesigned so that the

[32] BMC 23.48.040(A).

remaining four lots are larger. Such a result would be consistent with the purposes behind the code the includes this limitation.

Further, the variance does not result in a better lot design. It simply results in a denser lot design directly near a steep slope area that leads to a wetland. "Better" is not synonymous with a developer achieving a maximalist development.

Lastly, the granting of the variance in this instance would be detrimental to the public welfare because it would authorize denser development near critical areas for no discernible reason other than to allow more lots. This is especially concerning given the issues raised in this letter related to stormwater deficiencies and critical area protections (*e.g.,* Mud Bay).

Variance #1 is not necessary to reduce impacts. That request is solely about building more lots along a private easement than the code allows. With this, the proposal fails to meet the criteria for approval in both BMC 23.16.030(A)(1) and (A)(4).

3. Critical areas and shorelines code violations.

The Preliminary Plat for the Woods at Viewcrest also cannot be approved because it violates several provisions in the City's critical areas and shorelines code. We address those issues in detail below in our discussion about the Critical Areas Permit and Shoreline Permit applications for the proposal.

B. The proposal cannot reasonably be developed in conformance with applicable provisions of the critical areas and shoreline code.

The fact that the developer has attempted to ignore that Mud Bay is a wetland reveals, in and of itself, that even the developer implicitly agrees that the proposal cannot reasonably be developed in conformance with applicable provisions of the critical areas and shoreline code when we acknowledge that Mud Bay is a regulated wetland. As is demonstrated below, because Mud Bay is indeed a Category I estuarine wetland, the proposal cannot reasonably be developed in conformance with applicable provisions of the critical areas and shoreline code.

C. The Woods at Viewcrest will not serve the public use and interest.

As proposed, especially because it does not accept or acknowledge the importance of Mud Bay for purposes of public interest, the Woods at Viewcrest will not serve the public use and interest and it is not consistent with the public health, safety, and welfare. A development proposal that will cause significant adverse environmental impacts to Mud Bay, while not even acknowledging its unique qualities or its existence, is not serving the public interest.

Critical Areas Permit

Pursuant to BMC 16.55.070(A), "any proposal to alter any critical area and/or required buffer" shall require a critical area permit. The City of Bellingham sets a high standard when it comes to actions taken in critical areas:

> Any action taken pursuant to this chapter shall result in equivalent or greater functions and values of the critical areas associated with the proposed action, as determined by the best available science. All actions and developments shall be designed and constructed in accordance with mitigation sequencing (BMC 16.55.250) to avoid, minimize, and restore all adverse impacts.
>
> Applicants must first demonstrate an inability to avoid or reduce impacts, before restoration and compensation of impacts will be allowed. No activity or use shall be allowed that results in a net loss of the functions or values of critical areas.[33]

The City requires critical area reports be completed for development within or adjacent to critical areas:

> B. If the proposed project is within, adjacent to, or is likely to impact a critical area, the city shall:
> 1. Require a critical area report from the applicant that has been prepared by a qualified professional, to be reviewed and evaluated;
> 2. Determine whether the development proposal conforms to the purposes and performance standards of this chapter, including the criteria in BMC 16.55.200, Review criteria;
> 3. Assess the potential impacts to the critical area and determine if they can be avoided or minimized; and
> 4. Determine if any mitigation proposed by the applicant is sufficient to protect the functions and values of the critical area and public health, safety, and welfare concerns consistent with the goals, purposes, objectives, and requirements of this chapter.[34]

Critical area reports are required to be consistent with best available science.[35] Any evaluation of critical areas and their buffers must include a "confirmation, location and description of existing function of all critical areas and/or critical area buffers in relation to the proposed activity."[36]

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33 BMC 15.66.190.
34 BMC 16.55.090.
35 BMC 16.55.180.
36 BMC 16.55.205(B)(4).

Bellingham has general review criteria that applies to any alteration or development within critical areas or their buffers.[37] Bellingham then has specific regulations that apply depending on the type and characteristics of the critical area. The City's general review criteria for alterations to critical areas are as follows:

> 1. The proposal minimizes the impact on critical areas in accordance with mitigation sequencing (BMC 16.55.250);
> 2. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;
> 3. The proposal is consistent with the general purposes of this chapter and the public interest;
> 4. Any alterations permitted to the critical area are mitigated in accordance with mitigation requirements in BMC 16.55.240 and 16.55.260 and additional requirements as outlined in specific critical area sections;
> 5. The proposal protects the critical area functions and values consistent with the best available science and results in no net loss of critical area functions and values; and
> 6. The proposal is consistent with other applicable regulations and standards.[38]

A. The Critical Areas Reports fail to identify Mud Bay as a critical area.

The critical areas reports submitted by the applicant fail to confirm, locate, and describe the existing functions of Mud Bay and its buffers in relation to the proposed development in violation of BMC 16.55.205(B)(4). Likewise, the reports did not include identification and characterization of Mud Bay and its buffer as required by BMC 16.55.210(C)(4).

The failure to identify and assess Mud Bay is a fundamental and foundational error as explained in the above section regarding SEPA review. It is certainly not consistent with best available science. The city cannot determine whether the development proposal conforms to the purposes and performance standards of the critical areas code, assess the potential impacts to Mud Bay, or determine whether they can be avoided or minimized because the project materials fail to provide the necessary and accurate information for that review.

Because Mud Bay is both a wetland and a fish and wildlife habitat conservation area and because the developer is proposing to place its stormwater facility within the Mud Bay buffer, the proposal is in violation of Bellingham code provisions that require, at a minimum, that this critical area be identified and assessed.

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37 BMC 16.55.200.
38 BMC 16.55.200(A).

B. Wetland protections.

The proposal is in violation of Bellingham code provisions associated with wetland protection.

The "construction, reconstruction, demolition, or expansion of any structure" is considered a "regulated activity" when they occur within a wetland or its buffer.[39] This includes the construction of a stormwater conveyance system. Per BMC 16.55.300, "no regulated activity may be conducted within a regulated wetland or wetland buffer without a permit from the director."[40] Stormwater facilities in wetland buffers are prohibited, BMC 16.55.320, unless an exception applies.[41]

Mud Bay is a Category I wetland pursuant to BMC 16.55.280.A.1. Pursuant to BMC 16.55.340, the buffer for Mud Bay is up to 200 feet. The stormwater discharge outfall is proposed to be located within this buffer area. The renderings from the developer show this outfall within 20 feet of the shoreline. That is a violation of the City's critical areas code.

Furthermore, Wetland A is a Category III wetland. The applicant's consultant incorrectly identifies Wetland A as a Category IV wetland and therefore applies the wrong buffer to that wetland. In addition, the applicant's consultant conducted its site visits during the dry season – they should be required to test the site when seasonal seeps, seasonal ponding, seasonal water flow, and seasonal vegetation would be detected.

C. Steep slope protections.

The proposal is in violation of Bellingham code provisions associated with steep slope protection.

The city breaks geologically hazardous areas down into four categories: Erosion Hazard, Landslide Hazard, Seismic Hazard, or Mine Hazard.[42] Erosion areas are those with a certain soil type and a slope greater than 30%.[43] Landslide hazard areas include areas with slopes equal to or greater than 40% with a "vertical elevation change of at least 10 feet. Slope shall be calculated by identifying slopes that have at least 10 feet vertical elevation change within a horizontal distance of 25 feet or less."[44]

The code contains general performance standards for alterations within a geologically hazardous area or its buffer. Specifically, alterations of geologically hazardous areas or associated buffers may only occur for activities that:

> 1. Will not increase the threat of the geological hazard to adjacent properties beyond predevelopment conditions;

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39 BMC 16.55.310(F).
40 BMC 16.55.300(A).
41 BMC 16.55.330.
42 BMC 16.55.410.
43 BMC 16.55.420(A).
44 BMC 16.55.420(B).

> 2. Will not adversely impact other critical areas;
> 3. Are designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than predevelopment conditions; and
> 4. Are certified as safe as designed and under anticipated conditions by a qualified engineer or geologist, licensed in the state of Washington.[45]

The buffer for erosion or landslide hazard areas may be reduced down to 10-feet at the director's discretion.[46] However, alterations of an erosion or landslide buffer "may only occur for activities for which a hazard analysis is submitted and certifies that:

> a. The development will not increase surface water discharge or sedimentation to adjacent properties beyond predevelopment conditions;
> b. The development will not decrease slope stability on adjacent properties; and
> c. Such alterations will not adversely impact other critical areas.[47]

"Utility lines and pipes shall be permitted in erosion and landslide hazard areas only when the applicant demonstrates that no other practical alternative is available."[48]

In his March 19, 2024 comment letter mentioned above, Dan McShane addressed the risks to steep slopes posed by the Viewcrest proposal. He states that the current information in the application is inadequate in many respects for a proper review of consistency with these provisions. He explained that a full geologic hazard and risk assessment should be completed for the proposed stormwater pipe and that this analysis should include an analysis of the impacts of a break in the stormwater pipe.[49] He also explained that threats to the pipe had not been properly evaluated. Without these evaluations the city has no way to ensure that the above criteria have been satisfied. Critical to this is the fact that Mud Bay must first be identified properly before the City can provide a proper review of the project under these provisions.

D. Fish and Wildlife Habitat Conservation Area Protections.

The proposal violates Bellingham code provisions associated with fish and wildlife habitat conservation area protections.

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45 BMC 16.55.450(A).
46 BMC 16.55.460(A)(1)(b).
47 BMC 16.55.460(A)(2).
48 BMC 16.55.460(A)(5).
49 McShane at 3.

Fish and wildlife habitat conservation areas (FWHCA) include "areas in which state or federally designated endangered, threatened, and sensitive species have a primary association."[50] "The State Department of Fish and Wildlife maintains the most current listing and should be consulted for current listing status."[51] Mud Bay is a FWHCA under this provision. Per BMC 16.55.470(A)(4), Mud Bay is a FWHCA also because it is "waters of the state."

When an endangered, threatened, or sensitive species has a primary association with a FWHCA or its buffer, then no development is allowed unless a habitat management plan is provided.[52]

For development that impacts waters used by anadromous fish, such as salmon, the following performance standards apply:

> 1. All activities, uses, and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of anadromous fish habitat, including, but not limited to, adhering to the following standards:
> a. Activities shall be timed to occur only during the allowable work window as designated by the Washington Department of Fish and Wildlife for the applicable species;
> b. An alternative alignment or location for the activity is not feasible;
> c. The activity is designed so that it will not degrade the functions or values of the fish habitat or other critical areas;
> d. Shoreline erosion control measures shall be designed to use bioengineering methods or soft armoring techniques, according to an approved critical area report; and
> e. Any impacts to the functions or values of the habitat conservation area are mitigated in accordance with an approved critical area report.[53]

The City must ensure that the project is consistent with these requirements with respect to Mud Bay.

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50 BMC 16.55.470(A)(1).
51 BMC 16.55.470(A)(1)(b).
52 BMC 16.55.500.
53 BMC 16.55.500(B).

Shoreline Management Act

A. The Proposal is inconsistent with SMA Policies set forth in RCW 90.58.020.

All development and use of the shorelines of the state must be consistent with the policies set forth in RCW 90.58.020. That provision states:

> It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. This policy is designed to insure the development of these shorelines in a manner which, while allowing for limited reduction of rights of the public in the navigable waters, will promote and enhance the public interest. This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto.[54]

The proposed development will not promote and enhance the public interest because it will cause significant adverse environmental impacts to Mud Bay and it does not even accept or acknowledge the existence and importance of Mud Bay as an estuarine wetland and fish and wildlife habitat area. The proposal will cause adverse effects to the land and its wildlife, and the waters of the state and their aquatic life.

B. The Shoreline Substantial Development Permit cannot be approved.

A shoreline substantial development permit may not be approved unless the following criteria are satisfied:

> C. In order to be approved, the director must find that the proposal is consistent with the following criteria:
>
> 1. All regulations of this program appropriate to the shoreline designation and the type of use or development activity proposed shall be complied with, except those bulk and dimensional standards that have been modified by approval of a shoreline variance under BMC 22.06.040, Variances.
>
> 2. All policies of this program appropriate to the shoreline designation and the type of use or development activity proposed shall be considered and substantial compliance demonstrated. A reasonable proposal that cannot fully conform to these policies may

[54] RCW 90.58.020.

> be permitted, provided it is demonstrated that the proposal is clearly consistent with the overall goals, objectives and intent of the program.
>
> 3. For projects located on shorelines of statewide significance, the policies of Chapter 22.04 BMC shall be also be adhered to.[55]

Based on these criteria, among other things, the proposal must comply with the city's shoreline general and specific performance standards specified in BMC 22.08.030, BMC 22.08.040, BMC 22.08.060, and BMC 22.08.080.[56] These provisions address protections of wetlands and geologic hazard areas within shoreline areas.

Starting with wetlands specifically, BMC 22.08.060 states that all shoreline development within a wetland or its buffer must comply with the critical area regulations for wetlands within the shoreline. These regulations include the establishment of specific buffers for shoreline wetlands. Because Mud Bay is a wetland, it is entitled to these protections. The critical area report and habitat assessment report that describe shoreline conditions fail to identify Mud Bay as a wetland, and therefore the applicant's proposal and site plans do not contemplate these specific buffers. For example, BMC 22.08.060(C)(2)(a) states that the buffer of a Category I wetland like Mud Bay "shall not be reduced." Yet the developer proposes an outfall within the Mud Bay area. The shoreline development cannot be approved as proposed.

Also, stormwater management facilities are not allowed in wetland buffers within the shoreline unless an exception applies.[57] "Wetland hydrology shall not be adversely affected by stormwater management."[58] Stormwater management in the shoreline is further regulated by BMC 22.08.210, as discussed in more detail below.

The critical area regulations for geologic hazard areas within the shoreline jurisdiction are in BMC 22.08.080. Those provisions echo the same requirements in BMC 16.55.450(A) that we discussed above.[59] Thus, the same problems that we discussed above apply here as well.

Generally, BMC 22.08.030 states: "Critical areas that are within the shoreline jurisdiction are to be protected and managed in such a manner that the result of any use activity or development is no net loss of shoreline ecological function."[60] And "[d]evelopment within critical areas shall result in no net loss of ecological function."[61] Also of relevance in this case: "All activities, uses and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of

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55 BMC 22.06.030
56 BMC 22.06.030(B).
57 BMC 22.08.060(H).
58 BMC 22.06.060(I).
59 BMC 22.08.080(A); BMC 16.55.450(A).
60 BMC 22.08.030(A)(1).
61 BMC 22.08.030(B)(1)(a).

anadromous fish habitat including, but not limited to, adhering to the standards within this program."[62]

Specific to saltwater fish and wildlife conservation areas, BMC 22.08.040 states: "Development within critical saltwater habitats including . . . holding areas for forage fish, such as . . . mudflats … should result in no net loss of ecological function…"[63] No structure of any kind shall be placed in critical saltwater habitats, such as mudflats, unless they result in no net loss of ecological function, are associated with a water-dependent use, and meet the following criteria:

> a. The project, including any required mitigation, will result in no net loss of ecological functions associated with critical saltwater habitat;
>
> b. Avoidance of impacts to critical saltwater habitats by an alternative alignment or location is not feasible or would result in unreasonable and disproportionate cost to accomplish the same general purpose;
>
> c. The project is consistent with the state's interest in resource protection and species recovery;
>
> d. The public's need for such an action or structure is clearly demonstrated and the proposal is consistent with protection of the public trust, as embodied in RCW 90.58.020;
>
> e. Shorelands that are adjacent to critical saltwater habitats shall be regulated per the requirements within this program.[64]

Bellingham's shoreline code also contains regulations for the development of stormwater in the shoreline overlay:

> 1. Stormwater management facilities shall be located outside of critical areas and their required buffers except as specified in BMC 22.08.010(B)(4), Shoreline buffers, and shall be subject to the requirements in BMC 22.08.120, Shoreline modifications/stabilization.
>
> 2. Stormwater management facilities shall be subject to the policies and regulations in BMC 22.08.110, Water quality, stormwater, and nonpoint pollution.

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62 BMC 22.08.030(B)(3).
63 BMC 22.08.040(A)(1).
64 BMC 22.08.040(B)(1).

> 3. Stormwater management facilities shall provide a minimum of enhanced treatment as defined by the latest version of the Department of Ecology Stormwater Manual for Western Washington, and as further specified in Chapter 15.42 BMC, as amended, and per BMC 22.08.110, Water quality, stormwater, and nonpoint pollution.
>
> 4. When stormwater management facilities are proposed within shorelines and adjacent to required buffer areas, they shall be designed to provide additional riparian vegetative cover and increase or improve existing habitat corridors including habitat for anadromous fish.
> 5. New stormwater conveyance facilities (outfalls) shall not be constructed within required shoreline or critical area buffers unless no other feasible alternative exists.
>
> 6. Individual shoreline permits shall include a requirement that an applicant prepare a stormwater management facility maintenance program for a five-year period that includes the following elements:
> a. Frequency and detail of maintenance of the facilities (this includes but is not limited to catch basin insert and vault cartridge replacement, removal of noxious vegetation, pipe and overflow clean-out and outfall and diffuser maintenance);
> b. Copy of signed and implemented contract verifying the entity that will perform the maintenance action and the frequency of the maintenance; and
> c. A maintenance report shall be submitted to the planning department each year for five years from the date of issue of the original shoreline permit.[65]

Furthermore:

> Conveyance structures may be permitted within a required shoreline buffer when all of the following are demonstrated:
>
> i. No other feasible alternatives with less impact exist;
>
> ii. Mitigation for impacts including water quality is provided;
>
> iii. Stormwater conveyance facilities shall incorporate fish habitat features; and

[65] BMC 22.08.210(B).

> iv. Vegetation shall be maintained and, if necessary, added adjacent to all open channels and ponds in order to retard erosion, filter out sediments, and shade the water. Additional vegetation shall consist of species capable of achieving a height sufficient to provide substantial shade to the adjacent water body, provided they do not alter channel migration and flood conveyance capacity.[66]

As it stands, the proposal violates multiple requirements in the code provisions above primarily because of the significant adverse impacts that will be caused to Mud Bay. Indeed, it's unclear whether this proposal can adhere to these regulations at all considering that Mud Bay is a Category I estuarine wetland as well as a fish and wildlife conservation area.

C. The Criteria for Substantial Shoreline Development Permits have not been satisfied.

The developer is not entitled to a shoreline conditional use permit. At the most basic level the developer has failed to show that the proposed stormwater system will protect Mud Bay.

In order to obtain a shoreline conditional use permit, the applicant shall demonstrate the following:

> 1. The provisions spelled out in the master program have been met and the proposed use is consistent with the policies of the Act;
>
> 2. The proposed use will cause no significant, adverse impacts to the shoreline environment, ecological functions, or other uses;
>
> 3. The proposed use will not interfere with the normal public use of public shorelines;
>
> 4. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and the program;
>
> 5. The proposed use will not be contrary to the purpose and intent of the environment designation in which it is located and the general intent of the master program;
>
> 6. The proposed use(s) shall provide a long-term public benefit in terms of providing public access or implementing habitat restoration that is consistent with the goals of this program; and

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[66] BMC 22.08.010(B)(4)(g).

> 7. That the public interest shall suffer no substantial detrimental effect.[67]

As discussed previously, the developer has ignored Mud Bay's wetland status and therefore failed to employ Ecology's required BMPs for stormwater management within or near an estuarine wetland. The developer's proposal to discharge stormwater into a Category I wetland without employing wetland-related BMPs for stormwater, *see* Dr. Horner Letter, is not consistent with the City's shoreline master program or the state's shoreline management act. Therefore, criterion 1 has not been satisfied.

In addition, the City's shoreline master program (SMP) states that "this program seems to administer protection of critical areas within the shoreline jurisdiction that is at least equal to that of the critical areas ordinance and provides no net loss of shoreline ecological function."[68] The developer's proposal is inconsistent with this purpose because it fails to acknowledge all critical areas impacted by the project site. The SMP does not allow this; the SMP is intended to protect critical areas in equal fashion to the critical areas ordinance.

Furthermore, the City has no way of determining whether "no net loss" can be achieved, which is required by the SMP and SMA. The SMP and SMA both set a "no net loss" standard for development within the shoreline. No Net Loss is defined as follows:

> "No net loss of ecologic function" means maintenance of the aggregate total of the city's shoreline ecological functions, including processes. (See definition of "ecologic function.") The no net loss standard requires that the impacts of shoreline development and/or use, whether permitted or exempt, be identified and mitigated such that there are no resulting significant adverse impacts on shoreline ecological functions. Each project shall be evaluated based on its ability to meet the no net loss goal commensurate with the scale and character of the proposed development. The baseline for no net loss shall be the level of shoreline ecological functions and environmental resource productivity as established in the 2004 City of Bellingham Shoreline Characterization and Inventory and as established by a required critical area report as part of the application submittal requirements specified in Appendix E.[69]

Per the definition above, the baseline for "no net loss" is established by the City of Bellingham Shoreline Characterization and Inventory and as established by a required critical area report. But the developer's critical area report omits Mud Bay as a critical area. Thus, if the city were to evaluate whether the proposal achieves no net loss, the baseline for that evaluation would be

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67 BMC 22.06.050(C).
68 BMC 22.01.030(C).
69 BMC 22.10.010.89

couched in the falsehood that Mud Bay is not a wetland. This pollutes any "no net loss" evaluation. Because the developer has not shown that no net loss can be achieved given Mud Bay's estuarine wetland status, the first shoreline conditional use permit has not been satisfied.

The developer has also failed to satisfy criterion no. 2 for the same underlying reasons that it failed to satisfy criterion no. 1 – the developer has failed to show that its proposal will not have significant, adverse impacts to Mud Bay. Dr. Horner addressed this issue extensively in his March 18, 2024, comment letter. Dr. Horner explained that an improperly managed stormwater will result in erosion, sediment transport, and hydrology changes that would have devastating impacts on a fragile ecosystem like Mud Bay. He also explained that how the stormwater manual section I-C.3 includes specific requirements for protecting wetlands:

> If the wetland is a special characteristic wetland (such as mature or old growth forest wetlands, bogs, estuarine wetlands, wetlands of high conservation value, coastal lagoons, and interdunal wetlands), implement Runoff Treatment BMPs with the most advanced ability to control nutrient loads. Consider using Runoff Treatment BMPs with infiltration and active biological filtration.

The developer has not employed Ecology's mandatory BMPs for stormwater development within a wetland buffer. Dr. Horner explained how these BMPs serve to protect an estuarine wetlands function. Without employing the protections developed and determined by Ecology to be protective of estuarine wetlands, the developer cannot show that its proposal will not have significant, adverse impacts to the environment. Criterion no. 2 cannot be satisfied.

The proposed use will absolutely disrupt the public's use of Mud Bay, and therefore the third criterion cannot be satisfied. The developer's stormwater pipe will still be discharging into Mud Bay even when the bay is completely drained during low tide – hence where the term "mud flats" comes from. Beach combers, shellfish harvesters, and other recreational users of the bay will now be exposed to this discharge that will rest on top of the substrate until the tide comes back in, pushing all the stormwater discharge directly towards the Chuckanut Bay Marsh. (A marsh which the city has spent millions of dollars trying to restore.)[70] To put a fine point on this, Dr. Rybczyk has been taking his students to Mud Bay for 23 years. If the Viewcrest proposal moves forward as designed, then all future students will be visiting a Mud Bay that has been altered by a stormwater system that is not designed for wetland conveyance. The days of students visiting a more pristine Mud Bay will have passed.

As a final note about the Chuckanut Bay Marsh, the City should take extra care to ensure the public's use of Chuckanut Bay Marsh will not be disrupted with the influx of stormwater being introduced from Mud Bay through the rising tide.

[70] Chuckanut Village Marsh Restoration - City of Bellingham (cob.org)

The developer has also notably failed to satisfy Criterion no. 5, which requires a proposed use be consistent with the purpose of the encompassing shoreline designation. In this case, the shoreline designation is "Natural," which states in part that "Natural designated shorelines are best suited for very low-intensity uses to ensure that ecological function and ecosystem-wide processes are maintained."[71] The developer has made no showing that Mud Bay's ecosystem as an estuarine wetland will be maintained. This is interwoven with the lack of wetland BMPs and no net loss issue.

Additionally, it is the City's policy for the Natural shoreline designation that "Preservation of ecological function of shorelines including critical areas should have priority over public access, recreation and development objectives whenever a conflict exists."[72] The purpose of the shoreline Natural designation is to "protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions intolerant of human use." The developer has prioritized its own development objectives by ignoring Mud Bay's wetland status; this approach does not preserve the ecological functions of critical areas as required, but instead lowers the bar for the developer to convey stormwater. Such an approach also does not jibe with the "priority" that ecological functions are required to take over development objectives. For these fundamental reasons, and likely more, criterion no. 5 has not been satisfied and the SCUP cannot be approved.

Lastly, criterion no. 7 has not been met because it is not in the public interest to allow a stormwater system to discharge into a valuable state and City resource like Mud Bay without employing the BMPs required by Ecology. Those BMPs are intended to protect water quality, and by extension the general public. Moreover, fidelity to code is always in the public interest. The SCUP application must be denied.

Conclusion

For the foregoing reasons, we request that the City issue a Determination of Significance for the Woods at Viewcrest subdivision proposal as soon as possible as required by SEPA. We also request that the City carefully consider and review the legal issues associated with approval and permit decisions that we've identified above.

Very truly yours,

BRICKLIN & NEWMAN, LLP
s/Michael Rea
Michael Rea
s/Claudia M. Newman
Claudia M. Newman

cc: Client

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71 BMC 22.03.030(A)(1).
72 BMC 22.03.030(A)(2)(e).

ATTACHMENT A

CityIQ Map - Wetlands

Legend

Streams
- Culvert
- Main
- Stream

Site Specific Delineation
Additional Site Specific Delineations
Wetlands 2015 Inventory
Other Inventories
Wetlands 2003 Inventory
Wetlands 1992 Inventory

Notes

Printed: 4/24/2024 8:04:10 AM

1,986 0 993 1,986 Feet

THIS MAP IS NOT TO BE USED FOR NAVIGATION

ATTACHMENT B

U.S. Fish and Wildlife Service

National Wetlands Inventory

USFW Wetland Mapping

April 16, 2024

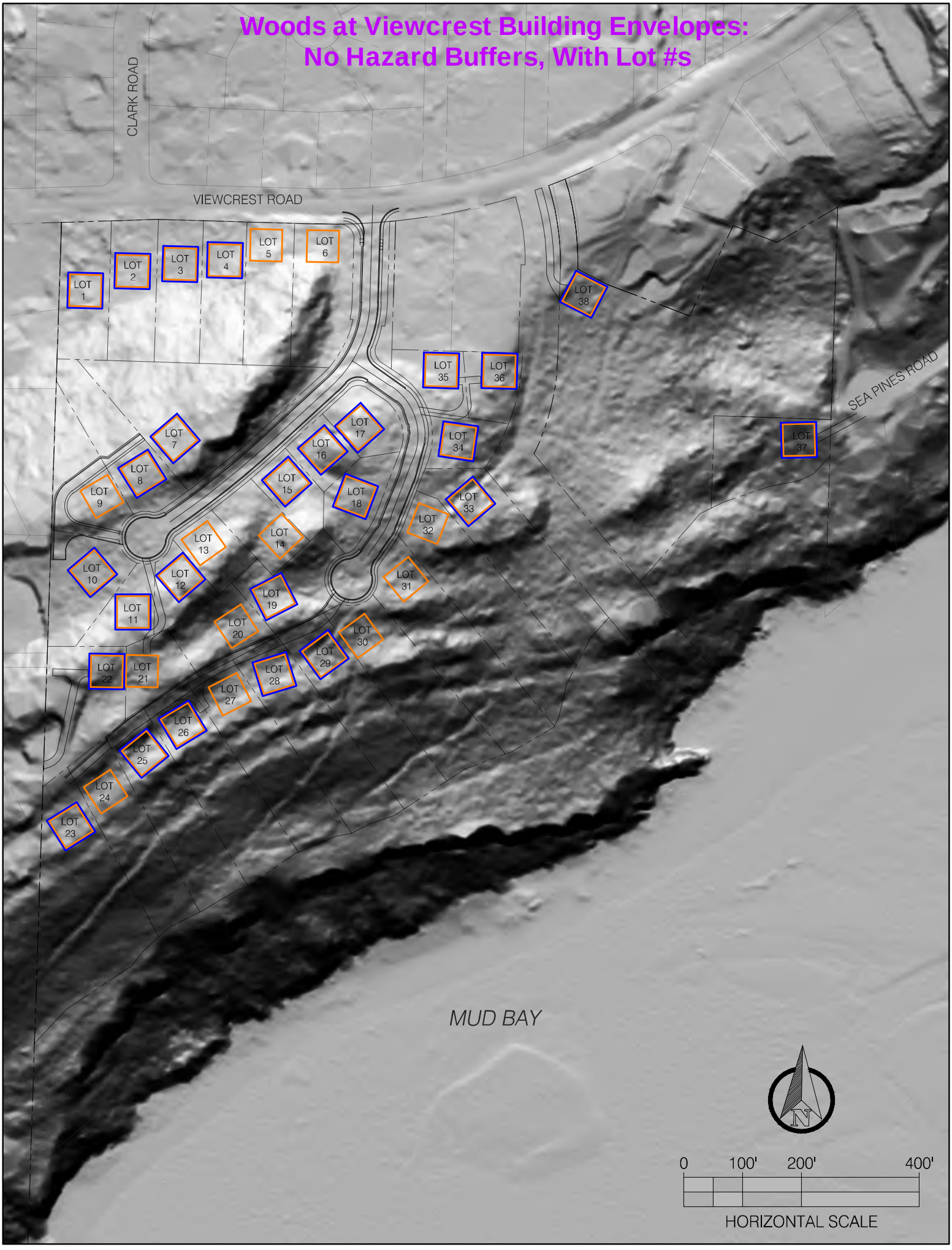
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT R

LIDAR IMAGES
BUILDING ENVELOPES
&
HAZARD BUFFERS


Woods at Viewcrest Building Envelopes:
No Hazard Buffers, With Lot #s
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VIEWCREST ROAD
SEA PINES ROAD
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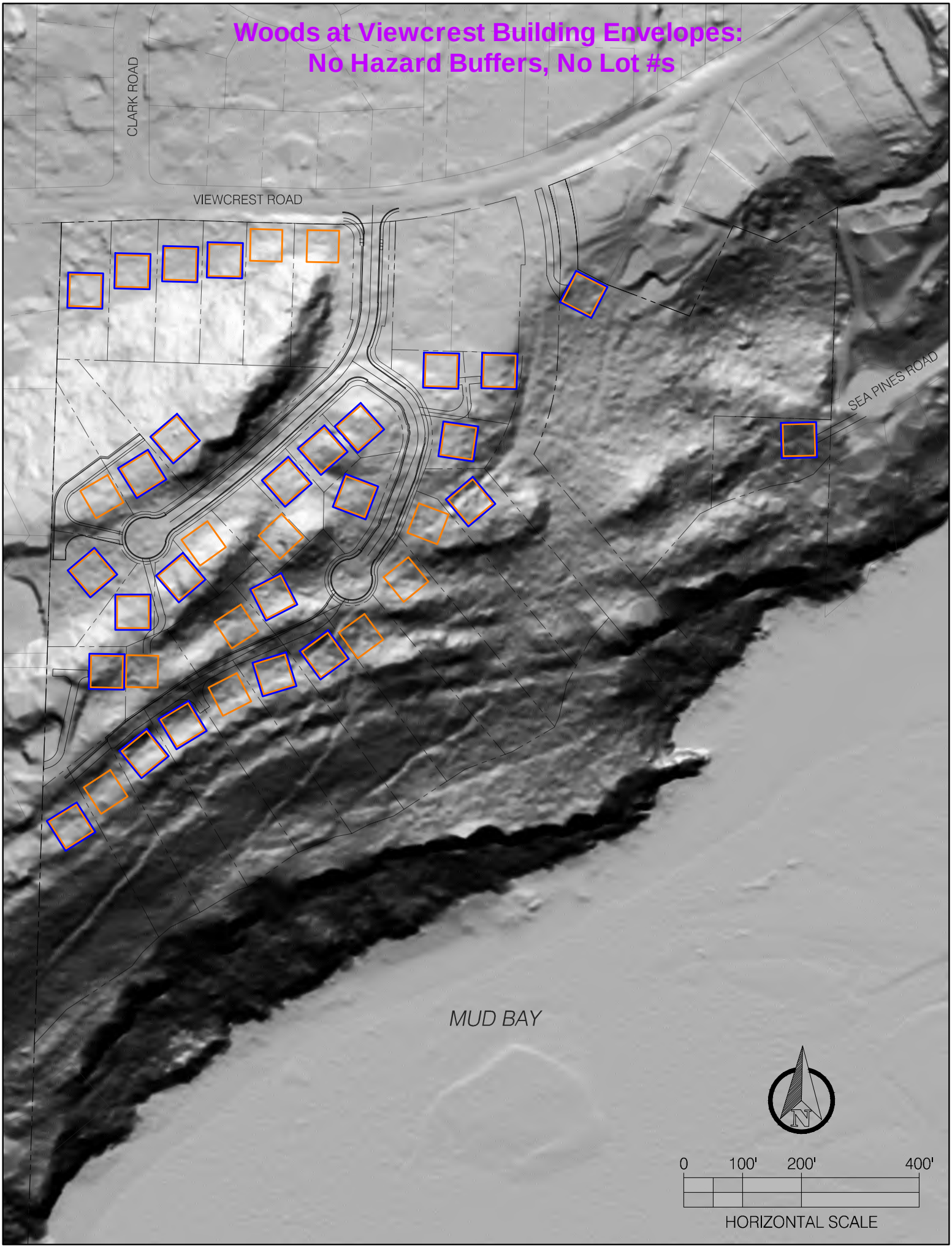
Woods at Viewcrest Building Envelopes:
No Hazard Buffers, No Lot #s
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VIEWCREST ROAD
SEA PINES ROAD
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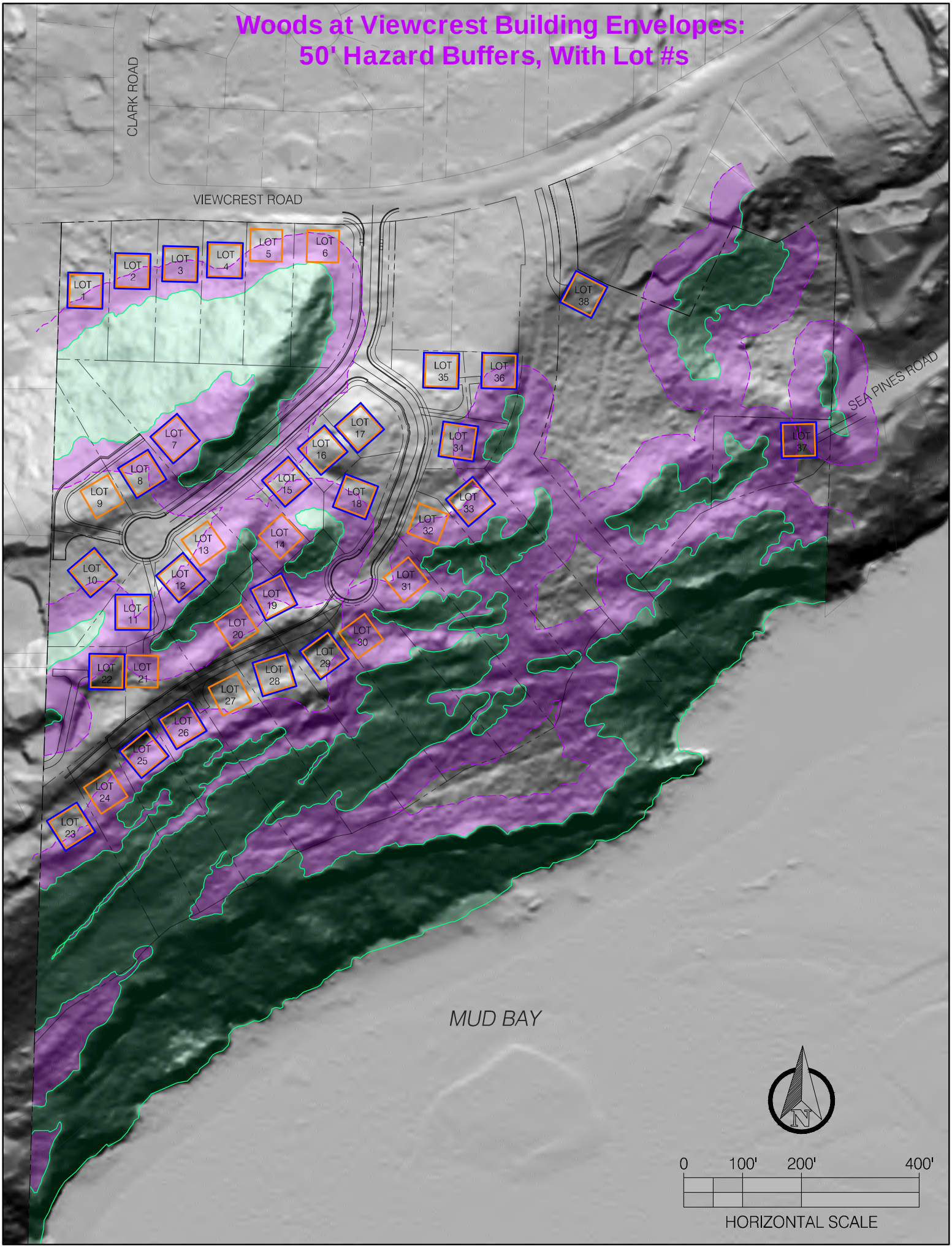
Woods at Viewcrest Building Envelopes:
50' Hazard Buffers, With Lot #s
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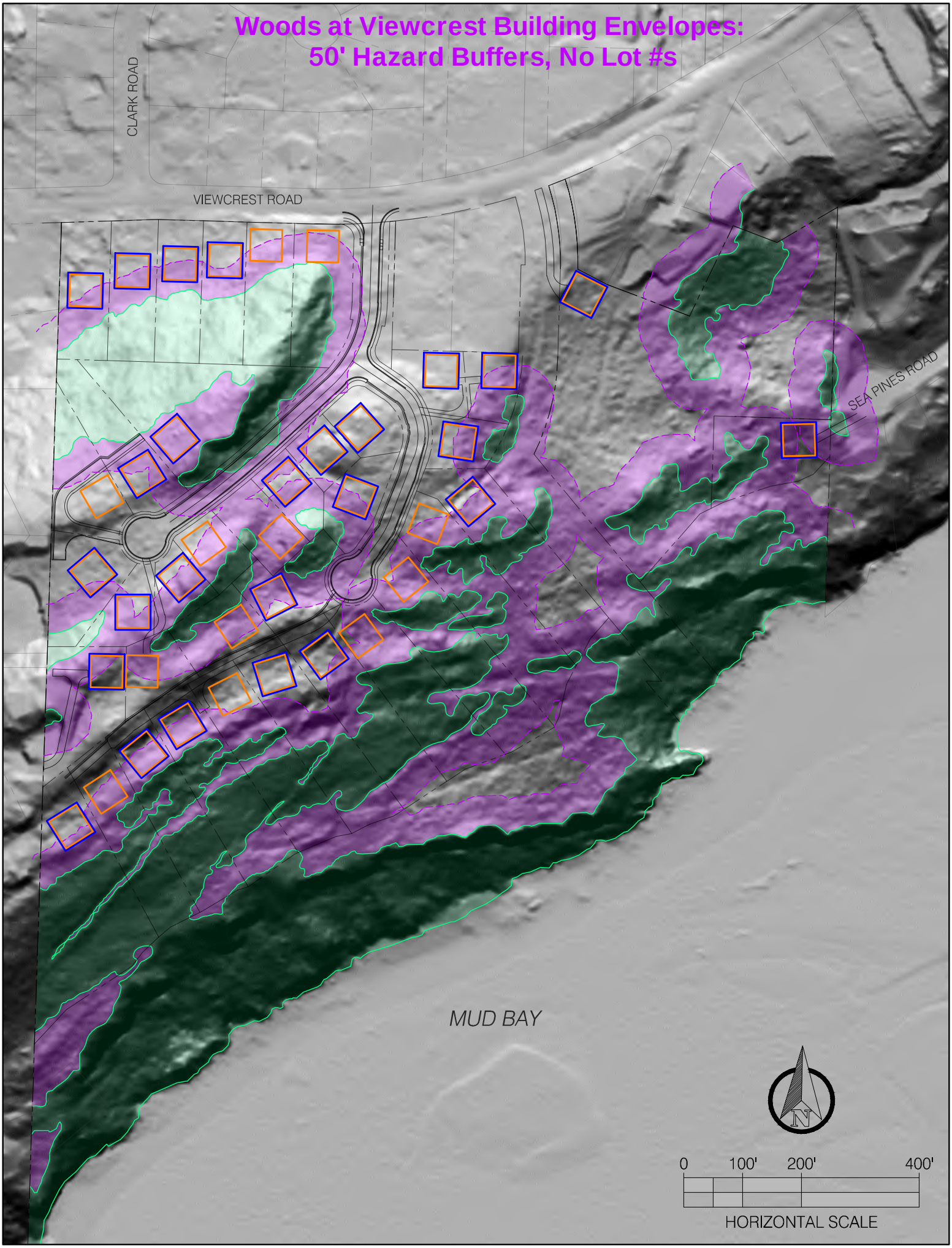
Woods at Viewcrest Building Envelopes:
50' Hazard Buffers, No Lot #s
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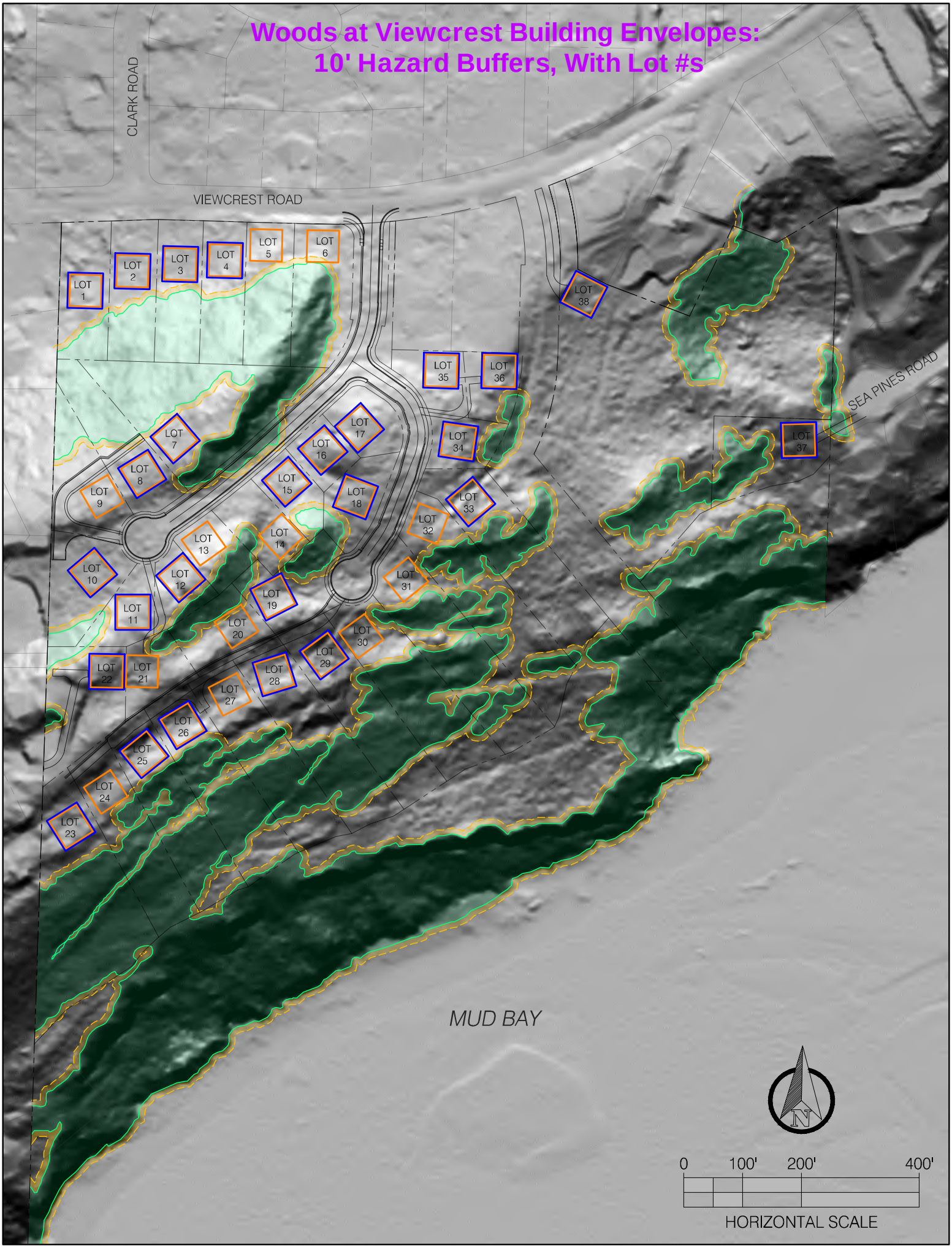
Woods at Viewcrest Building Envelopes:
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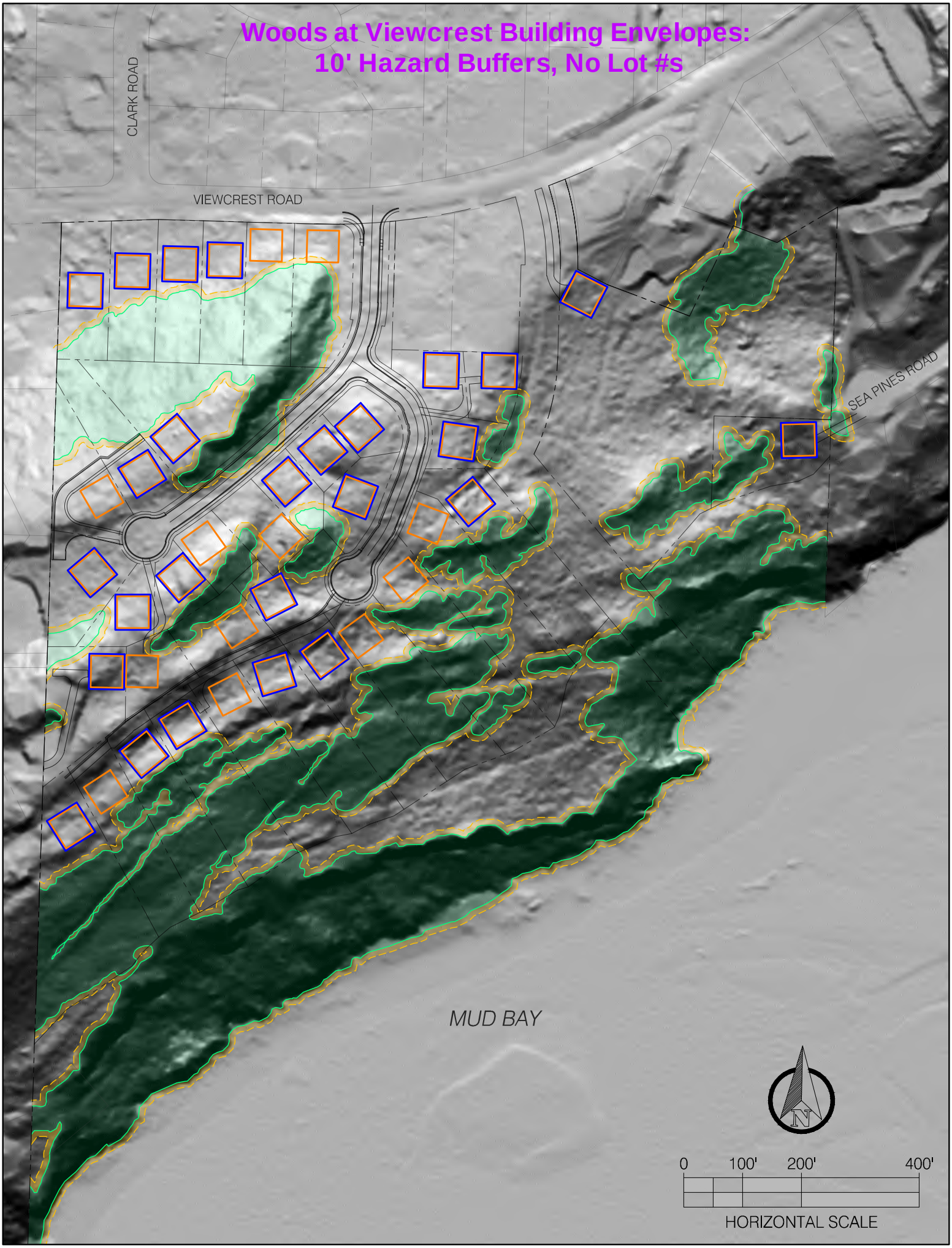
HORIZONTAL SCALE


Woods at Viewcrest Building Envelopes:
10' Hazard Buffers, No Lot #s
CLARK ROAD
VIEWCREST ROAD
SEA PINES ROAD
MUD BAY
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HORIZONTAL SCALE

Public Comment Submittal for
The Woods at Viewcrest
Administrative Record

EXHIBIT S

PETITION TO PROTECT
MUD BAY CLIFFS
&
REQUIRE EIS

1050 Larrabee Ave Suite 104 · PMB #476
Bellingham, WA 98225

April 24, 2024

Blake Lyon, Planning & Community Development Department Director
Kathy Bell, Senior Planner
Steve Sundin, Senior Environmental Planner
Renee LaCroix, Assistant Director Public Works – Natural Resources
Kim Lund, Mayor, City of Bellingham

City of Bellingham
210 Lottie Street
Bellingham, WA 98225

Sent via email

PETITION: Require an EIS for the Proposed Subdivision on Mud Bay Cliffs, *The Woods at Viewcrest*

We, the undersigned, ask you to prevent harms to Bellingham's publicly-owned spaces connected to Mud Bay Cliffs, and to safeguard our community against known and severe subdivision development risks, by requiring an Environmental Impact Statement (EIS) be prepared for *The Woods at Viewcrest*, a proposed subdivision on the mature woodlands and wetlands of Mud Bay Cliffs.

As *Protect Mud Bay Cliffs* (PMBC) has documented throughout this process, the proposed subdivision (of 4 current lots into 38 proposed lots, with up to 152 housing units) would likely impose **significant adverse impacts to the environment**. In addition to these adverse impacts, the developer's application materials are flawed in substantive ways, which further exposes the public's interests, including public investments in neighboring fish and wildlife habitats, to considerable risk. The likely significant adverse impacts, coupled with the substantive application flaws, compel the city to issue a State Environmental Protection Act (SEPA) Determination of Significance and require an EIS.

A. Unique and Special Site. The location of the proposed subdivision is unique both in its **specific characteristics** and its **physical setting**. These unique characteristics and physical setting are important factors that influence why the current subdivision proposal is likely to have significant adverse environmental impacts. The site of this proposed subdivision is currently distinguished by these features:

Specific Characteristics

- **Important Habitat Hub**. The 2021 City of Bellingham *Wildlife Corridor Analysis* designates this property, which consists of rare mature shoreline woodlands and wetlands habitat, as an *Important Habitat Hub* – and one of the only *Important Habitat Hubs* in south Bellingham that remains unprotected.
- **Geohazards**. Significant landslide, erosion and seismic hazards exist throughout the site, and they are sensitive to development disturbances including hydrological changes.
- **Storm Microclimate.** This location is well-known locally for its microclimate of gales during storms – among the strongest gales in Bellingham. Gale intensity has been increasing over the past decade due to climate change. The existing mature woodland acts as a protective buffer for wildlife (both resident and sheltering), and for the community.

Physical Setting

- **Wildlife Network**. This *Important Habitat Hub* is the center part that links two other *Important Habitat Hubs* – Clark's Point and Chuckanut Village Marsh/ Chuckanut Bay Open Space – all of which are connected to a larger, protected *Wildlife Network*. The public has invested heavily to protect and maintain the Hubs and Corridors of this Wildlife Network.
- **Estuarine Wetlands**. Mud Bay Cliffs is a key watershed adjacent to Mud Bay's Category I Estuarine Wetlands.
- **Stormwater**. Most drainage from this site flows directly into the Mud Bay Estuarine Wetlands. Drainage discharges from existing city stormwater outlets have already begun to impair the health of this wetland habitat.
- **Great Blue Herons**. The Post Point Colony of Great Blue Herons relies on this site for shelter, and on the Mud Bay Estuarine Wetlands to feed their young. This Heron Colony fled its previous home near Chuckanut Bay as a result of subdivision development activity. Significant public investment has been made to provide habitat protection for this Colony at its new Post Point nesting location.
- **Salmon.** Juvenile salmonids rely on clean water and safe passage through the Mud Bay Estuarine Wetlands, Chuckanut Village Marsh, and Chuckanut Creek. Significant public investment has been made to restore these habitats for salmon.
- **Traffic Safety and Level of Service**.
    - Traffic safety issues have been well documented on Edgemoor's narrow, hilly roads with limited sightlines, including where Viewcrest Road intersects Chuckanut Drive (State Route 11). The traffic conditions where Fairhaven Middle School meets the 12th Street Bridge are particularly dangerous. These well-documented issues create precarious and unsafe conditions for walkers, runners, cyclists, and motorists. The city has been

notified of these hazardous conditions but has yet to take any action to mitigate them.

- Viewcrest Road and the roadways it intersects provide unique access to important public amenities. These amenities tend to have more visitors seasonally and on weekends. Viewcrest's intersection with Chuckanut Drive is significant as an access point to public amenities including Clark's Point, Hundred Acre Woods (trailhead at the intersection), and the Chuckanut Scenic Byway (which itself is the sole access to multiple public parklands, trail systems, and public natural amenities).

B. Severe Application Flaws. The proposed subdivision application is severely flawed. Objective and comprehensive assessments suitable to this unique site and setting must be completed to address these flaws before an informed consideration of any subdivision proposals can be made. For example:

- The Stormwater Management Plan is incomplete, lacking key required plan elements. As proposed, the subdivision would result in significant increases in runoff volumes, speeds, and sediment/pollution loads. Moreover, by discharging polluted stormwater into the Mud Bay Estuarine Wetlands, significant adverse environmental impacts are probable. The plan fails to address how the ecologically sensitive Mud Bay Estuarine Wetlands, and the Public Shoreline, will be impacted by this development.
- The Wildlife Habitat Assessment fails to: identify this site as an *Important Habitat Hub* connected to other nearby hubs by two *Important Habitat Corridors*; address the harmful wildlife *Habitat Network* fragmentation the proposed development would cause; address impacts to the Mud Bay Estuarine Wetlands and salmon habitat of Chuckanut Village Marsh and Chuckanut Creek; address impacts to the Post Point Heron Colony (feeding and sheltering); provide a sufficient wildlife inventory.
- The Geotechnical Investigation & Geohazard Report fails to assess the impact of development on groundwater flow and the likely increase in probability, frequency and magnitude of flooding, erosion, and landslide activity. It is documented that development activities would likely make the site hazardous for the subdivision residents, neighbors, and the community at large. These dangers would begin with development disturbances, and would persist for decades to come.
- There is no Hydrology assessment at all, which this unique site's characteristics and setting necessitate. A Hydrology report is essential to evaluate potential environmental impacts, and ensure that any development at this site will not harm local ecosystems and water quality. Clearly, development of infrastructure such as roads, retention walls, driveways, structures and other hardscaping will alter the topography and the flow of water on this geologically complex site. With soils disturbances and proposed infrastructure cutting across the site, it is probable that saturation, drainage, and flooding would be greatly affected. Erosion, rockfall, landslide and flooding to the north would be likely, unless plans are developed using Hydrology information. These likely impacts could severely affect neighboring public and private lands, waters, and wildlife habitat.

- The applicant has failed to show how tree removal during both initial infrastructure development, and then later by lot owners, would impact the **mature woodland**. There is no assessment for how the gales from worsening storms, combined with extensive tree removal, would impact sheltering wildlife and public safety. There is no assessment of how the remaining trees in the proposed narrow 200-foot "buffer" along the shoreline would be affected by adjacent tree removal; it is probable that tree removal would degrade the health of nearby trees in the proposed "buffer" wildlife habitat connecting two Important Habitat Hubs.
- The Traffic Impact Analysis fails to address how Levels of Service to public parks, public natural amenities, and scenic byway would be impacted by traffic from this development. Further, it fails to address the known public safety issues which would be exacerbated by increased traffic from the 152 potential new housing units, since fourplexes would be allowed on all 38 lots under a new statewide law.

Because of this site's unique specific characteristics and unique physical setting, and because of the subdivision application's profound flaws, the city does not have the accurate, sufficient, and objective information it needs to identify and assess potential significant adverse impacts.

Moreover, the application materials themselves indicate that the proposal is likely to have a significant adverse impact on the natural environment, the built environment, and public health and safety.

We ask the city to protect our public interest and prevent harms to the community:

Require an Environmental Impact Statement, so that any permit decisions are based on a full understanding of the risks to the environment, and to public safety.

Sincerely,

Signatures

Sign. #	*Signed On*	*Name*	*City, State, Zip Code*	*Email*
1	02/28/2024 22:22:22	L. Horowitz	Bellingham, WA 98229	[redacted]i1@comcast.net
2	03/25/2024 21:20:51	M. Kay	Bellingham, WA 98229	[redacted]udbaycliffs@gobblebook.net
3	03/25/2024 21:30:59	L. Law	Bellingham, WA 98225	[redacted]os-mullet-0v@icloud.com
4	03/25/2024 21:34:50	C. Harris	Bellingham, WA 98226	[redacted]harris@gmail.com
5	03/25/2024 21:43:07	D. Sue	Bellingham, WA 98225	[redacted]e524@hotmail.com
6	03/25/2024 21:52:55	A. Ferguson	Bellingham, WA 98225	[redacted]uson@gmail.com
7	03/25/2024 22:04:24	E. Lewis	Bellingham, WA 98225	[redacted]ate94@gmail.com
8	03/25/2024 23:25:09	L. Rubens	Bellingham, WA 98225	[redacted]ubens@comcast.net
9	03/25/2024 23:28:07	S. Holtzman	Bellingham, WA 98229	[redacted]oltzman@me.com
10	03/25/2024 23:40:53	R. Dillman	Bellingham, WA 98229	dill[redacted]@gmail.com
11	03/25/2024 23:42:01	K. Cook	Bellingham, WA 98225	[redacted]ra1010@Comcast.net
12	03/25/2024 23:44:04	a. ireland	Bellingham, WA 98229	[redacted]ette@gmail.com
13	03/26/2024 4:04:28	B. Woodland	Bellingham, WA 98229	[redacted]dland@gmail.com
14	03/26/2024 5:05:21	J. Hebebrand	Bellingham, WA 98225	[redacted]heb@msn.com
15	03/26/2024 5:33:23	D. Sue	Bellingham, WA 98225	[redacted]e08@live.com
16	03/26/2024 6:14:54	K. Stevens	Chewelah, WA 99109	[redacted]tevens[redacted]@gmail.com
17	03/26/2024 6:16:29	C. BALL	Bellingham, WA 98225	[redacted]bin@corbinball.com
18	03/26/2024 6:21:30	D. Bentley	Bellingham, WA 98225	dbentle[redacted]@hotmail.com
19	03/26/2024 6:24:59	K. Poehlman	Bellingham, WA 98229	[redacted]lown@comcast.net
20	03/26/2024 6:36:03	M. Jones	Bellingham, WA 98225	[redacted]ones@gmail.com
21	03/26/2024 7:10:27	J. Goodman	Bellingham, WA 98229	goodm[redacted]@hotmail.com
22	03/26/2024 7:23:36	J. Olson	Bellingham, WA 98229	olso[redacted]@gmail.com
23	03/26/2024 7:28:43	K. Goodman	Bellingham, WA 98229	[redacted]odman@hotmail.com
24	03/26/2024 7:30:54	l. hoofnagle	bellingham, wa 98225	[redacted]oof@comcast.net
25	03/26/2024 7:47:56	J. Bourlier	Bellingham, WA 98229	[redacted]bwa@hotmail.com
26	03/26/2024 7:52:57	T. Weiss	Bellingham, WA 98225	[redacted]eiss@gmail.com
27	03/26/2024 7:54:56	M. Kaufman	Bellingham, WA 98225	[redacted]kesq[redacted]@gmail.com
28	03/26/2024 7:59:51	G. Heese	Bellingham, WA 98229	[redacted]len@gmail.com
29	03/26/2024 8:08:17	J. Koplowitz	Bellingham, WA 98225	[redacted]owitz@gmail.com
30	03/26/2024 8:12:16	D. Rangel	Bellingham, WA 98225	[redacted]ara[redacted]@gmail.com

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31	03/26/2024 8:16:51	J. Hartwell	Ferndale, WA 98248	hart[redacted]@yahoo.com
32	03/26/2024 8:31:42	W. Larson	Bellingham, WA 98225	[redacted]rson@comcast.net
33	03/26/2024 8:33:02	J. Trimble	Bellingham, WA 98225	[redacted]rimble@gmail.com
34	03/26/2024 8:37:28	M. Vodicka	Bellingham, WA 98225	[redacted]odicka@comcast.net
35	03/26/2024 8:43:57	M. Larson	Bellingham, WA 98225	m[redacted]@pro[redacted]ching.com
36	03/26/2024 8:59:24	A. Byers	Bellingham, WA 98225	byer[redacted]@gmail.com
37	03/26/2024 9:03:16	E. Snyder	Bellingham, WA 98225	[redacted]nyder[redacted]@gmail.com
38	03/26/2024 9:07:44	D. Snyder	Bellingham, WA 98225	[redacted]nyder[redacted]@gmail.com
39	03/26/2024 9:15:33	J. Daffron	Bellingham, WA 98226	[redacted]d[redacted]@gmail.com
40	03/26/2024 9:17:07	B. Craigie	Bellingham, WA 98225	b[redacted]ck@msn.com
41	03/26/2024 9:17:14	R. Craigie	Bellingham, Wa 98225	[redacted]can[redacted]@msn.com
42	03/26/2024 9:24:16	C. McGown	Bellingham, wa 98225	[redacted]n@isl[redacted]lds.com
43	03/26/2024 9:48:30	R. Leone	Bellingham, WA 98229	[redacted]one@yahoo.com
44	03/26/2024 9:49:57	M. Roe	Bellingham, WA 98226	ma[redacted]rie@gmail.com
45	03/26/2024 10:12:07	J. Sneeringer	Bellingham, Wa 98225	[redacted]eringer@gmail.com
46	03/26/2024 10:15:37	T. Williams	Bellingham, WA 98229	[redacted]entl[redacted]@hotmail.com
47	03/26/2024 10:23:12	J. Quick	Bellingham, wa 98229	[redacted]uick@outlook.com
48	03/26/2024 10:29:55	M. Varner	Bellingham, WA 98225	[redacted]eebiz@gmail.com
49	03/26/2024 10:31:46	J. Purcell	Bellingham, WA 98229	[redacted]urcell[redacted]@gmail.com
50	03/26/2024 10:36:35	P. Paul	Bellingham, WA 98225	[redacted]paul@gmail.com
51	03/26/2024 10:39:26	J. Friedman	Bellingham, WA 98225	[redacted]riedman@gmail.com
52	03/26/2024 10:41:43	S. Gillett	Bellingham, WA 98229	gillett[redacted]@gmail.com
53	03/26/2024 10:44:23	P. McGuire	Bellingham, Wa 98229	mcgu[redacted]@mac.com
54	03/26/2024 10:59:55	D. Bourlier	Bellingham, WA 98229	[redacted]bwa@gmail.com
55	03/26/2024 11:16:05	L. Gordon	Bellingham, WA 98225	[redacted]gordo[redacted]@gmail.com
56	03/26/2024 12:07:13	L. Mackenzie	Bellingham, WA 98229	[redacted]acken[redacted]@gmail.com
57	03/26/2024 12:07:37	W. Gerner	Bellingham, WA 98229	gerne[redacted]@yahoo.com
58	03/26/2024 12:10:20	P. Vandenberg	Bellingham, WA 98225	vandenb[redacted]@gmail.com
59	03/26/2024 12:17:18	V. Haycock	Bellingham, WA 98225	[redacted]aycock[redacted]@gmail.com
60	03/26/2024 12:49:18	M. Chrzastowski	Bellingham, WA 98225	chrz[redacted]@illinois.edu

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61	03/26/2024 13:12:37	c. Roberts	Bellingham, Wa 98229	myco[redacted]@gmail.com
62	03/26/2024 13:14:44	C. Hustoft	Ferndale, Wa 98248	[redacted]ellshomes@gmail.com
63	03/26/2024 13:19:44	B. Ingram	Bellingham, Wa. 98229	bin[redacted]@aol.com
64	03/26/2024 13:32:11	J. Brown	Bellingham, Wa 98225	[redacted]row@yahoo.com
65	03/26/2024 13:51:10	M. Ingram	Bellingham, WA 98229	[redacted]ing@aol.com
66	03/26/2024 14:04:38	E. KERWIN	DEMING WA 98244	[redacted]kerwi[redacted]@gmail.com
67	03/26/2024 14:07:00	B. Kraig	Bellingham, WA 98229	[redacted]raig@gmail.com
68	03/26/2024 14:07:20	P. Bruland	Bellingham, WA 98229	pbru[redacted]@gmail.com
69	03/26/2024 14:40:08	M. Oltmann	Bellingham, Wa 98225	[redacted]mjo@gmail.com
70	03/26/2024 15:12:51	C. Jorgenson	Bellingham, WA 98229	[redacted]jorge[redacted]@gmail.com
71	03/26/2024 15:44:14	S. Jentz	Bellingham, WA 98229	[redacted]jentz[redacted]@gmail.com
72	03/26/2024 15:47:01	J. Solomon	Bellingham, WA 98229	[redacted]solo[redacted]@gmail.com
73	03/26/2024 15:53:18	J. Froebe	Deming, WA 98244	[redacted]froebe@gmail.com
74	03/26/2024 16:12:15	J. Ban	Bellingham, WA 98226	[redacted]ban[redacted]@gmail.com
75	03/26/2024 16:30:15	B. Bourlier	Bellingham, WA 98229	bourli[redacted]@gmail.com
76	03/26/2024 17:04:02	B. Froebe	Bellingham, WA 98225	[redacted]alexa[redacted]@gmail.com
77	03/26/2024 17:40:11	L. Manning	BELLINGHAM, WA 98226	[redacted]manni[redacted]@outlook.com
78	03/26/2024 18:48:25	J. Hofer	Bellingham, WA 98225	[redacted]eaik[redacted]@gmail.com
79	03/26/2024 19:29:15	M. Kufeldt	Bellingham, WA 98225	[redacted]ufeld[redacted]@gmail.com
80	03/26/2024 19:36:07	T. Simmons	Bellingham, WA 98229	[redacted]simmon[redacted]@gmail.com
81	03/26/2024 19:36:57	M. Johnson	Bellingham, WA 98225	[redacted]ohnso[redacted]@gmail.com
82	03/26/2024 19:38:31	R. Schapiro	Bellingham, WA 98225	schap[redacted]@gmail.com
83	03/26/2024 19:40:20	A. Toney	Bellingham, WA 98229	[redacted]empe[redacted]@hotmail.com
84	03/26/2024 20:20:29	N. Friedman	Bellingham, WA 98225	[redacted]louf@gmail.com
85	03/26/2024 20:22:52	C. Bradley	Bellingham, WA 98225	[redacted]bradley@hotmail.com
86	03/26/2024 20:36:29	J. Ban	Bellingham, WA 98225	[redacted]ban@gmail.com
87	03/26/2024 20:47:41	A. Stodola	Bellingham, WA 98225	[redacted]todola@comcast.net
88	03/26/2024 21:20:34	S. Miller	Bellingham, WA 98225	[redacted]wbkl[redacted]@gmail.com
89	03/26/2024 21:37:45	G. Ranz	Bellingham, WA 98229	[redacted]dodo[redacted]@icloud.com
90	03/26/2024 21:46:26	L. Bradley	Bellingham, WA 98225	[redacted]b[redacted]@yahoo.com

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91	03/27/2024 6:23:35	D. Davis	Bellingham, WA 98229	[redacted]davis@gmail.com
92	03/27/2024 7:33:08	M. Jorgenson	Bellingham, WA 98229	jorgen[redacted]@gmail.com
93	03/27/2024 7:44:11	G. Pederson	Bellinham, WA 98225	[redacted]nefar[redacted]@protonmail.com
94	03/27/2024 8:31:43	K.Chapman	Bellingham, Wa 98226	[redacted]ruther[redacted]@gmail.com
95	03/27/2024 8:33:21	J. Rogers	Bellingham, WA 98225	[redacted]nbh[redacted]@gmail.com
96	03/27/2024 8:53:02	R. Shaw	Bellingham, WA 98229	[redacted]sha[redacted]@gmail.com
97	03/27/2024 8:54:14	S. Zakerski	Bellingham, WA 98229	[redacted]asiu[redacted]@comcast.net
98	03/27/2024 9:02:53	A. Tietjen	Bellingham, WA 98225	[redacted]tietjen@comcast.net
99	03/27/2024 9:39:56	J. Ogden	Bellingham, WA 98225	ogden[redacted]@yahoo.com
100	03/27/2024 9:47:27	K. McCall	Ferndale, WA 98248	[redacted]mccall@gmail.com
101	03/27/2024 10:05:56	C. Matern	Bellingham, WA 98229	[redacted]matern@comcast.net
102	03/27/2024 10:49:09	S. Reece	Bellingham, Wa 98225	reece[redacted]@aol.com
103	03/27/2024 10:58:08	C. Anderson-Ayers	Bellingham, WA 98229	[redacted]ayer[redacted]@gmail.com
104	03/27/2024 13:16:43	A. Reddy	Bellingham, WA 98229	reddy[redacted]@gmail.com
105	03/27/2024 14:31:49	K. Bell	Bellingham, WA 98225	[redacted]bell@comcast.net
106	03/27/2024 14:55:50	J. Franklin MD	Bellingham, WA 98225	[redacted]franklin@hotmail.com
107	03/27/2024 15:05:02	L. Berry	Bellingham, WA 98229	[redacted]oco[redacted]@gmail.com
108	03/27/2024 15:53:59	K. Odea	Bellingham, Washington 98229	[redacted]ode[redacted]@gmail.com
109	03/27/2024 16:05:48	M. Kelly	Bellingham, WA 98225	[redacted]kelly@yahoo.com
110	03/27/2024 16:17:40	S. Ellis	Bellingham, WA 98229	ellis[redacted]@outlook.com
111	03/27/2024 16:19:26	J. Long	Deming, WA 98244	[redacted]long@hotmail.com
112	03/27/2024 16:22:52	S. Beckett	Leavenworth, Wa 98826	[redacted]beckett[redacted]@gmail.com
113	03/27/2024 16:25:22	M. White	Bellingham, WA 98225	[redacted]white@gmail.com
114	03/27/2024 16:38:18	R. Thompson	Bellingham, WA 98225	[redacted]sieem[redacted]@gmail.com
115	03/27/2024 16:51:18	A. Synn	Bellingham, Wa 98225	[redacted]sophe[redacted]@gmail.com
116	03/27/2024 16:51:50	M. Cassel	Bellingham, WA 98229	[redacted]cassel@gmail.com
117	03/27/2024 17:08:24	P. Thompson	Bellingham, WA 98229	[redacted]lhanst@me.com
118	03/27/2024 17:17:38	K. Smith	Leavenworth, WA 98826	[redacted]wsil[redacted]@gmail.com
119	03/27/2024 17:17:45	M. MAURER	Anchorage, AK 99507	[redacted]dyma[redacted]@me.com
120	03/27/2024 17:21:30	S. Kubena	Bellingham, WA 98225	[redacted]kubena@gmail.com

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121	03/27/2024 17:45:13	Z. Paukert	Bellingham, Wa 98229	[redacted]paukert@gmail.com
122	03/27/2024 17:58:17	M. Delgadillo	Carnation, WA 98014	[redacted]elgadillo[redacted]@gmail.com
123	03/27/2024 18:05:08	P. Burris	Duvall, Wa 98019	[redacted]odo[redacted]@gmail.com
124	03/27/2024 18:06:19	S. Knaus	Blaine, WA 98230	[redacted]atthia[redacted]@gmail.com
125	03/27/2024 18:06:35	M. Bogle	Bellingham, WA 98225	[redacted]bogl[redacted]@gmail.com
126	03/27/2024 18:07:26	E. McWilliams	Bellingham, WA 98225	[redacted]mcwilliams@gmail.com
127	03/27/2024 18:10:24	A. Friederich	Bellingham, WA 98225	[redacted]friederich@gmail.com
128	03/27/2024 18:13:32	K. Butler	Bellingham, WA 98226	[redacted]butler@gmail.com
129	03/27/2024 18:23:17	C. Warner	Bellingham, WA 98229	[redacted]nema[redacted]@gmail.com
130	03/27/2024 18:25:11	D. Jones	Bellingham, WA 98225	wale[redacted]@gmail.com
131	03/27/2024 19:00:04	F. Ziegler	Bellingham, WA 98225	croix[redacted]@gmail.com
132	03/27/2024 19:03:24	K. Aychman	Bellinngham, Washington 98225	[redacted]ychman@gmail.com
133	03/27/2024 19:03:52	M. Heffernan	Bellingham, WA 98225	[redacted]heffernan@gmail.com
134	03/27/2024 19:04:44	H. Suni	Bellingham, Wa 98229	[redacted]suni@gmail.com
135	03/27/2024 19:09:23	M. Clever	Bellingham, WA 98229	[redacted]cleve[redacted]@gmail.com
136	03/27/2024 19:13:27	J. Eggerding	Bellingham, WA 98225	egger[redacted]@wwu.edu
137	03/27/2024 19:14:45	R. Nguyen	Bellingham, WA 98225	percy[redacted]@gmail.com
138	03/27/2024 19:16:59	e. werner	Maple Falls, WA 98266	[redacted]werner@hotmail.com
139	03/27/2024 19:20:59	S. Miller	Bellingham, Wa 98226	[redacted]iann[redacted]@gmail.com
140	03/27/2024 19:35:23	E. Bowen	Bellingham, WA 98226	[redacted]bowen@gmail.com
141	03/27/2024 19:44:56	M. Leung	Arlington, WA 98223	[redacted]mall[redacted]@gmail.com
142	03/27/2024 19:49:10	G. Boardman	Bellingham, WA 98226	[redacted]taden@gmail.com
143	03/27/2024 19:56:03	J. Vaughan	Bellingham, Washington 98225	[redacted]vaughan@live.com
144	03/27/2024 19:56:59	J. Witherill	Moorhead, Minnesota 56560	[redacted]witherill@gmail.com
145	03/27/2024 19:59:13	P. Baker	Bellingham, WA 98229	common[redacted]@icloud.com
146	03/27/2024 20:01:00	J. Johnson	Bellingham, WA 98225	[redacted]johnson@outlook.com
147	03/27/2024 20:12:36	B. Richardson	Sultan, WA 98294	[redacted]ilyr@gmail.com
148	03/27/2024 20:16:08	R. Lacey	Bellingham, WA 98226	[redacted]tercup[redacted]@gmail.com
149	03/27/2024 20:18:39	K. Grantham	Bellingham, WA 98226	[redacted]grantham@yahoo.com
150	03/27/2024 20:32:55	M. Henling	Seattle, Washington 98105	[redacted]enling[redacted]@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

151	03/27/2024 20:35:31	E. Wasson	Bellingham, WA 98225	wasso[redacted]@gmail.com
152	03/27/2024 20:42:57	S. Lilly	Marysville, WA 98270	[redacted]lilly@gmail.com
153	03/27/2024 21:10:52	E. Lin	Bellingham, Washington 98229	[redacted]lin[redacted]@gmail.com
154	03/27/2024 21:44:14	S. Garasky	Bellingham, WA 98225	[redacted]arasky@gmail.com
155	03/27/2024 21:59:02	K. Sheriff	Bellingham, WA 98229	ksjl[redacted]@yahoo.com
156	03/27/2024 22:05:47	L. Rosenberg	Bellingham, WA 98229	[redacted]erlis[redacted]@gmail.com
157	03/27/2024 22:06:07	P. Rosenberg	Bellingham, WA 98229	[redacted]erlis[redacted]@gmail.com
158	03/27/2024 22:09:03	A. Lucchetto	Bellingham, WA 98225	[redacted]lucchetto@gmail.com
159	03/27/2024 22:25:11	A. Nelson	Bellingham, WA 98225	[redacted]nelson[redacted]@gmail.com
160	03/27/2024 22:42:34	J. Blosmo	Bellingham, WA 98226	blosmo[redacted]@rocketmail.com
161	03/27/2024 23:00:03	E. Keller	Bellingham, WA 98229	[redacted]keller[redacted]@gmail.com
162	03/27/2024 23:09:10	C. Ochoa-Garcia	Bellingham, WA 98225	[redacted]dio1[redacted]@gmail.com
163	03/27/2024 23:20:12	M. Fleming	Bellingham, WA 98226	[redacted]fleming123@gmail.com
164	03/27/2024 23:29:04	D. Johannessen	Bellingham, WA 98225	johan[redacted]@wwu.edu
165	03/27/2024 23:34:31	R. Cosbey	Seattle, WA 98109	[redacted]sbey@live.com
166	03/27/2024 23:45:03	A. Burger	Bellingham, WA 98226	[redacted]burger@outlook.com
167	03/27/2024 23:49:56	M. Cullen	Bellingham, Washington 98225	[redacted]cullen@gmail.com
168	03/28/2024 0:16:22	H. Barringer	Port Orchard, WA 98367	barringer[redacted]@gmail.com
169	03/28/2024 0:52:16	A. Hoyt-Fowler	Bellingham, WA 98226	[redacted]kins[redacted]@icloud.com
170	03/28/2024 1:11:20	m. Burns	Bellingham, WA 98226	[redacted]burns@gmail.com
171	03/28/2024 5:05:54	A. Keirs	Bellingham, WA 98226	[redacted]nmk[redacted]@gmail.com
172	03/28/2024 5:09:28	A. Goldman	Bellingham, WA 98225	[redacted]lmonk[redacted]@gmail.com
173	03/28/2024 5:09:34	C. Zemel	Bellingham, WA 98229	[redacted]zemel@gmail.com
174	03/28/2024 5:44:26	E. D	Bellingham, WA 98226	[redacted]erec@gmail.com
175	03/28/2024 6:15:58	H. Jones	Portland, Oregon 97225	[redacted]jones[redacted]@gmail.com
176	03/28/2024 6:21:43	C. Anderson	Missoula, MT 59801	[redacted]claire[redacted]@gmail.com
177	03/28/2024 6:50:21	M. Cannon	BELLINGHAM, WA 98225	[redacted]ance[redacted]@gmail.com
178	03/28/2024 7:01:25	N. Chamberlain	Woodinville, WA 98072	[redacted]hamberlain@yahoo.com
179	03/28/2024 7:14:35	K. McQuaide	Bellingham, WA 98229	[redacted]cquak@gmail.com
180	03/28/2024 7:41:09	Z. Hawley	Bellingham, WA 98225	[redacted]hawley@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

181	03/28/2024 7:41:14	N. Lucchetto	Woodinville, WA 98072	[redacted]lucchetto@gmail.com
182	03/28/2024 7:43:36	W. Schlim	Bellingham, WA 98225	[redacted]chlim@hotmail.com
183	03/28/2024 7:45:54	M. Van Wagner	East Wenatchee, WA 98802	mv[redacted]@yahoo.com
184	03/28/2024 7:52:28	H. West	Wenatchee, Wa 98802	[redacted]west[redacted]@gmail.com
185	03/28/2024 7:58:11	S. Sherburne	Bellingham, WA 98225	[redacted]sherburne@gmail.com
186	03/28/2024 8:05:16	A. Dudgeon	WALLA WALLA, WA 99362	dudgeon[redacted]@gmail.com
187	03/28/2024 8:23:59	E. Ward	Bellingham, WA 98229	ward[redacted]@gmail.com
188	03/28/2024 8:38:26	K. Means	Gig Harbor, WA 98335	[redacted]means@gmail.com
189	03/28/2024 8:55:11	C. Hall	Seattle, WA 98107	[redacted]hall@gmail.com
190	03/28/2024 9:04:15	A. Rader	Wenatchee, WA 98801	[redacted]rader[redacted]@gmail.com
191	03/28/2024 9:06:03	A. Quintanilla	Bellingham, WA 98229	[redacted]rlfriend@gmail.com
192	03/28/2024 9:26:42	V. LaValle	Spokane, Wa 99205	[redacted]lavalle@gmail.com
193	03/28/2024 9:40:16	L. Penney	bellingham, WA 98226	[redacted]ellep@gmail.com
194	03/28/2024 9:51:38	T. Hanson	East Wenatchee, WA 98802	[redacted]ortedclass@icloud.com
195	03/28/2024 10:27:03	B. Konen	Bellingham, WA 98225	konen[redacted]@gmail.com
196	03/28/2024 10:59:17	c. bell	bellingham, wa 98225	[redacted]bell[redacted]@gmail.com
197	03/28/2024 11:43:25	L. Keller	Bellingham, Washington 98229	[redacted]keller[redacted]@gmail.com
198	03/28/2024 13:18:23	J. Love	Bellingham, WA 98225	[redacted]irl1[redacted]@hotmail.com
199	03/28/2024 14:10:39	H. Olivares	Bellingham, WA 98225	olivares[redacted]@gmail.com
200	03/28/2024 14:13:47	E. Burgess	Bellingham, WA 98225	[redacted]burgess@gmail.com
201	03/28/2024 14:20:34	C. Pickford	Bellingham, Washington 98225	[redacted]pickford@comcast.net
202	03/28/2024 14:31:15	A. Hewitt	Bellingham, WA 98225	hewitt[redacted]@gmail.com
203	03/28/2024 14:32:11	M. Brewer	Bellingham, Wa 98225	brewer[redacted]@duck.com
204	03/28/2024 14:37:19	C. Mangels	Bellingham, WA 98225	[redacted]mangels@gmail.com
205	03/28/2024 14:39:57	L. Baumgart	Seattle, Washington 98122	[redacted]baumgart@gmail.com
206	03/28/2024 14:47:46	S. Webb	Bellingham, WA 98225	[redacted]webb@yahoo.com
207	03/28/2024 14:48:12	M. Pope	Bellingham, WA 98225	[redacted]pope@gmail.com
208	03/28/2024 14:52:12	E. Walsh	Phoenix, AZ 85017	[redacted]walsh@hotmail.com
209	03/28/2024 14:56:40	L. Riber	Bellingham, WA 98229	[redacted]riber@gmail.com
210	03/28/2024 14:59:55	L. Anders	Bellingham, WA 98225	[redacted]anders@hotmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

211	03/28/2024 15:02:40	K. Dalenius	Bellingham, WA 98229	heron[redacted]@gmail.com
212	03/28/2024 15:08:09	K. Promvongsa	Tukwila, Washington 98168	[redacted]evp@gmail.com
213	03/28/2024 15:11:08	E. Archer-Krauss	Seattle, WA 98115	[redacted]ak@gmail.com
214	03/28/2024 15:15:09	C. Eisenberg	Bellingham, WA 98229	[redacted]dy@[redacted]isenberg.com
215	03/28/2024 15:16:01	H. Eisenberg	Bellingham, WA 98229	[redacted]eisenberg@aol.com
216	03/28/2024 15:23:39	J. Manning	Seattle, WA 98122	[redacted]manning5@gmail.com
217	03/28/2024 15:28:00	L. Eisenhart	Bellingham, Washington 98225	[redacted]aPufferfish@gmail.com
218	03/28/2024 15:40:11	K. Rial	Bellingham, WA 98225	[redacted]rial@gmail.com
219	03/28/2024 15:50:36	E. Amos	Bellingham, WA 98225	[redacted]vtyee@gmail.com
220	03/28/2024 15:52:19	M. Nielsen	Bellingham, WA 98225	[redacted]akebunn[redacted]@gmail.com
221	03/28/2024 16:06:44	A. Dallmann	Bellingham, Washington 98225	[redacted]bea@outlook.com
222	03/28/2024 16:20:48	M. LaPorte	Bellingham, Wa 98225	[redacted]andy@gmail.com
223	03/28/2024 16:21:46	A. Davis	Bellingham, WA 98225	[redacted]dee@gmail.com
224	03/28/2024 16:32:43	O. Marsh	Vancouver, WA 98661	[redacted]marsh[redacted]@gmail.com
225	03/28/2024 16:34:02	T. Turk	Bellingham, WA 98225	[redacted]turk@gmail.com
226	03/28/2024 16:49:43	A. Huston	Seattle, WA 98125	[redacted]huston@gmail.com
227	03/28/2024 16:58:18	S. Nelson	Bellingham, WA 98225	nelson[redacted]@outlook.com
228	03/28/2024 17:12:07	J. Leavitt	Bellingham, WA 98225	[redacted]nomeofdoom@gmail.com
229	03/28/2024 17:18:14	J. Phillips	Bellingham, WA 98225	[redacted]oceans@gmail.com
230	03/28/2024 17:24:07	G. Van Dine	Bellingham, WA 98225	[redacted]ndine@gmail.com
231	03/28/2024 17:25:18	S. Spinks	Bellingham, Washington 98226	[redacted]tobugster@yahoo.com
232	03/28/2024 17:35:58	K. mccloskey	Bellingham, WA 98229	[redacted]nightsta[redacted]@gmail.com
233	03/28/2024 17:39:20	K. Combs	Bellingham, WA 98225	[redacted]london@gmail.com
234	03/28/2024 17:41:00	S. Baddeley	Bellingham, WA 98225	[redacted]ddeley@live.com
235	03/28/2024 17:43:14	Z. Ulmer	Bellingham, WA 98225	[redacted]ulmer@gmail.com
236	03/28/2024 17:45:05	C. Elston	Anacortes, Washington 98221	elston[redacted]@gmail.com
237	03/28/2024 17:45:19	A. Short	Bellingham, WA 98225	[redacted]drabliss@gmail.com
238	03/28/2024 17:47:24	A. Patton	Auburn, WA 98001	[redacted]patton@students.highline.edu
239	03/28/2024 17:47:52	M. Rossen	Bellingham, Washington 98225	rossen[redacted]@gmail.com
240	03/28/2024 17:51:46	T. Treanton	Olympia, Wa 98365	[redacted]eanton@gmail.com

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241	03/28/2024 17:59:08	S. Carter	Arlington, WA 98223	[redacted]carter[redacted]@gmail.com
242	03/28/2024 18:04:28	J. Clawson	Bellingham, WA 98229	clawson[redacted]@gmail.com
243	03/28/2024 18:07:27	B. Mayer	Bellingham, WA 98225.	[redacted]mayer[redacted]@gmail.com
244	03/28/2024 18:30:23	M. Kodish	Boulder, CO 80302	[redacted]kodish@gmail.com
245	03/28/2024 18:31:04	K. Giesen	Bellingham, WA 98225	[redacted]giesen[redacted]@gmail.com
246	03/28/2024 18:32:21	C. Lloyd	Bellingham, WA 98225	[redacted]lloyd@gmail.com
247	03/28/2024 18:39:59	L. Condardo	Bellingham, WA 98226	[redacted]yc[redacted]@gmail.com
248	03/28/2024 18:47:20	M. Rijkers	Bellingham, WA 98229	[redacted]rijkers[redacted]@gmail.com
249	03/28/2024 19:10:16	R. Urry	Ferndale, WA 98248	[redacted]urry@gmail.com
250	03/28/2024 19:10:49	T. Perler	Bellingham, Wa 98226	[redacted]amp[redacted]@gmail.com
251	03/28/2024 19:13:17	S. Zhou	Bellingham, WA 98225	[redacted]zhou[redacted]@yahoo.com
252	03/28/2024 19:13:43	a. white	bellingham, wa 98225	[redacted]white[redacted]@gmail.com
253	03/28/2024 19:14:08	j. galaviz	bellingham, wa 98229	[redacted]galaviz[redacted]@gmail.com
254	03/28/2024 19:21:27	S. Saling	Bellingham, Washington 98225	saling[redacted]@gmail.com
255	03/28/2024 19:22:40	M. Mader	Bellingham, WA 98229	[redacted]ader[redacted]@gmail.com
256	03/28/2024 19:40:41	N. Gale	Bellingham, WA 98228	[redacted]gale@gmail.com
257	03/28/2024 19:42:38	G. Gale	Bellingham, WA 98229	ggale[redacted]@gmail.com
258	03/28/2024 19:44:46	A. Bierman	BOZEMAN, MT 59718	[redacted]bierman[redacted]@gmail.com
259	03/28/2024 19:52:09	K. Camacho	Bellingham, Washington 98229	[redacted]camacho@gmail.com
260	03/28/2024 19:55:38	H. McClaran	Bellingham, Washington 98225	[redacted]mcclaran@yahoo.com
261	03/28/2024 19:58:32	W. Sofranko	Bellingham, WA 98229	[redacted]sofranko@gmail.com
262	03/28/2024 19:58:48	T. Baddeley	Minneapolis, MN 55404	[redacted]baddeley[redacted]@gmail.com
263	03/28/2024 20:02:32	K. Sandoz	Bellingham, WA 98225	[redacted]sandoz@gmail.com
264	03/28/2024 20:04:37	A. Davidson	Bellingham, WA 98229	[redacted]davidson[redacted]@gmail.com
265	03/28/2024 20:08:43	C. VanderYacht	Bellingham, WA 98225	[redacted]ezy[redacted]@gmail.com
266	03/28/2024 20:11:47	A. Poehlman	Bellingham, WA 98229	[redacted]oehlman@icloud.com
267	03/28/2024 20:21:53	K. Collier	Burnsville, Mn 55036	[redacted]collier@gmail.com
268	03/28/2024 20:25:37	A. Radtke	Bellingham, WA 98225	[redacted]radtke@gmail.com
269	03/28/2024 20:34:13	C. O'Brien	Bellingham, WA 98226	[redacted]rien[redacted]@gmail.com
270	03/28/2024 21:05:46	Q. McQuade	Bellingham, WA 98225	[redacted]mcquade@gmail.com

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271	03/28/2024 21:06:05	A. Mann	La Grande, OR 97850	[redacted]mann@gmail.com
272	03/28/2024 21:19:18	J. Kingsley	Bellingham, WA 98225	[redacted]kingsley@gmail.com
273	03/28/2024 21:21:19	C. Schwanebeck	Bellingham, WA 98225	[redacted]ibo[redacted]@gmail.com
274	03/28/2024 21:25:13	A. Patton	Bellingham, WA 98225	[redacted]patton@students.highline.edu
275	03/28/2024 21:26:22	C. Meliah	Bellingham, WA 98225	[redacted]eliah@gmail.com
276	03/28/2024 21:37:49	A. Gallant	Bellingham, WA 98225	[redacted]allant124@gmail.com
277	03/28/2024 21:45:15	L. Knipfer	Santa Ana, CA 92705	[redacted]knipfer27@gmail.com
278	03/28/2024 21:46:34	S. McVicker	Bellingham, WA 98225	[redacted]mcvicker@gmail.com
279	03/28/2024 21:50:34	K. Lilly	Marblemount, Washington 98267	[redacted]lilly12@gmail.com
280	03/28/2024 22:01:18	A. Raylhoff	Bellingham, WA 98226	[redacted]hoffman@gmail.com
281	03/28/2024 22:06:52	K. Coleman	Bellingham, WA 98226	[redacted]coleman37@gmail.com
282	03/28/2024 22:07:32	L. Perrin	Sedro Woolley, WA 98284	[redacted]perrin@hotmail.com
283	03/28/2024 22:16:40	S. Gallant	Bellingham, Wa 98226	gallant[redacted]@comcast.net
284	03/28/2024 22:16:57	L. Swenson	Bellingham, WA 98225	swenson[redacted]@gmail.com
285	03/28/2024 22:23:39	B. Werda	Custer, WA 98240	[redacted]ablackfrost@yahoo.com
286	03/28/2024 22:31:36	E. Johnson	Bellingham, WA 98225	[redacted]johnson7@gmail.com
287	03/28/2024 22:44:41	L. Aikenhead	Blaine, WA 98231	[redacted]aikenhead[redacted]@gmail.com
288	03/28/2024 22:46:24	N. Perpich	Bellingham, WA 98229	[redacted]tr8r@gmail.com
289	03/28/2024 23:11:25	A. Chapman	Bellingham, WA 98229	[redacted]chapman@hotmail.com
290	03/28/2024 23:48:40	J. Sayegh	Bellingham, Washington 98225	[redacted]ca10@yahoo.com
291	03/29/2024 0:40:04	E. Solevad	Bellingham, WA 98225	[redacted]bluesky1@gmail.com
292	03/29/2024 4:51:05	A. Everett	Raymond, WA 98577	[redacted]jean9797@gmail.com
293	03/29/2024 5:59:04	E. Mae Blythe	Bellingham, WA 98225	[redacted]blythe@gmail.com
294	03/29/2024 6:33:05	P. Lombard	Bellingham, WA 98229	[redacted]lombard@comcast.net
295	03/29/2024 6:35:57	J. Lombard	Bellingham, WA 98229	[redacted]lombard@comcast.net
296	03/29/2024 6:54:48	S. McMahon	Bellingham, Washington 98225	[redacted]mcmahon@gmail.com
297	03/29/2024 7:12:14	S. McWhorter	Bellingham, WA 98225	[redacted]laurel27@gmail.com
298	03/29/2024 7:20:58	K. Baldwin	Minneapolis, Mn 55430	[redacted]baldwin97@yahoo.com
299	03/29/2024 7:28:03	j. henifin	Bellingham, WA 98225	[redacted]attbamm@comcast.net
300	03/29/2024 7:40:48	S. McGhee	Bellingham, WA 98226	[redacted]mcghee95@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

301	03/29/2024 7:44:34	L. Young	Bellingham, WA 98225	[redacted]youngg55@gmail.com
302	03/29/2024 8:18:55	A. Griffin	Bellingham, WA 98226	[redacted]iffin92@gmail.com
303	03/29/2024 8:24:19	A. Andersen	Seattle, WA 98133	[redacted]andersen.24@gmail.com
304	03/29/2024 8:24:31	S. Sternhagen	Sedro woolley, Washington 98284	[redacted]sternhagen@gmail.com
305	03/29/2024 8:24:42	K. Dailer	Bellingham, Washington 98225	[redacted]dijade@gmail.com
306	03/29/2024 8:46:43	Z. Amos	Bellingham, WA 98226	[redacted]amos@yahoo.com
307	03/29/2024 9:07:21	A. Thut	Beaverton, Or 987003	thut[redacted]@gmail.com
308	03/29/2024 9:07:53	A. Glover	Bellingham, Washington 98225	[redacted]glover@gmail.com
309	03/29/2024 9:10:20	N. Althea	Bellingham, WA 98229	[redacted]althea@gmail.com
310	03/29/2024 9:12:51	C. Wood-Foucar	Bellingham, Washington 98225	[redacted]wf13@gmail.com
311	03/29/2024 9:17:17	s. brotherton	Bellingham, WA 98229	[redacted]brotherton@gmail.com
312	03/29/2024 9:25:53	S. Jantsch	Bellingham, WA 98226	[redacted]jantsch@gmail.com
313	03/29/2024 9:30:21	A. Suciu	Bellingham, WA 98225	[redacted]suciu20@gmail.com
314	03/29/2024 9:43:27	A. Olson	BELLINGHAM, WA 98225	[redacted]limeko1998@gmail.com
315	03/29/2024 9:59:32	S. Zylstra	Bellingham, WA 98225	[redacted]npdx@gmail.com
316	03/29/2024 10:00:00	K. Varda	Bellingham, WA 98225	[redacted]varda@gmail.com
317	03/29/2024 10:01:01	B. Chevalier	Bellingham, WA 98226	[redacted]4457@comcast.net
318	03/29/2024 10:17:28	C. Campbell	Bellingham, WA 98225	[redacted]dernesslobo4@gmail.com
319	03/29/2024 10:23:08	L. Hartman	Kailua Kona, HI 96745	[redacted]hartman@gmail.com
320	03/29/2024 10:57:33	N. Drougas	Bellingham, Washington 98225	[redacted]rougas@gmail.com
321	03/29/2024 11:52:03	M. Schenet	Bellingham, WA 98225	[redacted]schenet@msn.com
322	03/29/2024 11:58:48	R. Burrows	Bellingham, WA 98225	[redacted]mbee3@hotmail.com
323	03/29/2024 12:05:55	I. Mallett	bellingham, wa 98226	[redacted]mallett@gmail.com
324	03/29/2024 12:47:09	A. Monson	Seattle, WA 98122	[redacted]eysariah@gmail.com
325	03/29/2024 12:50:30	Logan Richards	Esquimalt, BC V9A 4S2	richards[redacted]@gmail.com
326	03/29/2024 12:57:02	H. Gleason	Portland, OR 97209	[redacted]gleason@gmail.com
327	03/29/2024 13:04:15	M. Jones	Bellingham, WA 98229	[redacted]jones[redacted]@gmail.com
328	03/29/2024 13:22:13	B. Pulisevich	Bellingham, CA 98229	[redacted]lisevich@gmail.com
329	03/29/2024 13:54:18	R. Husband	Burlington, WA 98233	[redacted]cole11@gmail.com
330	03/29/2024 14:00:22	A. Detering	Bellingham, WA 98226	[redacted]detering@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

331	03/29/2024 14:28:06	K. Herrera	seattle, WA 98103	kourtneyday@gmail.com
332	03/29/2024 14:42:54	A. Radford	Salt Lake City, UT 84112	[redacted]radford@gmail.com
333	03/29/2024 14:46:25	L. Lee	Bellingham, WA 98225	[redacted]lee@gmail.com
334	03/29/2024 15:00:25	J. Orr	Bellingham, Wa 98225	[redacted]works@yahoo.com
335	03/29/2024 15:50:20	L. Chalmers	Bellingham, WA 98225	[redacted]chalmers@yahoo.com
336	03/29/2024 18:30:29	E. Morrison	Portland, OR 97214	[redacted]morrison@gmail.com
337	03/29/2024 23:19:33	J. Migaki	Bellingham, WA 98225	migaki[redacted]@gmail.com
338	03/30/2024 6:56:42	M. Feerer	Bellingham, WA 98229	[redacted]hael@whatcommilliontrees.org
339	03/30/2024 12:57:52	C. Fuehr-Bush	Bellingham, WA 98225	[redacted]fuehrbush@gmail.com
340	03/30/2024 14:11:41	S. Sharpe	Bellingham, WA 98225	[redacted]emakker915@hotmail.com
341	03/30/2024 14:23:57	P. TROUTMAN	BELLINGHAM, WA 98229	[redacted]OUTMAN@FASTMAIL.COM
342	03/30/2024 14:45:14	C. McCarthy	Bellingham, WA 98225	[redacted]mccarthy@gmail.com
343	03/30/2024 15:33:07	C. Allen	Bellingham, WA 98225	[redacted]allen@comcast.net
344	03/30/2024 15:34:28	J. Lewis	Bellingham, Washington 98229	[redacted]lsofduskrain@gmail.com
345	03/30/2024 15:47:02	J. Kutzke	Bellingham, WA 98225	[redacted]kutzke3@gmail.com
346	03/30/2024 16:03:29	A. Angel	Bellingham, WA 98225	[redacted]angel23@gmail.com
347	03/30/2024 16:03:34	L. Fredriksson	Bellingham, WA 98225	[redacted]eaf18@gmail.com
348	03/30/2024 16:04:57	D. Graf	Anacortes, WA 98221	[redacted]affe8@hotmail.com
349	03/30/2024 16:54:58	K. BERNTT	Point Roberts, Washington 98281	[redacted]rntt@gmail.com
350	03/30/2024 17:35:19	P. Clark	Bellingham, WA 98225	clark[redacted]@gmail.com
351	03/30/2024 18:14:30	A. Starr	Bellingham, Wa 98225	[redacted]starr@gmail.com
352	03/30/2024 18:29:38	K. Sommers	Bellingham, Washington 98229	[redacted]sommers73@gmail.com
353	03/30/2024 19:27:59	W. Wright	Bellingham, Washington 98225	[redacted]rlinuxuser@gmail.com
354	03/30/2024 22:01:08	M. Morton	Ballingham, WA 98225	[redacted]morton@yahoo.com
355	03/31/2024 1:43:43	k. cummings	Bellingham, WA 98225	[redacted]imyk24@comcast.net
356	03/31/2024 6:38:49	C. Driscoll	Bellingham, Wa 98225	[redacted]scoll1990@gmail.com
357	03/31/2024 7:46:45	D. Schmidt	Bellingham, WA 98225	[redacted]schmidt@gmail.com
358	03/31/2024 7:48:31	I. Newell	Bellingham, WA 98225	[redacted]newell513@gmail.com
359	03/31/2024 8:29:40	M. Garasky	Bellingham, WA 98225	[redacted]garasky@gmail.com
360	03/31/2024 10:14:18	N. Orlowski	Bellingham, WA 98225	[redacted]rlowski@yahoo.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

361	03/31/2024 13:31:56	K. LAUCKHARDT	BELLINGHAM, WA 98225	[redacted]UCKHARDT@GMAIL.COM
362	03/31/2024 14:45:56	K. Di Nitto	Bellingham, WA 98225	[redacted]anko@gmail.com
363	03/31/2024 15:23:12	R. Ball	Bellingham, WA 98225	[redacted]frenich@gmail.com
364	03/31/2024 16:49:14	L. Dryland	Bellingham, WA 98225	[redacted]dryland@me.com
365	03/31/2024 18:06:08	W. Newton	Bellingham, WA 98225	[redacted]newton13@gmail.com
366	03/31/2024 18:38:54	P. McNamee	Bellingham, WA 98229	[redacted]mcnamee@gmail.com
367	04/01/2024 9:59:41	J. Donaldson	Bellingham, WA 98225	[redacted]iek@netidea.com
368	04/01/2024 10:06:58	S. Hodson	Bellingham, WA 98229	[redacted]odson5@gmail.com
369	04/01/2024 11:00:39	M. McNamee	Bellingham, WA 98229	[redacted]mcnamee@yahoo.com
370	04/01/2024 16:38:09	D. Coburn	Bellingham, WA 98229	[redacted]oburn@hotmail.com
371	04/01/2024 18:22:07	G. Gale	Bellingham, WA 98229	[redacted]le34@gmail.com
372	04/01/2024 19:13:49	J. Cunniffe	Bellingham, Wa 98225	[redacted]@delpoz[redacted].com
373	04/01/2024 19:14:12	V. Fish	Bellingham, WA 98229	[redacted]fish@yahoo.com
374	04/01/2024 19:16:09	J. Fleetwood	Bellingham, WA 98225	[redacted]leetwood@comcast.net
375	04/01/2024 19:29:01	m. larson	bellingham, wa 98229	[redacted]larson@comcast.net
376	04/01/2024 19:44:56	R. Jaffe	Bellingham, WA 98225	[redacted]jaffe@gmail.com
377	04/01/2024 20:13:30	K. Boon	Bellingham, WA 98229	[redacted]k55[redacted]@gmail.com
378	04/01/2024 20:43:44	T. Hunter	Blaine, WA 98230	[redacted]smail@gmail.com
379	04/01/2024 20:45:41	A. Leopold	Everett, WA 98201	leopold[redacted]@gmail.com
380	04/01/2024 21:41:11	L. Rosen	Bellingham, WA 98225	[redacted]rosen@aol.com
381	04/02/2024 0:10:44	P. Self	Bellingham, WA 98226	[redacted]self@gmail.com
382	04/02/2024 7:06:28	J. Higbee-Robinson	Bellingham, WA 98229	[redacted]gbeerobinson@gmail.com
383	04/02/2024 8:38:36	M. McLean	Bellingham, WA 98225	[redacted]mclean@gmail.com
384	04/02/2024 8:49:21	T. Johannessen	Bellingham, WA 98229	[redacted]johannessen@gmail.com
385	04/02/2024 8:50:34	T. Campione	Bellingham, WA 98229	[redacted]campione@gmail.com
386	04/02/2024 8:51:24	S. Brownsberger	Bellingham, WA 98225	[redacted]fb@hotmail.com
387	04/02/2024 9:26:11	A. Fleming-Rosen	BELLINGHAM, WA 98226	[redacted]alice@hotmail.com
388	04/02/2024 9:33:38	S. Crockett	Bellingham, WA 98225	[redacted]crockett@gmail.com
389	04/02/2024 10:05:33	L. Hartwell	Ferndale, Washington 98248	[redacted]hartwell@gmail.com
390	04/02/2024 10:30:38	r. nelson	Bellingham, WA 98229	[redacted]@felinity.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

391	04/02/2024 11:19:06	B. Edwards	Bellingham, WA 98229	[redacted]edward@aol.com
392	04/02/2024 12:39:59	H. Maness	Bellingham, WA 98225	[redacted]maness@gmail.com
393	04/02/2024 12:42:48	J. Graham	Bellingham, WA 98225	[redacted]graham@gmail.com
394	04/02/2024 12:49:36	M. Gale	Hood River, OR 97031	[redacted]gcas[redacted]@gmail.com
395	04/02/2024 14:13:58	C. Hoffenbacker	Bellingham, WA 98225	[redacted]riffin@hotmail.com
396	04/02/2024 14:30:30	C. Battis	Bellingham, WA 98225	[redacted]attis@gmail.com
397	04/02/2024 14:49:15	H. Moriarty	Bellingham, WA 98226	[redacted]h.elm@gmail.com
398	04/02/2024 17:18:23	D. Jewell	Everson, Washington 98247	[redacted]jewellll@outlook.com
399	04/02/2024 17:26:41	P. Migaki	Bellingham, WA 98225	[redacted]ptm@yahoo.com
400	04/02/2024 18:33:38	M. Trimble	Bellingham, WA 98225	[redacted]imble[redacted]@gmail.com
401	04/02/2024 18:43:50	M. Wilk	Bellingham, WA 98225	maw4_us@yahoo.com
402	04/02/2024 20:27:08	J. Bennett	Bellingham, WA 98229	[redacted]bennett@gmail.com
403	04/02/2024 20:31:33	A. Matsumoto-Grah	Bellingham, Wa 98225	[redacted]inmg@yahoo.com
404	04/02/2024 20:47:29	L. Scherer	Bellingham, Washington 98226	[redacted]scherer@cablespeed.com
405	04/02/2024 23:06:54	A. Peck	Bellingham, wa 98225	[redacted]peck20@gmail.com
406	04/03/2024 7:08:18	D. DeSalvo	Bellingham, Washington 98225s	[redacted]desalvo99@gmail.com
407	04/03/2024 7:48:24	M. Madsen	Bellingham, Wa 98226	[redacted]madsen90@outlook.com
408	04/03/2024 7:53:19	M. Foster	Bellingham, WA 98226	[redacted]fosterjo@gmail.com
409	04/03/2024 7:59:30	D. Masler	Bellingham, WA 98229	[redacted]@[redacted]masler.com
410	04/03/2024 8:03:44	N. Schilling	Bellingham, WA 98225	[redacted]boniest_0v@icloud.com
411	04/03/2024 8:06:08	K. Carroll	Seattle, Washington 98107	[redacted]carroll@hotmail.com
412	04/03/2024 8:18:27	J. McKinney	Bellingham, WA 98226	[redacted]mck@comcast.net
413	04/03/2024 8:22:47	B. Warner	Spokane, WA 99207	[redacted]warner[redacted]@gmail.com
414	04/03/2024 8:39:04	A. Gruetzenbach	Puyallup, Washington 98373	[redacted]gruetzenbach@gmail.com
415	04/03/2024 8:43:42	P. Hoyt	Loveland, CO 80538	[redacted]1828@gmail.com
416	04/03/2024 8:47:03	R. Hartford	Bellingham, WA 98225	[redacted]home@me.com
417	04/03/2024 8:56:19	S. Mahlum	puyallup, washington 98373	[redacted]mahlum1212@gmail.com
418	04/03/2024 8:58:52	A. Keen	Bellingham, WA 98225	[redacted]urplegirl@hotmail.com
419	04/03/2024 9:00:05	H. Gangwish	Woodinville, WA 98077	[redacted]gangwish@gmail.com
420	04/03/2024 9:00:13	g. laplante	Fort Collins, CO 80528	04[redacted]@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

421	04/03/2024 9:12:48	O. Forester	Bellingham, WA 98229	[redacted]orester@gmail.com
422	04/03/2024 10:11:13	E. Horan	Seattle, WA 98102	[redacted]horan@gmail.com
423	04/03/2024 10:11:39	K. Heinke	Bellingham, WA 98226	[redacted]inke@comcast.net
424	04/03/2024 10:20:21	T. McWilliams	Bellingham, Wa 98226	[redacted]mcwilliams@gmail.com
425	04/03/2024 10:27:26	A. Hussain	Bellingham, WA 98226	[redacted]h1337@gmail.com
426	04/03/2024 10:42:24	S. Brigham	Bellingham, WA 98225	[redacted]igham@icloud.com
427	04/03/2024 10:43:18	G. Hoffenbacker	Bellingham, WA 98225	[redacted]h60@hotmail.com
428	04/03/2024 11:13:26	J. Barker	Bellingham, wa 98225	[redacted]ka@comcast.net
429	04/03/2024 11:26:30	K. Gruetzenbach	Puyallup, WA 98373	[redacted]gruetzenbach@gmail.com
430	04/03/2024 11:31:23	D. Helling	Bellingham, WA 98229	[redacted]lling@gmail.com
431	04/03/2024 11:39:08	T. Davis	Bellingham, Washington 98225	[redacted]davis@duck.com
432	04/03/2024 11:58:35	E. Probasco	Sedro Woolley, WA 98284	mne[redacted]@gmail.com
433	04/03/2024 12:09:55	L. Fritzen	Bellingham, WA 98225	[redacted]fritzen@comcast.net
434	04/03/2024 12:19:02	R. Hill	Bellingham, Washington 98229	[redacted]hill@gmail.com
435	04/03/2024 13:10:42	H. Berg	Spokane, WA 99204	[redacted]berg369@gmail.com
436	04/03/2024 13:29:19	K. Maloney	ferndale, Wa 98248	maloney[redacted]@gmail.com
437	04/03/2024 13:31:09	M. Burkholder	Bellingham, WA 98225	[redacted]rkholder12@gmail.com
438	04/03/2024 13:56:18	C. Dockins	Everson, WA 98247	[redacted]dockins@gmail.com
439	04/03/2024 14:34:31	S. Burch	Bellingham, WA 98225	[redacted]616@gmail.com
440	04/03/2024 14:53:43	M. Campbell	Bellingham, WA 98225	[redacted]campbell05@gmail.com
441	04/03/2024 15:07:57	B. Maloney	Ferndale, WA 98248	[redacted]tuscrew2@yahoo.com
442	04/03/2024 15:27:22	B. Allred	Bellingham, WA 98229	[redacted]allred@outlook.com
443	04/03/2024 16:03:41	C. Lachapelle	Bellingham, Wa 98229	[redacted]lachapelle@comcast.net
444	04/03/2024 16:23:25	I. Mathias	Bellingham, Washington 98225	[redacted]hiai@wwu.edu
445	04/03/2024 16:34:17	J. Butler	Beaverton, OR 97008	[redacted]tler@alumni.colostate.edu
446	04/03/2024 16:36:13	M. Collander	Bellingham, Washington 98225	[redacted]nusshar[redacted]@yahoo.com
447	04/03/2024 17:09:57	M. Neff	Bellingham, Wa 98225	[redacted]neff@comcast.net
448	04/03/2024 17:55:46	R. Daniels	Bellingham, Washington 98226	[redacted]ay@[redacted]ogbroker.com
449	04/03/2024 18:11:31	J. Mullenix	Bellingham, WA 98226	[redacted]mullenix@yahoo.com
450	04/03/2024 18:50:56	C. Pulliam	Bellingham, Washington 98225	pulliam[redacted]@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

451	04/03/2024 18:54:14	A. Fox	Bellingham, WA 98226	[redacted]fox2002@yahoo.com
452	04/03/2024 18:55:14	B. Armstrong	Bellingham, WA 98226	[redacted]ak13@yahoo.com
453	04/03/2024 19:00:04	M. Katz	Bellingham, WA 98226	[redacted]ecats@centurylink.net
454	04/03/2024 19:11:17	T. Kaye	Bellingham, WA 98229	[redacted]nski9@comcast.net
455	04/03/2024 19:17:04	K. Spine	Bellingham, WA 98225	[redacted]ke145@msn.com
456	04/03/2024 19:24:02	D. Carollo	Bellingham, WA 98225	[redacted]carollo@gmail.com
457	04/03/2024 19:24:53	D. Kanenaga	Bellingham, WA 98225	[redacted]nenaga1@comcast.net
458	04/03/2024 19:30:42	D. Kanenaga	Bellingham, WA 98225	[redacted]nk1@yahoo.com
459	04/03/2024 21:35:20	J. Andrews	Bellingham, WA 98226	yoga[redacted]@gmail.com
460	04/03/2024 21:48:12	I. Post	Bellingham, WA 98225	[redacted]mp@gmail.com
461	04/03/2024 22:01:51	K. Wagner	Bellingham, WA 98229	[redacted]wagner123@gmail.com
462	04/04/2024 6:28:34	E. Wang	Bellingham, WA 98229	[redacted]wang@comcast.net
463	04/04/2024 8:11:54	K. Dooley	Bellingham, WA 98226	[redacted]ercreekpersians@gmail.com
464	04/04/2024 8:23:56	S. Schroeder	Bellingham, Washington 98226	[redacted]chroeder2011@gmail.com
465	04/04/2024 8:55:37	A. Metzker	Bellingham, WA 98225	ardn[redacted]515@gmail.com
466	04/04/2024 9:04:57	E. Wayt	Bellingham, WA 98225	prot[redacted]zrpgf@passmail.net
467	04/04/2024 9:46:17	b. lindseytaylor	Bellingham, WA 98225	[redacted]t887@gmail.com
468	04/04/2024 12:04:54	S. Godwin	Bellingham, WA 98225	[redacted]shda@gmail.com
469	04/04/2024 12:14:43	I. dooley	Bellingham, Washinton 98226	[redacted]dooley08@gmail.com
470	04/04/2024 12:51:32	A. Cobb	Bellingham, WA 98229	[redacted]valhalla@gmail.com
471	04/04/2024 13:51:01	A. Bierschbach	Bellingham, WA 98225	[redacted]ndleigh32@gmail.com
472	04/04/2024 14:11:54	J. Anderson	Bellingham, WA 98225	[redacted]ajazz@yahoo.com
473	04/04/2024 16:54:00	M. Berry	Bellingham, WA 98229	[redacted]music4@gmail.com
474	04/04/2024 17:51:18	J. Chapman	Maple Falls, WA 98266	[redacted]zlady@gmail.com
475	04/04/2024 17:56:38	J. Hickey	Bellingham, WA 98229	[redacted]hickey@gmail.com
476	04/04/2024 18:40:57	K. Spille	Ferndale, WA 98248	[redacted]pille@yahoo.com
477	04/04/2024 19:07:12	B. Wellman	Bellingham, WA 98225	[redacted]ellman@gmail.com
478	04/04/2024 19:11:44	J. Wilson	Bellingham, WA 98225	[redacted]climbs@gmail.com
479	04/04/2024 19:23:47	K. Sible	Bellingham, WA 98229	[redacted]ks@aol.com
480	04/04/2024 19:23:56	S. Schene	Bellingham, Washington 98229	[redacted]schene@msn.com

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481	04/04/2024 19:37:44	D. Evans	Bellingham, WA 98226	[redacted]ans15@mac.com
482	04/04/2024 19:39:07	A. Horenstein	Bellingham, WA 98226	[redacted]H1@gmail.com
483	04/04/2024 19:42:42	M. Kobel	Bellingham, WA 98226	[redacted]lipstick1951@gmail.com
484	04/04/2024 19:45:47	D. Stieger	Bellingham, WA 98226	[redacted]ieger@comcast.net
485	04/04/2024 19:47:15	C. Stieger	Bellingham, WA 98226	[redacted]tieger@comcast.net
486	04/04/2024 19:53:03	M. Benson	Ferndale, Washington 98248	[redacted]ab600@gmail.com
487	04/04/2024 19:53:40	C. Smith	Bellingham, WA 98229	[redacted]smith75@gmail.com
488	04/04/2024 21:06:07	B. Engels	Bellingham, WA 98226	engels5[redacted]@aol.com
489	04/04/2024 21:17:45	B. Olson	Mount Vernon, Washington 98273	[redacted]v@ncascade.com
490	04/04/2024 21:35:14	J. Campione	Bellingham, Washington 98229	[redacted]ampione@gmail.com
491	04/04/2024 21:55:13	c. oberton	bellingham, wa 98225	[redacted]erton@juno.com
492	04/04/2024 22:20:16	K. Sykes-David	Bellingham, WA 98229	[redacted]epower@msn.com
493	04/05/2024 4:22:13	J. Goodman	Bellingham, WA 98229	goodman[redacted]@gmail.com
494	04/05/2024 8:12:04	L. McDowell	Bellingham, Washington 98225	[redacted]cmb@gmail.com
495	04/05/2024 8:20:07	R. King	Lynden, WA 98264	[redacted]king@yahoo.com
496	04/05/2024 8:32:45	S. Bakke	Olympia, WA 98501	[redacted]bakke.b3@gmail.com
497	04/05/2024 8:43:07	S. Tyran	Bellingham, WA 98229	[redacted]yran@gmail.com
498	04/05/2024 12:53:09	H. Dwoskin	Bellingham, WA 98225	[redacted]d@sedona.com
499	04/05/2024 12:54:16	A. Edwars	Bellingham, WA 98225	[redacted]e@sedona.com
500	04/05/2024 13:20:09	D. Olson	Bellingham, WA 98225	[redacted]cat@mac.com
501	04/05/2024 14:06:57	L. Widman	Bellingham, WA 98225	[redacted]wid@comcast.net
502	04/05/2024 14:11:52	P. Stigliani	Bellinghamn, WA 98225	[redacted]stig@gmail.com
503	04/05/2024 16:08:32	J. Peppel	Bellingham, WA 98225	[redacted]peppel1@gmail.com
504	04/05/2024 16:56:42	A. Lilley	Bellingham, WA 98225	[redacted]menzies@gmail.com
505	04/05/2024 16:57:15	L. Bateman	Bellingham, WA 98225	[redacted]teman@msn.com
506	04/05/2024 17:58:40	E. Janney	Bellingham, WA 98226	[redacted]othedog@gmail.com
507	04/05/2024 18:01:42	D. Janney	Bellingham, WA 98226	[redacted]othedog@gmail.com
508	04/05/2024 18:30:41	J. Fulton	Bellingham, WA 98229	[redacted]tters4me@yahoo.com
509	04/05/2024 20:31:18	E. Green	Bellingham, WA 98229	[redacted]arra@gmail.com
510	04/05/2024 22:06:04	A. Daniels	Marysville, WA 98271	[redacted]daniels@hotmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

511	04/05/2024 22:10:27	C. Antico	Bellingham, Wa 98225	[redacted]antico@gmail.com
512	04/05/2024 22:11:25	J. Antico	Bellingham, Wa 98225	j[redacted]@havenweb.net
513	04/05/2024 22:50:12	R. Kay	Bellingham, WA 98226	[redacted]kay007@gmail.com
514	04/06/2024 4:56:26	a. bernard	San Pedro, CA 90732	[redacted]bernard@cox.net
515	04/06/2024 7:36:17	J. Colbert	BELLINGHAM, WA 98229	[redacted]colbert@gmail.com
516	04/06/2024 8:48:47	D. Riggins-Schmidt	Bellingham, WA 98225	[redacted]gins_schmidt@mac.com
517	04/06/2024 9:27:04	S. Schmidt	Bellingham, WA 98225	[redacted]schmidt1@gmail.com
518	04/06/2024 10:58:06	B. Zielstra	Bellngham, WA 98225	[redacted]rann09@gmail.com
519	04/06/2024 11:47:42	P. Mock	Bellingham, WA 98229	mock[redacted]@hotmail.com
520	04/06/2024 11:57:02	J. Danell	Bellingham, WA 98225	[redacted]danell@gmail.com
521	04/06/2024 14:28:40	M. Campione	Bellingham, Washington 98227	[redacted]campione@gmail.com
522	04/06/2024 17:50:58	S. Barrett	Bellingham, WA 98225	[redacted]byb@aol.com
523	04/06/2024 17:51:09	J. Hartsock-Vandine	Bellingham, WA 98226	[redacted]artsock@yahoo.com
524	04/06/2024 18:49:04	C. Brookman	Maple Falls, WA 98266	[redacted]dogra@hotmail.com
525	04/06/2024 22:14:38	A. Jansen	Eastsound, Washington 98245	[redacted]p.lightning@gmail.com
526	04/06/2024 22:58:44	B. Foster	Bellingham, WA 98226	[redacted]ster3009@comcast.net
527	04/07/2024 0:07:17	J. Needler	Bellingham, WA 98225	[redacted]needler@gmail.com
528	04/07/2024 10:01:28	K. Smith	Bellingham, WA 98225	[redacted]engardenpixie@gmail.com
529	04/07/2024 10:01:39	S. Gardam	Blaine, WA 98230	[redacted]rdam@gmail.com
530	04/07/2024 10:02:02	P. Petersen	Bellingham, WA 98229	[redacted]pete16@yahoo.com
531	04/07/2024 10:06:41	L. Rigg	Bellingham, WA 98225	[redacted]rigg@bellcoho.com
532	04/07/2024 10:06:53	A. Theobald	Bellingham, WA 98229	[redacted]theobald@comcast.net
533	04/07/2024 10:08:53	b. sardarov	Bellingham, WA 98226	[redacted]ardarov@gmail.com
534	04/07/2024 10:09:16	M. McDiarmid	Bellingham, WA 98225	[redacted]oyeti@gmail.com
535	04/07/2024 10:42:38	C. Waade	Bellingham, Wa 98225	[redacted]nn820@gmail.com
536	04/07/2024 10:43:14	C. Kruman	Bellingham, WA 98225	[redacted]kruman@gmail.com
537	04/07/2024 11:01:50	D. Burns	Bellingham, WA 98229	[redacted]burns3622@gmail.com
538	04/07/2024 11:05:10	G. Guthrie	Bellingham, WA 98826	[redacted]guthrie@gmail.com
539	04/07/2024 11:05:40	K. Noreen	Bellingham, Washington 98226	[redacted]noreen@gmail.com
540	04/07/2024 11:06:33	M. Gresser-Burns	Bellingham, WA 98229	[redacted]esserburns1@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

541	04/07/2024 11:07:47	A. Sequoia	Bellingham, WA 98227	[redacted]quoia2@gmail.com
542	04/07/2024 11:12:28	B. McAfee	Bellingham, Washington 98225	[redacted]amari[redacted]@gmail.com
543	04/07/2024 11:14:17	S. Twiford	Bellingham, WA 98225	[redacted]twiford@gmail.com
544	04/07/2024 11:16:37	H. Ask	Bellingham, Washington 98229	ask[redacted]nything@gmail.com
545	04/07/2024 11:20:34	J. Blume	Bellingham, WA 98229	[redacted]blume@gmail.com
546	04/07/2024 11:23:08	V. Day	Bellingham, WA 98226	[redacted]day@comcast.net
547	04/07/2024 11:27:06	M. Doyle	Bellingham, WA 98225	[redacted]foster@gmail.com
548	04/07/2024 11:53:54	J. Olmsted	Bellingham, WA 98225	olmste[redacted]@hotmail.com
549	04/07/2024 12:03:39	A. Benskin	Bellingham, WA 98225	benskin[redacted]@gmail.com
550	04/07/2024 12:34:22	J. Corcorran	Ferndale, WA 98248	[redacted]corcorran@gmail.com
551	04/07/2024 12:37:06	T. Atkinson	Bellingham, Wa 98229	[redacted]833@gmail.com
552	04/07/2024 12:38:53	C. Lew	Bellingham, WA 98226	[redacted]lew@gmail.com
553	04/07/2024 12:39:23	B. Lowrie	Bellingham, WA 99225	Lowrie[redacted]@comcast.net
554	04/07/2024 12:48:54	A. Hill	Bellingham, Washington 98229	[redacted]abird@gmail.com
555	04/07/2024 13:14:04	K. Barber	Bellingham, Washington 98225	[redacted]barber1@gmail.com
556	04/07/2024 13:18:07	J. Holstein	Bellingham, WA 98225	[redacted]stein@yahoo.com
557	04/07/2024 13:27:52	F. Posel	Bellingham, WA 98225	[redacted]osel@hotmail.com
558	04/07/2024 13:34:46	L. Bottcher-Law	Bellingham, WA 98225	[redacted]aw324@gmail.com
559	04/07/2024 13:38:28	K. Tyran	Bellingham, WA 98229	tyran[redacted]@comcast.net
560	04/07/2024 13:44:09	S. Mitten-Lewis	Blaine, WA 98230	[redacted]ttenlewis@gmail.com
561	04/07/2024 14:31:30	S. Gole	Bellingham, Washington 98226	[redacted]gole@comcast.net
562	04/07/2024 14:55:24	C. Johnson	Blaine, WA 98230	[redacted]pydog[redacted]@gmail.com
563	04/07/2024 15:39:44	C. Palmer	Bellingham, WA 98225	[redacted]ercat7[redacted]@gmail.com
564	04/07/2024 15:40:28	H. Bledowski	Bellingham, WA 98225	[redacted]tonwyde@hotmail.com
565	04/07/2024 15:40:47	L. Palmer	Bellingham, WA 98225	[redacted]lmer@comcast.net
566	04/07/2024 15:40:59	R. HALEY	BELLINGHAM, WA 98225	[redacted]ORMHOLE@GMAIL.COM
567	04/07/2024 16:18:11	J. Wagner	Bellingham, WA 98229	[redacted]ag3@gmail.com
568	04/07/2024 16:23:28	S. Conrad	Bellingham, Washington 98229	[redacted]conrad@gmail.com
569	04/07/2024 16:29:07	M. Slowik	Bellingham, Wa 98229	[redacted]ow@yahoo.com
570	04/07/2024 16:44:20	M. Macdonald	Bellingham, WA 98226	[redacted]mac@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

571	04/07/2024 16:54:48	R. Hicks	Bellingham, WA 98225	[redacted]rainskagit@hotmail.com
572	04/07/2024 16:54:49	K. Magnuson	Bellingham, WA 98225	[redacted]zerpal@comcast.net
573	04/07/2024 17:00:33	L. Parkins	Bellingham, Washington 98226	[redacted]yp19[redacted]@hotmail.com
574	04/07/2024 17:16:19	K and J Cykler	Bellingham, WA 98229	cykler[redacted]@gmail.com
575	04/07/2024 17:28:32	J. Wells	Bellingham, Wa 98225	[redacted]orman24@gmail.com
576	04/07/2024 17:28:40	D. Anderson	Bellingham, WA 98225	[redacted]rie831@gmail.com
577	04/07/2024 17:30:06	N. Martin	Bellingham, WA 98229	[redacted]etpea4252003@yahoo.com
578	04/07/2024 17:43:54	M. Tamblyn	Bellingham, Wa 98229	[redacted]tamblyn@gmail.com
579	04/07/2024 17:46:01	V.Van Diest	Bellingham, WA 98229	[redacted]akeith@gmail.com
580	04/07/2024 17:46:43	K. Foster	Bellingham, WA 98225	[redacted]oster.rn@gmail.com
581	04/07/2024 17:47:16	R. Foster	Bellingham, WA 98225	[redacted]oster@hotmail.com
582	04/07/2024 17:50:03	M. Korn	Bellingham, WA 98226	[redacted]korn@gmail.com
583	04/07/2024 17:52:49	K. Cain	Bellingham, WA 98225	[redacted]nicx2@hotmail.com
584	04/07/2024 17:55:04	D. Hunter	Bellingham, WA 98225	[redacted]nereveries@gmail.com
585	04/07/2024 17:56:51	A. Maioriello	Bellingham, WA 98225	[redacted]ssing2all6@yahoo.com
586	04/07/2024 18:43:38	H. Meltzer	Bellingham, WA 98229	[redacted]ler542@gmail.com
587	04/07/2024 18:47:24	B. Backstrom	Bellingham, WA 98226	[redacted]gullsyag@hotmail.com
588	04/07/2024 18:49:38	M. Mele	Bellingham, Wa 98226	[redacted]mele@gmail.com
589	04/07/2024 18:53:30	T. Inge	Bellingham, WA 98225	[redacted]inge@gmail.com
590	04/07/2024 18:55:41	R. LeBow	Bellingham, WA 98225	[redacted]une.squinty-0z@icloud.com
591	04/07/2024 19:00:58	A. Stevenson	Bellingham, WA 98226	[redacted]stevenson@gmail.com
592	04/07/2024 19:22:58	S. Branson	Bellingham, WA 98225	branson[redacted]@gmail.com
593	04/07/2024 19:59:59	D. Zangari	BELLINGHAM, WA 98229	[redacted]angari@gmail.com
594	04/07/2024 20:16:33	C. Herr	Bellingham, Wa 98225	[redacted]herr35@outlook.com
595	04/07/2024 20:23:13	N. Connor	Bellingham, WA 98225	[redacted]connor@gmail.com
596	04/07/2024 20:27:28	L. McGowan-Smith	Bellingham, WA 98229	[redacted]orn1@comcast.net
597	04/07/2024 20:31:53	e. paley	Bellingham, WA 98227	[redacted]aley@gmail.com
598	04/07/2024 20:42:16	K. Absher	Bellingham, Wa 98225	[redacted]abshef@hotmail.com
599	04/07/2024 20:50:40	S. Tonini	Bellingham, WA 98225	[redacted]nini@gmail.com
600	04/07/2024 20:50:58	R. McManmon	Bellingham, WA 98225	[redacted]nini@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

601	04/07/2024 20:51:20	J. Fruhbauer	Bellingham, WA 98229	[redacted]ne22time@gmail.com
602	04/07/2024 20:52:05	M. McManmon	Bellingham, WA 98225	[redacted]brewer@gmail.com
603	04/07/2024 20:54:56	C. Tyran	Bellingham, WA 98229	tyr[redacted]@gmail.com
604	04/07/2024 21:43:23	W. Lyon	Bellingham, WA 98229	[redacted]lyon@gmail.com
605	04/07/2024 21:44:17	B. Lyon	Bellingham, WA 98229	[redacted]yon1886@gmail.com
606	04/07/2024 21:45:11	R. Lyon	Bellingham, WA 98229	[redacted]mrentals@gmail.com
607	04/07/2024 21:50:15	A. Radcliffe	Bellingham, WA 98229	[redacted]radcliffe@gmail.com
608	04/07/2024 22:04:14	S. Kirk	Bellingham, WA 98225	[redacted]kirk@comcast.net
609	04/07/2024 22:10:40	P. Johnson	Bellingham, WA 98229	[redacted]ohnson2011@gmail.com
610	04/07/2024 23:49:50	E. Cristofaro	Bellingham, WA 98225	[redacted]haraz@comcast.net
611	04/07/2024 23:50:36	J. Townsley	Bellingham, WA 98229	[redacted]t@live.com
612	04/08/2024 4:50:53	X. Jiang	Bellingham, Wa 98229	[redacted]jiang@gmail.com
613	04/08/2024 4:53:24	X. Huang	Bellingham, Wa 98229	[redacted]ngx2@wwu.edu
614	04/08/2024 5:19:46	E. Gissberg Johnson	Bellingham, Washington 98226	[redacted]ohnson0023@gmail.com
615	04/08/2024 5:50:33	A. Freeman	Bellingham, WA 98229	freeman[redacted]@gmail.com
616	04/08/2024 6:17:35	J. Cartwright	Bellingham, WA, WA 98226	[redacted]cartwright8@gmail.com
617	04/08/2024 6:18:46	J. Anne Keller	Bellingham, WA 98225	[redacted]keller@yahoo.com
618	04/08/2024 6:35:11	V. Bartlett	Bellingham, WA 98229	[redacted]artlett@comcast.net
619	04/08/2024 7:00:06	C. Semple	Bellingham, WA 98225	Semple[redacted]@gmail.com
620	04/08/2024 7:02:33	A. Mestl	Bellingham, WA 98226	[redacted]mestl@gmail.com
621	04/08/2024 7:06:26	S. Hoerlein	Bellingham, WA 98229	[redacted]hoerlein@gmail.com
622	04/08/2024 7:16:31	M. Aliotti	Bellingham, WA 98229	[redacted]chuckanut@comcast.net
623	04/08/2024 7:24:54	J. Rockenbach	Bellingham, WA 98229	[redacted]i44@me.com
624	04/08/2024 7:56:06	D. Langdon	Bellingham, Wa 98229	[redacted]inbell@yahoo.com
625	04/08/2024 8:03:12	N. Gary	Bellingham, WA 98225	[redacted]gary@gmail.com
626	04/08/2024 8:22:53	G. Hoener	Bellingham, WA 98229	[redacted]oener@gmail.com
627	04/08/2024 8:38:44	C. Franklin	BELLINGHAM, WA 98225	[redacted]RANKLIN@aol.com
628	04/08/2024 9:05:25	B. Mccarthy	Bellingham, Wa 98229	[redacted]branch@hotmail.com
629	04/08/2024 9:10:55	L. Broker	Bellingham, WA 98225	broker[redacted]@gmail.com
630	04/08/2024 9:16:07	A. CHYTRA	Bellingham, WA 98229	[redacted]hytra.3@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

631	04/08/2024 9:23:22	A. Brown	Bellingham, WA 98229	[redacted]b35@gmail.com
632	04/08/2024 9:30:18	D. Gann	Bellingham, WA 98229	[redacted]g8767@gmail.com
633	04/08/2024 9:31:26	V. Kemery	Bellingham, WA 98229	[redacted]kemery@yahoo.com
634	04/08/2024 9:38:13	R. Carlstrom	Bellingham, WA 98225	[redacted]rlstrom@yahoo.com
635	04/08/2024 9:45:05	J.Cummings	Bellingham, Washington 98229	[redacted]llimber@yahoo.com
636	04/08/2024 9:46:06	P. Navaille	Bellingham, WA 98229	[redacted]apatr@gmail.com
637	04/08/2024 9:46:08	L. Keenholts	Bellingham, Wa 98225	[redacted]ljk@msn.com
638	04/08/2024 9:49:51	L. Koehneman	Bellingham, WA 98225	[redacted]ettele2@gmail.com
639	04/08/2024 10:17:17	D. Mcevoy	Bellingham, Washington 98225	[redacted]mcevoy@hotmail.com
640	04/08/2024 10:37:42	R. Love	Bellingham, WA 98225	[redacted]love@icloud.com
641	04/08/2024 10:46:44	C. Camlin	Bellingham, WA 98225	[redacted]camlin@gmail.com
642	04/08/2024 10:58:10	W. Beer	Bellingham, WA 98225	[redacted]Beer20[redacted]@yahoo.com
643	04/08/2024 11:19:34	V. Parine	Bellingham, wa 98225	[redacted]rine@gmail.com
644	04/08/2024 11:40:47	W. ROBERTS	BELLEVUE, WA 98004	[redacted]roberts@yahoo.com
645	04/08/2024 11:42:09	D. MacLean	BELLINGHAM, Washington 98225	[redacted]maclean@live.com
646	04/08/2024 11:55:50	L. Ranz	Bellingham, WA 98229	[redacted]anz@icloud.com
647	04/08/2024 12:10:41	J. Akins	Bellingham, WA 98229	[redacted]setjam@gmail.com
648	04/08/2024 13:31:58	J. Ahlbom	Ferndale, WA 98248	[redacted]smom@icloud.com
649	04/08/2024 13:42:33	A. Scriven	Bellingham, WA 98225	[redacted]riven[redacted]@gmail.com
650	04/08/2024 14:25:02	E. Kipp	Bellingham, WA 98225	[redacted]pres2024@gmail.com
651	04/08/2024 16:05:56	M. Grant	Blaine, WA - Washington 98230	[redacted]eskimag@gmail.com
652	04/08/2024 17:13:47	G. Parker	Bellingham, WA 98229	parker[redacted]@comcast.net
653	04/08/2024 17:26:59	C. Renaud	Custer, WA 98240	[redacted]d.news@amail.com
654	04/08/2024 21:34:03	S. Katz	Bellingham, WA 98225	katz[redacted]@yahoo.com
655	04/08/2024 21:52:26	J. GREENE	BELLINGHAM, WA 98229	[redacted]GREENE@COMCAST.NET
656	04/08/2024 21:57:54	K. Anderson	Bellingham, wa 98225	[redacted]anderson@gmail.com
657	04/09/2024 0:34:12	K. Owens	Bellingham, WA 98226	[redacted]Owens@gmail.com
658	04/09/2024 0:38:11	P. Fralin	Bellingham, WA 98226	[redacted]Owens@gmail.com
659	04/09/2024 1:55:58	J. Schlack	Blaine, WA 98230	[redacted]schlack52@gmail.com
660	04/09/2024 5:00:41	S. Morris	Bellingham, Wa 98229	[redacted]morris100@gmail.com

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661	04/09/2024 6:54:09	M. Mordal	Bellingham, WA 98229	[redacted]ordal07@hotmail.com
662	04/09/2024 9:32:20	J. DEWIG	BELLINGHAM, WA 98225	[redacted]dewig@hotmail.com
663	04/09/2024 9:32:58	E. Dewig	BELLINGHAM, WA 98225	dewig[redacted]@gmail.com
664	04/09/2024 10:22:26	A. Leamon	Bellingham, WA 98225	[redacted]umau@gmail.com
665	04/09/2024 10:49:03	K. Richards	Bellingham, WA 98229	[redacted]ulix@yahoo.com
666	04/09/2024 10:57:56	C. Grannis	Bellingham, wa 98229	[redacted]gra@ymail.com
667	04/09/2024 13:49:59	R. Havens	Bellingham, WA 98225	[redacted]@[redacted]havens.com
668	04/09/2024 15:15:20	L. Gresen	Bellingham, WA 98229	[redacted]grese@gmail.com
669	04/09/2024 16:43:19	C. Teed	Bellingham,WA, WA 98225	[redacted]teed2000@yahoo.com
670	04/09/2024 16:51:50	B. Nash	BELLINGHAM, WA 98225	barbpurcel[redacted]@gmail.com
671	04/09/2024 17:00:45	J. Wiederhold	Bellingham, WA 98229	[redacted]ederhold47@gmail.com
672	04/09/2024 17:08:02	G. Yocom	Friday Harbor, WA 98250	yoco[redacted]@gmail.com
673	04/09/2024 17:13:55	K. Raab	Vancouver BC V6R 2T9, Canada	[redacted]@raab.ca
674	04/09/2024 17:22:54	M. Machiniak	Bellingham, WA 98226	[redacted]machiniak@gmail.com
675	04/09/2024 17:26:16	D. Wessell	Bellingham, WA 98225	[redacted]sell@pobox.com
676	04/09/2024 17:53:48	L. Bowd	Bellingham, WA 98225	[redacted]bowd@gmail.com
677	04/09/2024 17:59:36	R. Zanchi	Bellingham, WA 98225	[redacted]nchi@comcast.net
678	04/09/2024 18:02:20	S. Harper	Bellingham, WA 98225	[redacted]harper@gmail.com
679	04/09/2024 18:13:37	D. May	Bellingham, WA 98225	[redacted]may.lmt@gmail.com
680	04/09/2024 18:29:07	J. McKee	Bellingham 98225	[redacted]mckee@comcast.net
681	04/09/2024 18:43:51	J. O'NEILL	Bellingham, WA 98226	[redacted]o215@gmail.com
682	04/09/2024 19:21:15	C. Callahan	Bellingham, WA 98225	[redacted]aulson@hotmail.com
683	04/09/2024 19:32:26	S. Carney	Bellingham, WA 98225	[redacted]cksnquarks@hotmail.com
684	04/09/2024 19:33:16	L. Jordan	Bellingham, WA 98226	[redacted]jordan2010@gmail.com
685	04/09/2024 20:01:50	r. potts	Bellingham, WA 98226	[redacted]potts@hotmail.com
686	04/09/2024 20:47:01	M. Hess	Bellingham, WA 98229	[redacted]he@gmail.com
687	04/09/2024 20:48:03	R. Hess	Bellingham, WA 98229	[redacted]blue79@msn.com
688	04/09/2024 20:59:52	D. Kaye	Blaine, WA 98230	[redacted]kaye@gmail.com
689	04/09/2024 21:18:00	M. Solum	Bellingham, WA 98226	[redacted]olum@comcast.net
690	04/09/2024 22:00:46	L. Heezen	Bellingham, Wa 98226	alto[redacted]3@aol.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

691	04/09/2024 23:00:31	L. Colson	Bellingham, WA 98229	8[redacted]c@gmail.com
692	04/10/2024 0:35:29	C. Summers	Everson, Washington 98247	forever[redacted]clear@yahoo.com
693	04/10/2024 0:44:49	C. Gonzales	Ferndale, Ferndale, WA 98248	[redacted]gonzales@msn.com
694	04/10/2024 0:46:11	Tia Gonzales	Ferndale, Ferndale, WA 98248	[redacted]onzales21@gmail.com
695	04/10/2024 5:58:55	Gail Johnson	Bellingham, Washington 98229	johnson[redacted]@gmail.com
696	04/10/2024 6:35:08	KYLE LANE	Bellingham, Washington 98229	lane[redacted]@icloud.com
697	04/10/2024 8:06:16	Diana Ambauen-Meade	Bellingham, WA 98225	[redacted]meade@gmail.com
698	04/10/2024 9:22:50	Emelie Jeffers	BELLINGHAM, WA 98225	[redacted]eli[redacted]@comcast.net
699	04/10/2024 9:50:25	Mary Melloh	Ferndale, WA 98248	[redacted]melloh@gmail.com
700	04/10/2024 9:52:49	Judith Kasper	Bellingham, WA 98236	kasper[redacted]@gmail.com
701	04/10/2024 10:36:32	Miriam Freshley	Blaine, WA 98230	[redacted]eshley@gmail.com
702	04/10/2024 11:04:51	Marla Vannice	Bellingham, WA 98225	[redacted]vannice@gmail.com
703	04/10/2024 11:33:33	Steven Bieler	Bellingham, wa 98225	[redacted]eler@pobox.com
704	04/10/2024 11:36:44	Tracy Daniels	Bellingham, WA 98225	[redacted]daniels@gmail.com
705	04/10/2024 11:39:47	Rebecca Brownlie	Bellingham, WA 98226	[redacted]brownlie@me.com
706	04/10/2024 11:39:55	Doris Wunsch	Bellingham, WA 98225	[redacted]wunsch1@gmail.com
707	04/10/2024 12:41:53	Vincute Biciunas	Bellingham, WA 98225	[redacted]ciunas@comcast.net
708	04/10/2024 18:20:12	Linda Crawford	Bellingham, WA 98225	[redacted]aw53@comcast.net
709	04/10/2024 19:24:47	Anne Caldwell	Bellingham, WA 98225	[redacted]eban2@comcast.net
710	04/10/2024 21:45:42	Valerie Lyon-Parker	Bellingham, WA 98225	[redacted]parker@comcast.net
711	04/10/2024 22:41:23	Jean Lee	Bellingham, WA 98229	[redacted]eskinandcoffee@yahoo.com
712	04/11/2024 8:44:59	Evan Johnson	Bellingham, WA 98229	johnson[redacted]@gmail.com
713	04/11/2024 10:39:46	Tegan Keyes	Bellingham, WA 98225	keyes[redacted]@gmail.com
714	04/11/2024 11:29:06	Veronika Nulsen	Bellingham, WA 98229	[redacted]dyum98@gmail.com
715	04/11/2024 11:40:53	Lilith Hayes	Bellingham, Washington 98229	[redacted]ireland@gmail.com
716	04/11/2024 13:33:06	Katherine Carlson	Bellingham, WA 98229	[redacted]carlson@comcast.net
717	04/11/2024 13:41:12	George Carlson	Bellingham, WA 98229	[redacted]arlsonllc@gmail.com
718	04/11/2024 14:20:19	Sarah Heide	Bellingham, Wa 98225	[redacted]ide552@gmail.com
719	04/11/2024 14:47:55	Bryan Hennessy	Ferndale, WA 98248	[redacted]ryan@gmail.com
720	04/11/2024 22:22:40	Emily Grund	Bellingham, WA 98225	[redacted]grund@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

721	04/12/2024 8:13:57	Janice Michaels	Bellingham, Wa 98226	jer[redacted]3@gmail.com
722	04/12/2024 11:28:11	Christine Poll	Bellingham, WA 98225	[redacted]poll@mac.com
723	04/12/2024 13:07:25	Mary Corcoran	Bellingham, WA 98226	[redacted]aryelo[redacted]@gmail.com
724	04/12/2024 13:11:13	Nancy Heller	Bellingham, WA 98229	[redacted]eller@comcast.net
725	04/12/2024 14:57:16	Kim Anderson	Bellingham, WA 98229	anderson[redacted]@yahoo.com
726	04/12/2024 15:57:59	I. Vermeeren	Bellingham, Wa 98225	[redacted]vermeeren@gmail.com
727	04/12/2024 15:58:43	M. Crosbie	Seattle, WA 98103	[redacted]ronicshirtpocket@gmail.com
728	04/12/2024 16:25:34	E. Mankamyer	Centennial, CO 80111	[redacted]mankamyer@gmail.com
729	04/12/2024 16:30:09	Z. Stanage	Bellingham, WA 98225	[redacted]stanage@gmail.com
730	04/12/2024 16:34:57	R. Stanage	Bellingham, Washington 98225	[redacted]stanage@gmail.com
731	04/12/2024 16:47:21	T. Merrill	Bellingham, WA 98225	merril[redacted]@gmail.com
732	04/12/2024 16:47:40	J. Hunsdale	Bellingham, Washington 98229	[redacted]sdale@gmail.com
733	04/12/2024 17:33:41	K. Starkovich	Blaine, Wa 98230	starkovich[redacted]@gmail.com
734	04/12/2024 18:06:29	A. Phelan	Bellingham, WA 98229	Phe[redacted]@aol.com
735	04/12/2024 18:41:43	C. Sage	Bellingham, Washington 98226	[redacted]girl9@live.com
736	04/12/2024 18:53:36	S. Henthorn	Bellingham, WA 98225	[redacted]henthorn@gmail.com
737	04/12/2024 18:55:05	S. Wright	Bellingham, WA 98225	[redacted]esmith54@gmail.com
738	04/12/2024 18:57:08	M. Wright	Bellingham, WA 98225	[redacted]@racco[redacted]end.com
739	04/12/2024 18:58:05	m. harmon	Carnation, Wa 98014	[redacted]harmon[redacted]@gmail.com
740	04/12/2024 19:33:40	K. Tsukayama	Bellingham, WA 98229	[redacted]tsukayama@gmail.com
741	04/12/2024 20:09:05	A. Mitchell	Bellingham, WA 98225	mitchell[redacted]@gmail.com
742	04/12/2024 20:11:57	E. Parker	Bellingham, WA 98225	[redacted]parker@gmail.com
743	04/12/2024 20:59:21	L. Pendleton	Bellingham, WA 98225	[redacted]endlet@gmail.com
744	04/12/2024 23:30:24	A. Gibson	BELLINGHAM, WA 98225	[redacted]gibson@gmail.com
745	04/13/2024 7:28:27	L. Standish	Bellingham, WA 98226	[redacted]standish@hotmail.com
746	04/13/2024 8:12:29	T. Shimon	Bellingham, WA 98229	[redacted]leflattopo@yahoo.com
747	04/13/2024 8:14:11	R. Stella	Bellingham, Washington 98225	stella[redacted]@hotmail.com
748	04/13/2024 8:14:47	M. Neall	Bellingham, WA 98229	neal[redacted]@gmail.com
749	04/13/2024 9:22:47	R. Good	Bellingham, WA 98229	[redacted]good@gmail.com
750	04/13/2024 9:23:39	R. Johnson	Bellingham, WA 98229	[redacted]hn227[redacted]@aol.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

751	04/13/2024 9:58:09	J. Bushue	Bellingham, WA 98229	[redacted]ntgardnr@gmail.com
752	04/13/2024 10:39:51	A. Brandle	Spokane, WA 99205	[redacted]brandle@gmail.com
753	04/13/2024 10:47:54	N. VALLEROY-JENKINS	Bellingham, Washington 98225	[redacted]nkins55[redacted]@yahoo.com
754	04/13/2024 12:59:40	M. Lohrentz	Sedro Woolley, WA 98284	[redacted]hrentz@gmail.com
755	04/13/2024 13:08:47	E. Burge	Bellingham, WA 98225	[redacted]unke@yahoo.com
756	04/13/2024 19:01:38	B. Goebel	Bellingham, WA 98229	[redacted]oebel@gmail.com
757	04/13/2024 21:47:19	H. Sanders	Bellingham, Wa 98229	[redacted]nders[redacted]@gmail.com
758	04/14/2024 6:34:05	V. Birdgeneau	Bellingham, WA 98226	[redacted]rdgeneau@gmail.com
759	04/14/2024 7:01:29	D. DeGolier	Bellingham, Washington 98226	[redacted]f24@comcast.net
760	04/14/2024 9:49:30	M. MOSEBAR	Bellingham, WA 98225	[redacted]sebar@comcast.net
761	04/14/2024 11:37:56	D. Feingold	Bellingham, WA 98225	[redacted]ngold@hotmail.com
762	04/14/2024 12:06:31	J. Bowefield	Bellingham, WA 98225	[redacted]bowefield@gmail.com
763	04/14/2024 12:39:36	C. Magsarili	Portland, Oregon 97206	[redacted]mags16@gmail.com
764	04/14/2024 12:40:23	A. de Oliveira	Winthrop, WA 98862	[redacted]deolive@yahoo.com
765	04/14/2024 12:41:05	M. Burgess	Bellingham, WA 98225	[redacted]burgess@gmail.com
766	04/14/2024 12:43:28	C. Fox	Bellingham, WA 98225	[redacted]fox@gmail.com
767	04/14/2024 12:46:17	S. Haney	Bothell, WA 98021	[redacted]haney01@gmail.com
768	04/14/2024 12:56:59	N. Hollingsworth	Bellingham, WA 98225	[redacted]llingsworth12@gmail.com
769	04/14/2024 12:59:36	M. Goldstein	Twisp, Wa 98856, United States	[redacted]goldstein107@gmail.com
770	04/14/2024 13:07:15	I. Shaw	Bellingham, WA 98229	[redacted]shaw@yahoo.com
771	04/14/2024 13:10:15	C. Morales	Bellingham, WA 98225	[redacted]morales.2@gmail.com
772	04/14/2024 13:22:23	D. Coulet du Gard	Bellingham, WA 98225	[redacted]mor@yahoo.com
773	04/14/2024 14:02:44	J. Navarro	Lummi Island, WA 98262	[redacted]avarro2319@yahoo.com
774	04/14/2024 14:05:29	Z. Wiley	Bellingham, WA 98225	[redacted]coyote19@gmail.com
775	04/14/2024 14:06:43	B. Lively	Bellingham, WA 98225	[redacted]lively@gmail.com
776	04/14/2024 14:07:01	C. Lively	Bellingham, Washington 98225	[redacted]dennis52@gmail.com
777	04/14/2024 14:12:57	A. Deckers	Everett, Washington 98201	[redacted]deckers@gmail.com
778	04/14/2024 14:20:40	C. Pion	Bellingham, Washington 98225	[redacted]pion@gmail.com
779	04/14/2024 14:32:56	B. Anderson	Bellingham, WA 98229	[redacted]okapan@yahoo.com
780	04/14/2024 14:39:37	J. Hehr	Apple Valley, MN 55124	[redacted]annamh1@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

781	04/14/2024 15:09:31	L. England	Bellingham, WA 98225	[redacted]jengland@gmail.com
782	04/14/2024 15:14:16	C. Hadley	bellingham, wa 98225	hadley[redacted]@up.edu
783	04/14/2024 15:59:14	T. Aguirre	Winter Park, CO 80482	[redacted]aguirre@yahoo.com
784	04/14/2024 16:01:49	O. Pells	Bellingham, WA 98225	[redacted]pells@gmail.com
785	04/14/2024 17:56:12	S. Wingard	Bellingham, WA 98226	Winga[redacted]@comcast.net
786	04/14/2024 17:58:19	B. Auburn	Bellingham, Wa 98226	[redacted]auburn@gmail.com
787	04/14/2024 18:06:43	I. Sandomire	Acme, WA 98220	[redacted]sandoz@gmail.com
788	04/14/2024 19:17:23	K. Boyle	Sequim, WA 98382	[redacted]boyle18@gmail.com
789	04/14/2024 19:51:02	I. fox	Bellingham, Washington 98225	[redacted]nanicolev@gmail.com
790	04/14/2024 20:46:12	G. Kudijaroff	Burbank, CA 91505	[redacted]kudijaroff@gmail.com
791	04/14/2024 21:40:32	C. Dooley	Bellingham, WA 98225	[redacted]ooley01@hotmail.com
792	04/14/2024 22:11:50	T. Hull	Perry, MICHIGAN 48872	[redacted]uy2022@icloud.com
793	04/14/2024 23:30:56	O. Ferguson	Bellingham, WA 98225	[redacted]ferguson@gmail.com
794	04/15/2024 2:30:42	K. Pennington	MOUNT VERNON, WA 98273	[redacted]nyator@gmail.com
795	04/15/2024 5:58:16	C. Grichel	Bellingham, WA 98225	[redacted]o@sho[redacted]imsey.com
796	04/15/2024 6:04:23	H. Holmgren	Bellingham, WA 98225	[redacted]arrypotter@gmail.com
797	04/15/2024 7:43:56	J. Olson	Bellingham, WA 98225	[redacted]urghoffer@comcast.net
798	04/15/2024 7:44:37	D. Burghoffer	Bellingham, WA 98225	[redacted]urghoffer@comcast.net
799	04/15/2024 7:47:15	E. Salcedo	Bellingham, WA 98225	[redacted]salcedoo@gmail.com
800	04/15/2024 8:07:49	S. Weaver	Bellingham, WA 98225	[redacted]immy136@gmail.com
801	04/15/2024 9:03:58	K. Swartz	Bellingham, WA 98225	[redacted]n0098@gmail.com
802	04/15/2024 10:13:44	A. Tsoukalas	Bellingham, WA 98226	[redacted]uinbiker@gmail.com
803	04/15/2024 11:12:39	N. Chambard	Bellingham, WA 98225	[redacted]chambard@gmail.com
804	04/15/2024 11:15:37	W. Ellis	Bellingham, WA 98225	elli[redacted]@wwu.edu
805	04/15/2024 11:31:25	P. Shantz	Bellingham, WA 98229	[redacted]shantz@duck.com
806	04/15/2024 11:33:26	J. Shantz	Bellingham, WA 98229	[redacted]shantz@aol.com
807	04/15/2024 12:37:27	D. Wakeland	Bellingham, WA 98225	[redacted]akeland@hotmail.com
808	04/15/2024 15:26:41	B. Schneider	Bellingham, WA 98225	[redacted]schneid@hotmail.com
809	04/16/2024 0:21:59	K. Lewis	Bellingham, WA 98229	[redacted]ml@comcast.net
810	04/16/2024 9:54:07	D. Roy	Bellingham, WA 98229	roy[redacted]@aol.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

811	04/16/2024 9:55:24	G. Hunter	Bellingham, WA 98226	[redacted]emuse@gmail.com
812	04/16/2024 12:50:19	K. Grinde	Bellingham, WA 98225	[redacted]g@comcast.net
813	04/16/2024 13:08:19	S. Harmon	Bellingham, WA 98229	[redacted]armons@gmail.com
814	04/16/2024 13:12:38	M. Francell-Sharfstein	Bellingham, WA 98225	[redacted]frsh@gmail.com
815	04/16/2024 15:06:35	M. Woll	Bellingham, WA 98225	[redacted]ean23@aol.com
816	04/16/2024 20:17:26	P. Rolstad	Bellingham, WA 98225	[redacted]lstad@protonmail.com
817	04/16/2024 20:18:50	D. Gell	Bellingham, WA 98229	[redacted]ell@mac.com
818	04/16/2024 20:27:14	R. Kingsley	Bellingham, WA 98229	[redacted]ingsley@icloud.com
819	04/16/2024 22:16:15	J. Hart-Horner	Bellingham, WA 98229	[redacted]rthorner[redacted]@gmail.com
820	04/16/2024 22:16:46	J. Horner	Bellingham, WA 98229	[redacted]rthorner[redacted]@gmail.com
821	04/17/2024 9:01:52	S. Laine	Bellingham, WA 98229	[redacted]laine@gmail.com
822	04/17/2024 13:42:51	R. Elliott	Bellingham, WA 98229	[redacted]areta[redacted]@gmail.com
823	04/17/2024 14:43:06	B. Batchelder	Bellingham, WA 98225	[redacted]bncliff@icloud.com
824	04/17/2024 16:25:33	S. Marshall	Bellingham, WA 98229	[redacted]rshall5@gmail.com
825	04/17/2024 16:31:29	c. macey	bellingham, wa 98229	[redacted]ucksdriver@gmail.com
826	04/17/2024 17:44:35	L. Rich	Bellingham, WA 98229	[redacted]rich1@me.com
827	04/17/2024 18:17:36	k. bjork	seattle, wa 98118	bjork[redacted]@gmail.com
828	04/17/2024 19:41:02	B. June	Bellingham, WA 98229	[redacted]une@comcast.net
829	04/17/2024 20:19:26	R. Greenberg	Bellingham, WA 98229	[redacted]addyman@mac.com
830	04/17/2024 20:51:52	M. Quenneville	Bellingham, WA 98225	[redacted]QU@MSN.COM
831	04/17/2024 22:41:09	K. Reilly	Bellingham, Wa 98226	[redacted]illylmp@comcast.net
832	04/18/2024 0:00:11	L. Schuldt	Bellingham, WA 98229	schuldt[redacted]@aol.com
833	04/18/2024 7:02:51	E. King	Bellingham, Washington 98229	[redacted]goat@gmail.com
834	04/18/2024 7:07:36	K. Menard	Bellingham, WA 98225	[redacted]menard@gmail.com
835	04/18/2024 11:45:13	A. Sorich	Bellingham, WA 98225	[redacted]orich@gmail.com
836	04/18/2024 14:38:11	S. Ernest	Bellingham, Washington 98226	[redacted]ernest3@gmail.com
837	04/18/2024 15:52:34	G. McInnis-Hernandez	Bellingham, WA 98225	[redacted]mcinnis-hernandez@hotmail.com
838	04/18/2024 16:05:56	S. W	Bellingham, Wa 98229	[redacted]wagner2@gmail.com
839	04/18/2024 17:14:10	K. Peterson	Bellingham, WA 98225	[redacted]peterson[redacted]@gmail.com
840	04/18/2024 20:03:54	L. Skare	Bellingham, WA 98229	[redacted]nrobison@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

841	04/18/2024 20:41:25	K. Dalton	Bellingham, WA 98225	[redacted]alton@hotmail.com
842	04/18/2024 23:02:14	B. Wiencke	Bellingham, WA 98229	[redacted]encke@gmail.com
843	04/18/2024 23:29:45	L. White	Bellingham, WA 98225	[redacted]hite20[redacted]@gmail.com
844	04/18/2024 23:49:27	L. Bjornson	Bellingham, WA 98225	Da[redacted]ise@msn.com
845	04/19/2024 6:52:53	T. Entrikin	Bellingham, WA 98229	[redacted]odd_@hotmail.com
846	04/19/2024 7:04:22	m. giaconi	rancho paslo verdes, ca 90275	[redacted]rnard@cox.net
847	04/19/2024 7:06:22	R. Jayne	Bellingham, WA 98225	[redacted]jayne@gmail.com
848	04/19/2024 7:34:50	F. Rhoades	Bellingham, WA 98225	[redacted]hoades@comcast.net
849	04/19/2024 7:38:45	C. Macchio	Bellingham, WA 98229	[redacted]cchio@hotmail.com
850	04/19/2024 8:28:57	T. Bott	Bellingham, Washington 98229	[redacted]bott@gmail.com
851	04/19/2024 9:37:32	J. Hehr	Bellingham, WA 98225	[redacted]hehr@aol.com
852	04/19/2024 11:04:30	B. Zelano	Bellingham, Wa 98229	[redacted]lano@gmail.com
853	04/19/2024 11:04:48	C. Palmer	Bellingham, WA 98229	[redacted]palmer@yahoo.com
854	04/19/2024 14:10:46	S. Seutz	Bellingham, Wa 98229	[redacted]covorenun@live.com
855	04/19/2024 15:59:48	A. LAW	Bellingham, WA 98225	[redacted]law805@gmail.com
856	04/19/2024 17:12:26	J. Dietzgen	Bellingham, WA 98225	[redacted]dietzgen@gmail.com
857	04/19/2024 17:29:38	P. Morgan	Bellingham, WA 98225	[redacted]morgan@gmail.com
858	04/19/2024 21:04:36	R. Bunn	Bellingham, WA 98229	[redacted]bunn@gmail.com
859	04/19/2024 21:07:13	B. Schwede	Ferndale, WA 98248	[redacted]schwede@yahoo.com
860	04/20/2024 7:13:32	A. Johnson	Bellingham, WA 98229	[redacted]lj02[redacted]@hotmail.com
861	04/20/2024 7:22:16	J. Nolting	Bellingham, WA 98225	[redacted]lting@gmail.com
862	04/20/2024 10:38:57	L. Higbee	Bellingham, Wa 98229	higbee[redacted]@gmail.com
863	04/20/2024 10:54:07	I. Koehneman	Bellingham, WA 98225	[redacted]stigan@gmail.com
864	04/20/2024 12:01:28	M. Maas	Bellingham, WA 98229	[redacted]aas@gmail.com
865	04/20/2024 12:09:39	K. Ernest	Bellingham, Wa 98226	ernest[redacted]@gmail.com
866	04/20/2024 13:27:35	B. Lancaster	Bellingham, WA 98227	lancaster[redacted]@comcast.net
867	04/20/2024 13:28:54	A. Fischer	Bellingham, WA 98225	[redacted]fisch9@icloud.com
868	04/20/2024 18:03:15	C. Coleman	Bellingham, WA 98229	coleman[redacted]@gmail.com
869	04/20/2024 18:32:01	A. Buehler	Bellingham, WA 98229	[redacted]ehler@comcast.net
870	04/20/2024 18:32:30	D. Buehler	Bellingham, WA 98229	[redacted]buehler@comcast.net

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

871	04/20/2024 18:57:15	T. Baker	Bellingham, WA 98226	[redacted]Baker@abc.com
872	04/20/2024 19:00:20	E. Baker	Bellingham, WA 9822	[redacted]Baker[redacted]@abc.com
873	04/21/2024 8:37:14	K. Ochs	Bellingham, Washington 98229	[redacted]ochs@gmail.com
874	04/21/2024 8:54:49	H. lydon	Bellingham, WA 98229	[redacted]wolf0[redacted]@gmail.com
875	04/21/2024 9:19:55	R. Hunt	Bellingham, Washington 98225	hun[redacted]@gmail.com
876	04/21/2024 9:22:45	S. Wilson	Bellingham, WA 98229	[redacted]lson17[redacted]@gmail.com
877	04/21/2024 9:56:08	A. Brede	Bellingham, WA 98225	brede[redacted]@gmail.com
878	04/21/2024 12:54:33	S. Connell	Bellingham, WA 98225	[redacted]connell@gmail.com
879	04/21/2024 12:56:44	R. Hoffmeister	Bellingham, Washingtonn 98225	hoff[redacted]@gmail.com
880	04/21/2024 13:03:37	A. Riedel	Bellingham, WA 98225	[redacted]ndthree@msn.com
881	04/21/2024 13:58:56	M. Bell	Bellingham, WA 98226	*(none)*
882	04/21/2024 15:51:54	D. Couvelier	Bellingham, WA 98225	[redacted]cq511@aol.com
883	04/21/2024 16:55:37	J. Jacobs	Sedro Woolley, WA 98284	[redacted]jacobs@gmail.com
884	04/21/2024 17:16:20	D. Merlina	Bellingham, WA 98225	[redacted]merlina@yahoo.com
885	04/21/2024 17:19:07	R. Merlina	Bellingham, WA 98225	[redacted]is4me2@yahoo.com
886	04/21/2024 18:34:41	L. Wilson	Bellingham, WA 98229	[redacted]paw@gmail.com
887	04/21/2024 18:59:33	D. Graham	Bellingham, WA 98226	[redacted]rh19[redacted]@gmail.com
888	04/21/2024 19:17:25	J. Wilson	Bellingham, WA 98229	lee@pe[redacted]y.com
889	04/21/2024 19:33:05	K. Veterane	Bellingham, Washington 98226	[redacted]veterane@comcast.net
890	04/22/2024 9:38:12	C. Schmidt	Bellingham, WA 98225	[redacted]schmidt@gmail.com
891	04/22/2024 11:27:05	R. Folsom	Bellingham, Washington 98229	[redacted]inni@gmail.com
892	04/22/2024 11:40:28	C. Larrain	Chatsworth, CA 91311	[redacted]larrain@gmail.com
893	04/22/2024 13:29:14	J. Bagge	Bellingham, WA 98155	[redacted]merman.0v@icloud.com
894	04/22/2024 14:45:39	B. Kramrt	Bellingham, WA 98229	[redacted]bwa@earthlink.net
895	04/22/2024 15:51:18	H. Othmer	BELLINGHAM, WA 98229	[redacted]othmer@windermere.com
896	04/22/2024 15:56:08	G. Luebeck	Bellingham, WA 98225	[redacted]ebeck@gmail.com
897	04/22/2024 15:58:42	M. Bilkova	Scotts Valley, CA 95066	[redacted]bilkova@msn.com
898	04/22/2024 16:23:57	K. Mueller	Bellingham, WA 98225	[redacted]mueller@msn.com
899	04/22/2024 16:57:24	E. Colello-Morton	Bellingham, WA 98225	[redacted]m58@comcast.net
900	04/22/2024 17:06:27	A. Oaks	Bellingham, WA 98225	[redacted]aoaks@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

901	04/22/2024 17:07:06	K. Mueller	FLAGSTAFF, AZ 86004	us@mueller[redacted].us
902	04/22/2024 17:56:54	P. Reid	Duvall, WA 98019	[redacted]reid32@gmail.com
903	04/22/2024 18:11:42	J. Rand	Seattle, WA 98119	[redacted]rand@mac.com
904	04/22/2024 19:15:53	J. Peterson	Seattle, Washington 98119	[redacted]peterson[redacted]@mac.com
905	04/22/2024 20:38:49	A. Gould	Bellingham, WA 98229	[redacted]design1@yahoo.com
906	04/22/2024 20:57:55	E. Wadsworth	Bellingham, WA 98225	[redacted]rdw8@gmail.com
907	04/22/2024 21:04:17	D. Gould	Bellingham, WA 98229	[redacted]ndalg@yahoo.com
908	04/22/2024 21:11:59	D. Elkayam	Bellingham, WA 98229	[redacted]lkayam@hinet.org
909	04/22/2024 21:21:17	K. Baer	Santa Monica, California 90405	[redacted]kbda@gmail.com
910	04/22/2024 22:37:31	L. Gould	Bellinghan, WA 98229	[redacted]ciel@yahoo.com
911	04/22/2024 23:20:14	B. Southcott	Bellingham, WA 98225	[redacted]e_lou@mac.com
912	04/23/2024 5:11:47	M. Davis	Bellingham, WA 98225	[redacted]momrx@gmail.com
913	04/23/2024 6:26:46	M. Hutchinson	Pacific Grove, CA 93950	[redacted]hutch236@gmail.com
914	04/23/2024 6:52:58	N. Wasierski	Port Angeles, WA 98362	[redacted]sierski@gmail.com
915	04/23/2024 7:46:24	M. Toney	Bellingham, 62 98229	[redacted]toney@gmail.com
916	04/23/2024 10:51:29	O. Gould	Bellingham, WA 98229	[redacted]lesme@gmail.com
917	04/23/2024 11:54:16	G. Toland	Ames, IA 50010	[redacted]toland@gmail.com
918	04/23/2024 11:58:43	O. Kramer	Bellingham, Washington 98225	[redacted]kramer[redacted]@gmail.com
919	04/23/2024 13:09:57	S. Stevens	Bellingham, WA 98226	[redacted]stevens[redacted]@gmail.com
920	04/23/2024 14:55:34	S. Swan	Bellingham, WA 98225	[redacted]swan@gmail.com
921	04/23/2024 16:10:00	A. Richardson	Bellingham, WA 98226	[redacted]ichardso[redacted]@gmail.com
922	04/23/2024 17:48:17	C. Yanny	Bellingham, wa 98225	[redacted]onarlie@outlook.com
923	04/23/2024 18:52:54	J. Elkayam	BELLINGHAM, WA 98229	[redacted]lkayam@gmail.com
924	04/23/2024 19:37:41	N. Fraley	Bellingham, WA 98225	[redacted]aley@gmail.com
925	04/23/2024 20:38:08	J. Harris	Bellingham, WA 98229	[redacted]wharris@icloud.com
926	04/23/2024 20:42:45	E. Rowe	Bellingham, Washington 98225	[redacted]nconcrete[redacted]@gmail.com
927	04/23/2024 21:32:33	M. Swiecicki	Bellingham, Washington 98225	[redacted]a2c@gmail.com
928	04/23/2024 21:34:16	M. VanBrocklin	Bellingham, Washington 98225	[redacted]clarkr[redacted]@gmail.com
929	04/23/2024 22:47:39	n. elliot	Bellingham, WA 98229	[redacted]horses@gmail.com
930	04/23/2024 22:48:58	E. Laine	Bellingham, Washington 98229	[redacted]laine@gmail.com

To respect petition signers' privacy, some characters of name and email address have been obscured in this file; the full record is viewable upon request if City of Bellingham officials need to see that information.

931	04/24/2024 7:29:24	M. Toney	Bellingham, WA 98229	[redacted]one55@gmail.com
932	04/24/2024 7:32:46	N. Wakefield	Bellingham, Wa 98229	[redacted]wake@gmail.com
933	04/24/2024 11:17:28	P. Brock	Bellingham, WA 98229	brock[redacted]paul@hotmail.com
934	04/24/2024 13:17:10	P. Turner	Bellingham, WA 98225	[redacted]turner@yahoo.com
935	04/24/2024 13:51:59	C. carmack	Bellingham, WA 98229	cec[redacted]carmack@hotmail.com
936	04/24/2024 14:36:46	P. Howe	Bellingham, WA 98229	[redacted]owe@gmail.com
937	04/24/2024 14:39:08	L. Howe	Bellingham, Wa 98229	[redacted]howe@gmail.com
938	04/24/2024 14:40:37	J. Howe	Bellingham, Wa 98229	[redacted]howe5[redacted]@gmail.com
939	04/24/2024 14:47:27	A. Palma	Issaquah, WA 98027	[redacted]almag@msn.com

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