Strawberry Bay Restoration
Madrona Estates Residents Meeting – Minutes

Date: February 13, 2023 **Location:** Mountlake Terrace Library, 23300 58th Avenue West, Mountlake Terrace

Project Number: 22-07834-000

Attendees:

Washington Department of Natural Resources (WDNR):

Paul McFarland Project Manager (PM)	David Wilderman Program Ecologist (Online)	Tristan Currin Recreation Steward

Herrera Environmental Consultants:

Tina Mirabile Senior Ecologist/PM	Jonathan Waggoner, PE	Jeff Parsons PE
Shawree Zhang Scientist I		

Strawberry Bay Residents/Guests (Sign-in Sheet)

Greg Ruggerone	Charlotte Clarey	Wes Wynn
Chris Cooley	Bob Moe	Brian Bogen
Matt Allen	John Geary	Alan Clarey

Meeting Objective:

To discuss Herrera's analysis of the existing environmental site conditions and to introduce a conceptual plan for DNR to restore natural conditions on the former Cooke residential parcels adjacent to Madrona Estates property owners, answer questions and take comments from stakeholders.

Agenda Items:

Welcome – Introductions – Paul MacFarland and the Herrera Consultant Team & Sign-In Sheet

WDNR -Herrera Strawberry Bay Restoration, Madrona Estates Residents Meeting (02/13/23) Minutes Continued:

Paul McFarland - WDNR's Objectives for Site Restoration

- When WDNR buys land, we will also try to restore it, aiming for a "best guess" of what was there prior to human development.
- Hire experts (Herrera, in this case) to advise about current and future conditions and identify restoration opportunities.
- The goal is to set WDNR's recently acquired (former Cooke residential properties) lands at Strawberry Bay on a natural and sustainable trajectory for the future.

Herrera - Existing Environmental Site Conditions

Existing Mean Higher High Water (MHHW) = +7.4 and 100-Year flood = +10.6-feet (NAVD88)
Looking ahead to 2050: Daily tides (MHHW elevations) are expected to be higher (rise by +0.7 feet, MHHW= +8.1 feet) and will flood more area but won't be problematic to the properties.

The tide gate and berm provide a false of security as the existing low spot on the berm at +10.6 feet in elevation can be topped during a high tide storm event. The estimated tide on December 27, 2022 exceeded the existing 100-year flood elevation (+10.6 feet), peaking at +10.9 feet, which likely caused extensive flooding of the marsh. Looking ahead to 2050, the predicted 100-year flood elevation is expected to increase by +1.4 feet (equal to+12.0 feet) creating flooding from multiple points, including topping of the berm (current low spot is+10.6 feet). Wave actions have been analyzed yet but will be a part of finalizing the development of the conceptual restoration plan.

The existing tide gate is no longer fully operational and its repair and/or replacement will be difficult to secure permits and authorizations by federal and state environmental regulatory agencies. Extensive and expensive re-design would be required, as well as, continued maintenance, which in not sustainable for the future. The existing tide gate with a top flap gate is no longer permitted. A side gate would need to be used, which requires complex construction/installation and results in impacts to the near shore environmental which will require mitigation. The tide gate restricts the draining of freshwater flooding from the marsh, which occurs naturally due to direct precipitation, groundwater seepage and tributary streams.

WDNR -Herrera Strawberry Bay Restoration, Madrona Estates Residents Meeting (02/13/23) Minutes Continued:

Conceptual Plan – Risks and Alternative Analysis

The current conceptual restoration design includes the removal of the existing house, cabin and former swimming pool from WDNR's properties. The project is intended to avoid impacts on adjacent private properties and the existing Madrona Estate roads are not currently designed for construction grade use. A temporary barge loading and unloading area will be designated for the project duration and then restored. The proposed access route for the house removal will be through the wetland. Equipment will be operated on mats within the wetland to reduce impacts.

The existing tide gate is intended to remain in-place, however, to facilitate freshwater drainage from the wetland during storm events, the proposed restoration plan includes redirecting the stream channel to the south to connect to the existing wetland channel and excavation of a new outlet through the berm within the vicinity of the former swimming pool. Evidence suggests that the stream adjacent to the house was redirected to its current location to the north of the house from a more natural configuration to the south. After house removal, the stream channel will be restored to the south to connect with the existing wetland channel.

The creation of the outlet channel will alleviate the future risk of sea-level rise from breaching the berm in an uncontrolled manner. Although tides will be able to reach farther into the wetland basin, the channel excavation will reduce the amount and length of flooding of the wetland during storm events. Within increased salt-water intrusion , the vegetation community within the wetland is expected to shift more towards a salt marsh vegetation community, however the existing vegetation includes salt-tolerant species already due to brackish conditions. All disturbed areas associated with the project will be replanted with native plants and seed sourced from Cypress Island, as required by WDNR for site restoration.

Complete draining of the wetland into a pasture is not allowed by environmental agencies as the project will need to result in no net loss of wetland area or habitat. Raising of the berm is not a feasible restoration option.

WDNR -Herrera Strawberry Bay Restoration, Madrona Estates Residents Meeting (02/13/23) Minutes Continued:

Questions and Answers for Further Discussion:

- *Will there be a bridge installed along the berm to allow people to cross the stream?*
  - Maybe - In order to make a decision, WDNR will need to consider the increased public trail access that would result on their property.
- *If removing the tidegate leads to more flooding from daily tides, will that impact the properties along the margins?*
  - In the future, homes will be flooded regardless of the tide gate in controlling sea water rise. The conceptual plan is designed to ease the burden of the freshwater floods – by making their duration shorter (by draining the water faster out of the basin). Wave action has not been analyzed for this early conceptual phase of the project but will be researched prior to final design recommendations.
- *How to deal with silt and sediment?*
  - Herrera's next steps will include determining how the channel and construction will be sized and will design a solution to address silt and sediment accumulation and or erosion.
- *There is a witness tree near the swimming pool that functions as a survey marker.*
  - Standard practice is not to remove survey markers during operations.
- *There's a little concrete bridge there, will that be taken out?*
  - The Washington State Department of Archaeology and History Preservation (DAHP) will review all of the project's structures (house, cabin, former pool) and other features, such as the bridge, for required preservation and/or documentation needed for their removal.
  - DAHP has already ruled that the Cook house has historical value, so there is mitigation to be done if the house is to be removed, such as producing reports and records.
- *Are there/will there be fish in the stream? Will there be salmon spawning there?*
  - The stream is currently documented as a fish-bearing stream, but not for spawning salmon. Juvenile salmonids may find their own way in the channel after the restoration.
  - Current restoration projects focus heavily on restoring salmon spawning grounds, but much less on safe habitat for juveniles provided by estuarine wetlands or coastal lagoons. The salt marsh here is a theoretically perfect place to open up for juvenile salmonids to utilize.
- *How deep will the channel be?*
  - Calculations to determine how wide or deep the channel will be the next phase of the conceptual design process.

- *What does a normal tide flow look like with the new design?*
    - A normal tide flow will not be near the houses by 2050, even with sea level rise.
- *Will there be any standing water after the construction?*
    - Project permitting will now allow for the design or construction of a fish trap or impounded water, so there will there be an outlet for water coming in and out with the tides and freshwater flooding/inundation.
- *Clarification: will the new design be an improvement over the current tide gate?*
    - The new design will not be able to restrict tides as the existing tide gate does, however, the drainage capability from the freshwater flooding will far outperform the tide gate.
- *What if the tide gate fails? Will the water blow through the berm? For the safety of the properties, do they need both the new drainage design and the tide gate?*
    - Currently there is a risk of the berm being breached with or without the tide gate. There is no easy way to predict where this could happen, however by implementing the project to create the outlet channel on WDNR's property where no structures are present, the risk of potential damage to surrounding properties will be reduced.
- *Will this new design cause more flooding for the properties during high tides?*
    - The impact of the tides should not be affected by the project. The project is designed to reduce freshwater flooding and its duration within the wetland.
    - Three different tides to consider: "low" tide (daily, mean water level) won't be an issue; "high" tides (storm and catastrophic events) will lead to catastrophic flooding regardless of if the project is implemented or how functional the tide gate is and; "middle high" tides are also concerning, where there will be some more flooding but not catastrophic.
- *In regard to beach and coastal geomorphology, there is a worry that there will be issues with sediment transport and how cutting a channel through will affect the beach.*
    - This will be considered and will require further investigation and consideration as the conceptual design plan is being developed further. The goal is to find a balance, and Herrera will determine if the channel is sustainable.
- *There's an elevated area by the cabin, what will happen to it? Is there a possibility of using some of this land to provide area for firefighting crews to protect private property? The NRC's Fire Management Comprehensive Plan for Cypress Island is seeking a location for a permanent airstrip close-by.*
    - Plans for the elevated area by the cabin are unsure, but this concept can be considered going forward.

WDNR -Herrera Strawberry Bay Restoration, Madrona Estates Residents Meeting (02/13/23) Minutes Continued:

- *What's the timing going to look like? When are the next steps going to happen?*
    - The project is currently still in the conceptual phase. This is a multi-year, not months-long process, as there is a need for construction funding. As the process continues, WDNR intends to provide additional time for further dialogue and discussion and public input.
- *Suggestion that Herrera study the coastal geomorphology first, would want to know more about the proposed channel on the beach.*
    - Goal is to have the channel/system be maintenance-free, and function naturally. Herrera will be providing analysis.
- *Concerns about the beach: that the channel would just get filled in again and there'd be no net benefit; will hard substrate to maintain the channel be required; worry about sediment moving along the beach and starving the downstream beach of incoming sediment, causing the beach to erode. Suggested sediment modeling.*
    - Herrera will continue to investigate the conceptual design for long-term feasible and minimal impact. No dredging or hard substrates will be proposed – purpose of the project is to have a light touch on nature – restore natural systems sustainably.

Action Items:

Action	Due Date	Assigned To
Send out a PDF of the Herrera presentation slides, with annotations, to attendees and property owners		
Continue the discussion with property owners, whether by scheduling another meeting, or whatever works best for them		

Attachments:

PowerPoint Presentation – Herrera Consultants