

Yarrow Point Trails Master Plan

August 2013



Yarrow Point Trails Master Plan

Foreword

The Town of Yarrow Point is blessed with an abundance and variety of outdoor recreational space for the enjoyment of our citizens. The intent of the Trails Master Plan, or “Plan,” is to define a comprehensive network of existing and future pedestrian pathways to further enhance the quality of life benefits these outdoor spaces bring to our community. Connection with the larger local and regional network available via the existing Points Loop Trail and the expansion of the Bicycle-Pedestrian Path included within the redeveloped SR-520 corridor provides important environmentally friendly travel alternatives.

Under the guidance of the Town Park Board, Council and Planning Commission, the Plan has been prepared to provide a basis for trail projects in coming years. Furthermore, it is the intent of this study to have a legacy effect on the community and we encourage the inclusion of this study into the next revision to the Town’s Comprehensive Plan to strengthen its efficacy.

We thank fellow citizens of King County whose commitment to the value of parks and trails made this study possible through funding assistance provided by the 2007 voter approved King County Parks Proposition 2 that promotes “open space and trails for cities.”

David K. Cooper, Mayor
John McGlenn, Park Board Chairman

Town of Yarrow Point 2013 Officials

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David Cooper

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Yarrow Point Trails Master Plan

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Yarrow Point Trails Master Plan

Narrative

Yarrow Point is a residential community on Lake Washington with approximately 1,000 residents. The residents can enjoy several unique outdoor open spaces including Morningside Park, Sally's Alley, Road End Beach, a non-motorized boat launch, and the Wetherill Preserve.

The primary goal of the Yarrow Point Trails Master Plan is to show existing and proposed trail sections throughout town and to adjacent regional trails. The existing trail along the southern length of 92nd Avenue NE is a trail section which the master plan proposes to extend north along 92nd and connect to Road End Beach. Other trail sections exist throughout town and can be found in Morningside Park, the Wetherill Preserve, and through Sally's Alley. Because of low automobile traffic and the 25 mph speed limit, existing streets provide some of the trail connections for pedestrians.

The trails will vary depending on their location and context. The trail extension on 92nd will be paved and separated from traffic; Wetherill Preserve will be accessed by a paved trail along State Route 520; and connections to Morningside Park will be made by using 95th Avenue NE. Within the various open spaces proposed design detail will be appropriate to the context. For example, trails within Morningside Park may be earthen or crushed rock in the upland areas and switch to boardwalks within wetland areas.

This master plan is the first step in realizing a connected system of open spaces. Future efforts will be needed to implement the proposed trail projects. Future work may include studies and coordination of work along 92nd Avenue, trail alignment within Morningside Park based on topographic and existing tree information, and detailed improvements within Sally's Alley.

When fully implemented, the Yarrow Point Trails Master Plan will provide residents with safe, identified routes to connect with and travel through the town's natural features and open spaces.

Morningside Park Master Plan and Yarrow Point Trails

Schedule

1.31.13



January

- 01.02.13 Project start
- 01.02–01.30 Research, site visit, site analysis, opportunities
- 01.31.13 **Meeting 1** – Vision, inventory and analysis, conceptual design

February

- 02.01–03.25 Field research (environmental report), preparation of alternatives

March

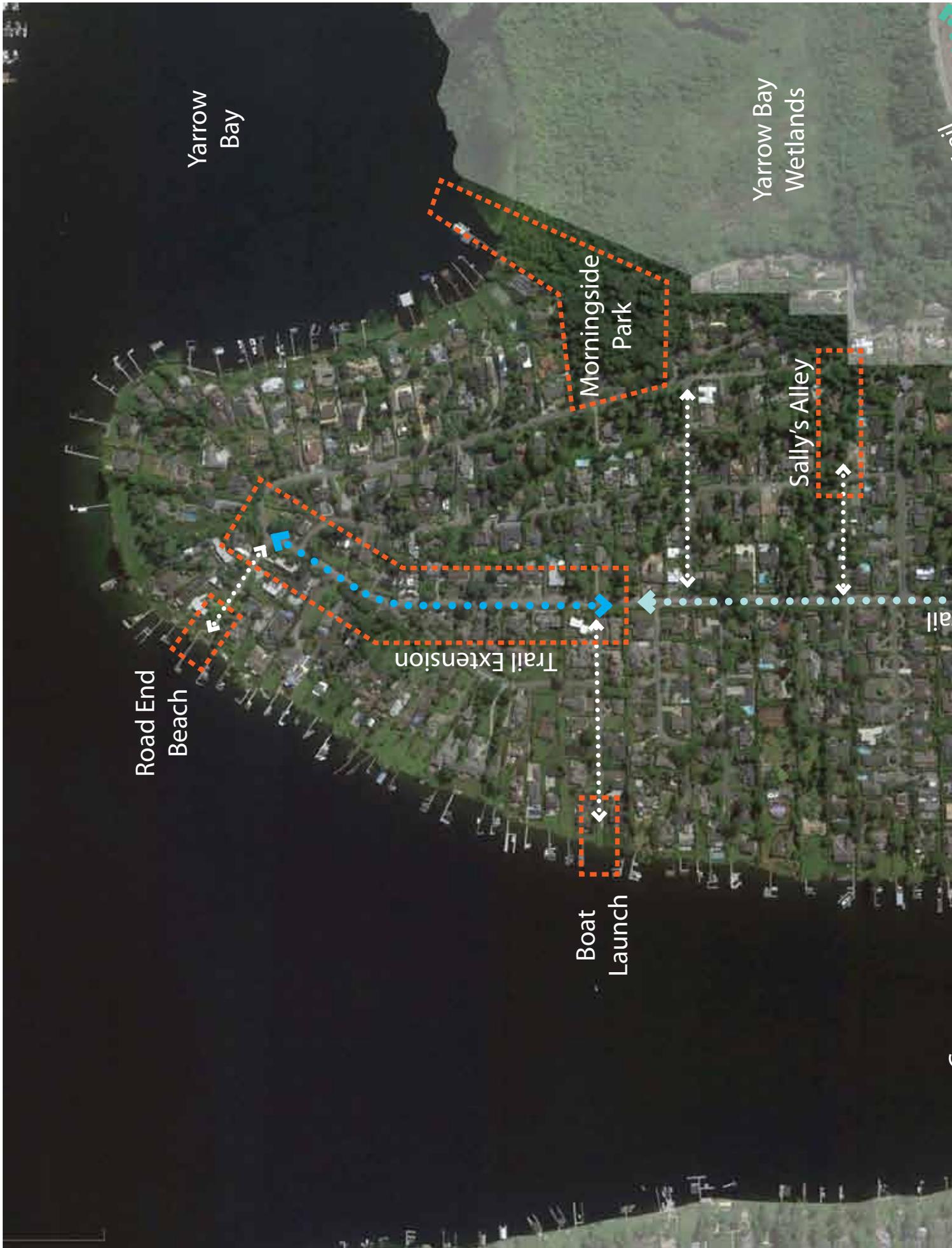
- 03.26 **Meeting 2** – Open house/workshop
- 03.27–05.28 Preparation of final plans, cost estimates, funding sources, presentation exhibits

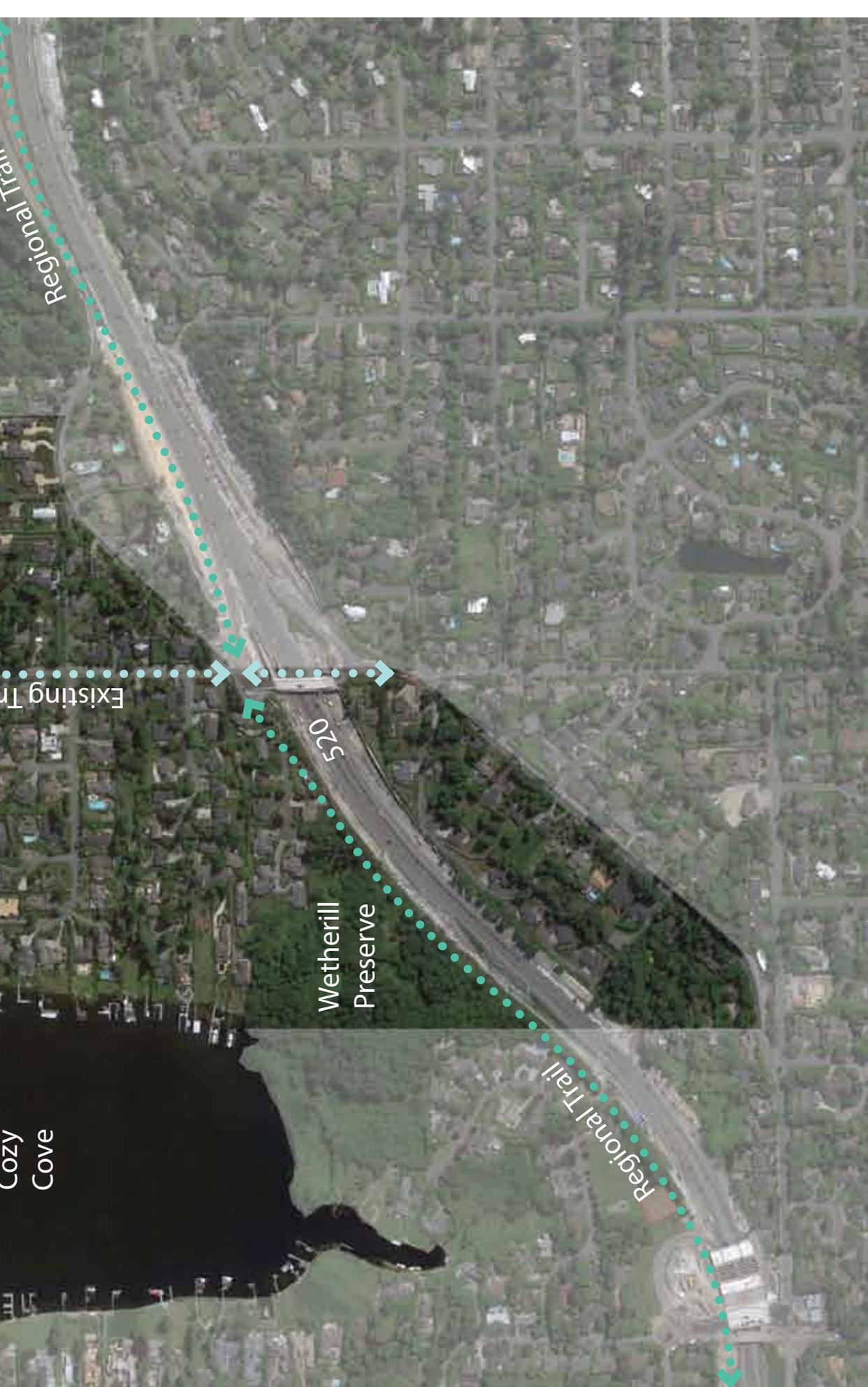
May

- 05.29 Draft plans provided for review
- 05.30–06.30 Comment review, master plan revisions

July

- Present to Council/Parks Board





Overall Town Plan

Yarrow Point Trails Master Plan



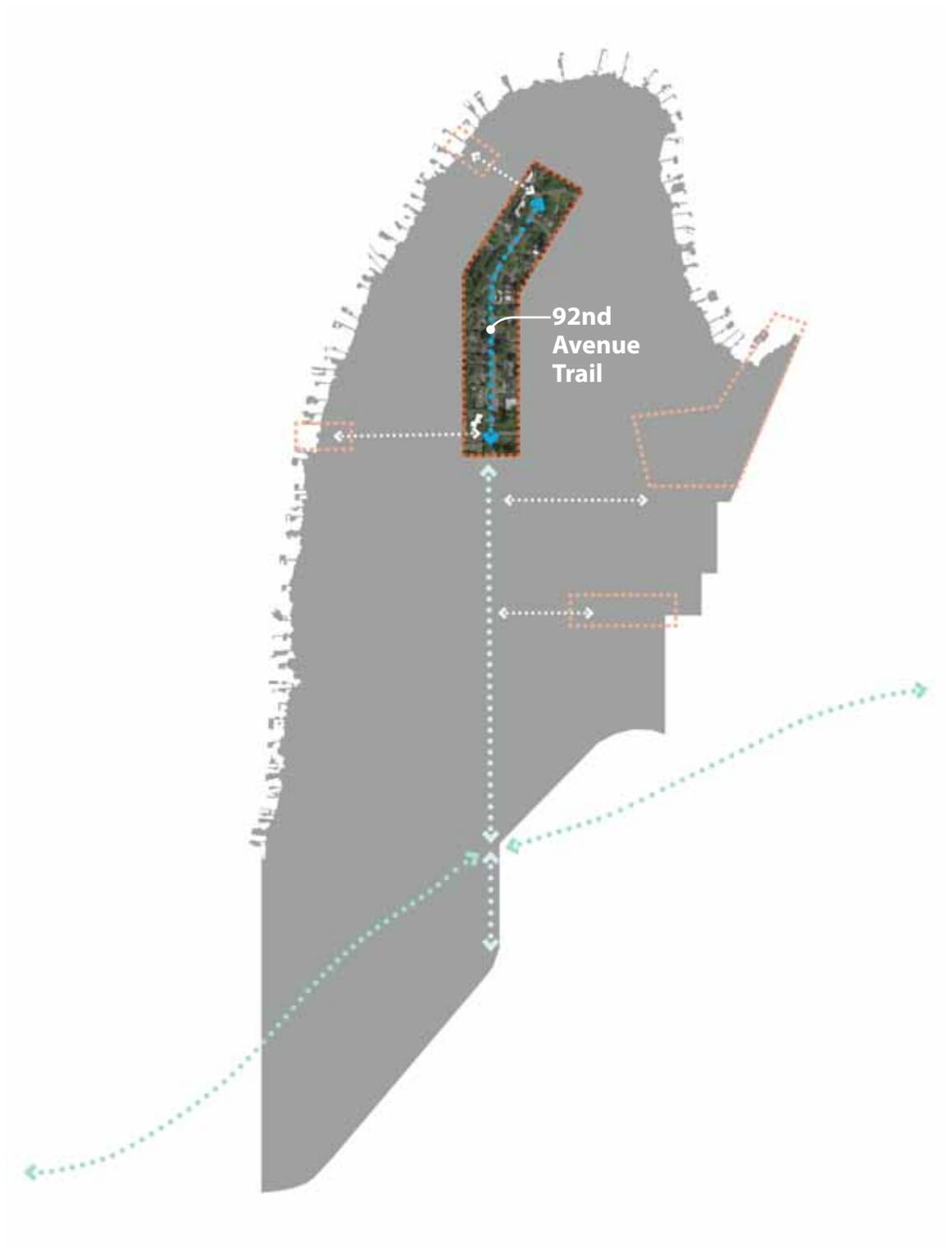
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Yarrow Point Trails Master Plan

92nd Avenue Trail



Yarrow Point Trails Master Plan

92nd Avenue Trail Narrative

The trail along 92nd Avenue NE is proposed to be extended to the north and connect to NE Haddin Way. The trail is proposed to remain on the west side of the street, separated from the street by a planter strip. A smooth durable walking surface is proposed for the trail extension. This recommendation is due primarily to concerns about the uneven surface and loose material on the existing trail. There are also areas where the trail has been disturbed and improperly repaired by construction resulting in an inconsistent walking surface. Difficulty with repairs and replacement may be due to the unusual nature of the trail material and make-up of the existing walking surface.

One crossing is proposed at the diagonal intersection with 91st Place NE. This will be a perpendicular crossing for safety and to keep the trail on the west side of 92nd Avenue NE as shown in Enlargement A. The crossing may be the same trail paving material or a painted crosswalk. Typical street signage will be necessary to announce the crossing.

As the trail continues northeast along 92nd Avenue it will have the same character as the previous segment. The existing conditions along this length will require additional consideration for the trail construction. The existing grades drop steeply to the west of 92nd Avenue and for the trail to be constructed one of two strategies would need to be considered.

The first option leaves the street in the existing alignment and requires retaining walls and possibly guardrails to create a safe, usable trail. Existing driveway connections would need to be reconstructed. The second option, the preferred option shown in Enlargements A and B, proposes shifting the street to the east. This allows the trail to be built in the alignment of the existing street, minimizing disruption of the existing grades and driveway connections. The east side of 92nd Avenue is flush with the road surface and would not require excessive regrading or extensive walls. This work would most likely be accomplished with the undergrounding of the existing utility lines.

The trail connects at the northern end of 92nd Avenue to NE Haddin Way. This intersection is identified by the existing historic fountain. The trail crosses NE Haddin Way and in doing so provides an appropriate base for the fountain, creates a safe pedestrian crossing, and provides additional protection for the fountain. See Enlargement B.

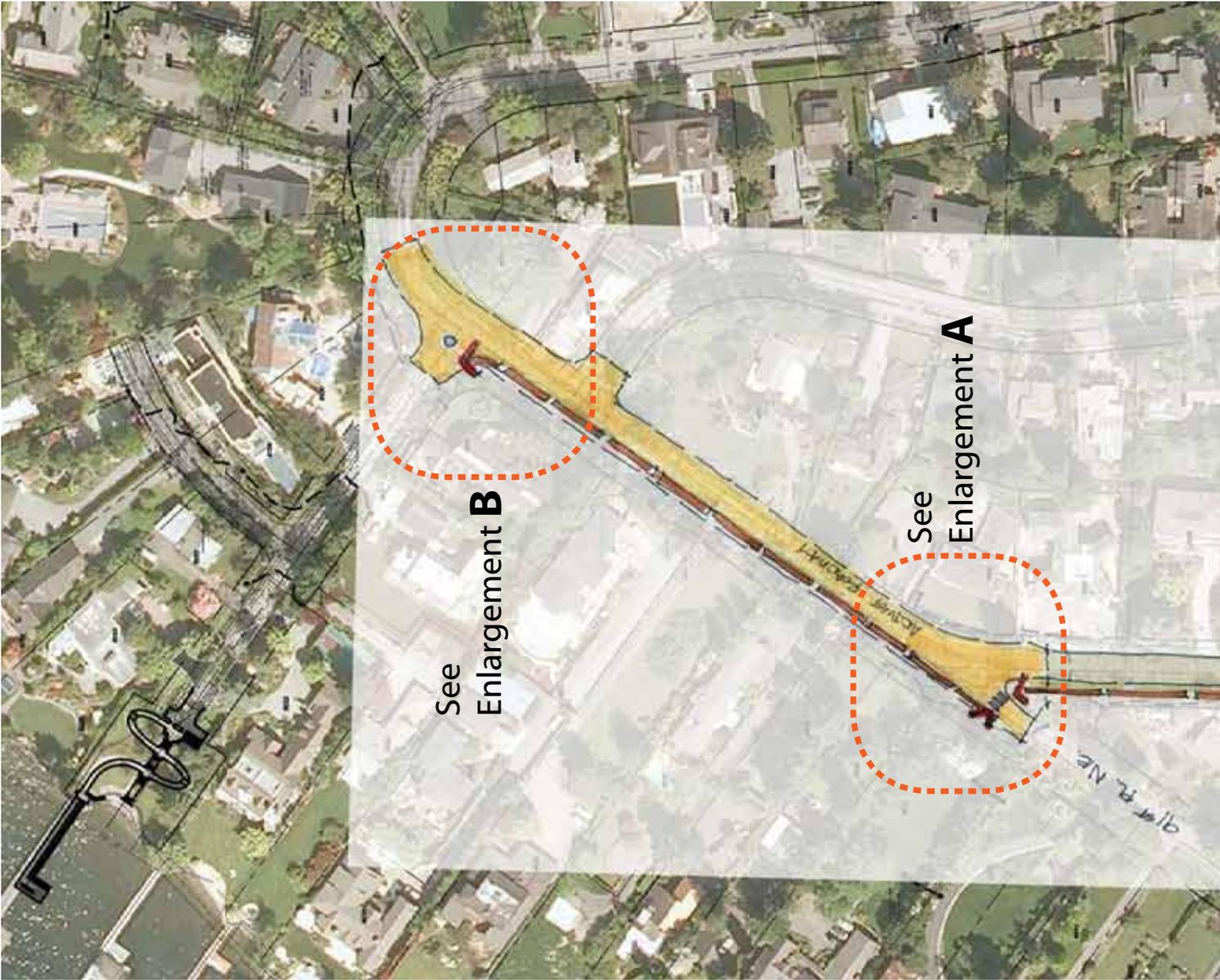
The 92nd Avenue trail is proposed to be 6 feet in width with a 3-foot planting strip. Several paving materials were explored including the existing material, concrete, asphalt and precast concrete pavers. Precast pavers were preferred and would be placed in a pattern that provides unique character for Yarrow Point. The plants in the planter strip will be compatible with those along the existing trail.

From Haddin Way the trail continues as shared space on 95th Avenue NE. This low traffic volume street provides a connection to Morningside Park and the east entrance to Sally's Alley. Identification of the trails and open spaces within Yarrow Point is desired but needs to be subtle.

Trail signs could be considered at key locations such as intersections, turns, and entrances to features. An option for trail signs could be small signs attached to wood, 8"x8" bollards about 4 feet in height. The signs are 6"x8" painted metal with applied graphics and attached to the wood bollards.



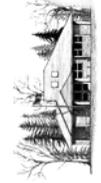






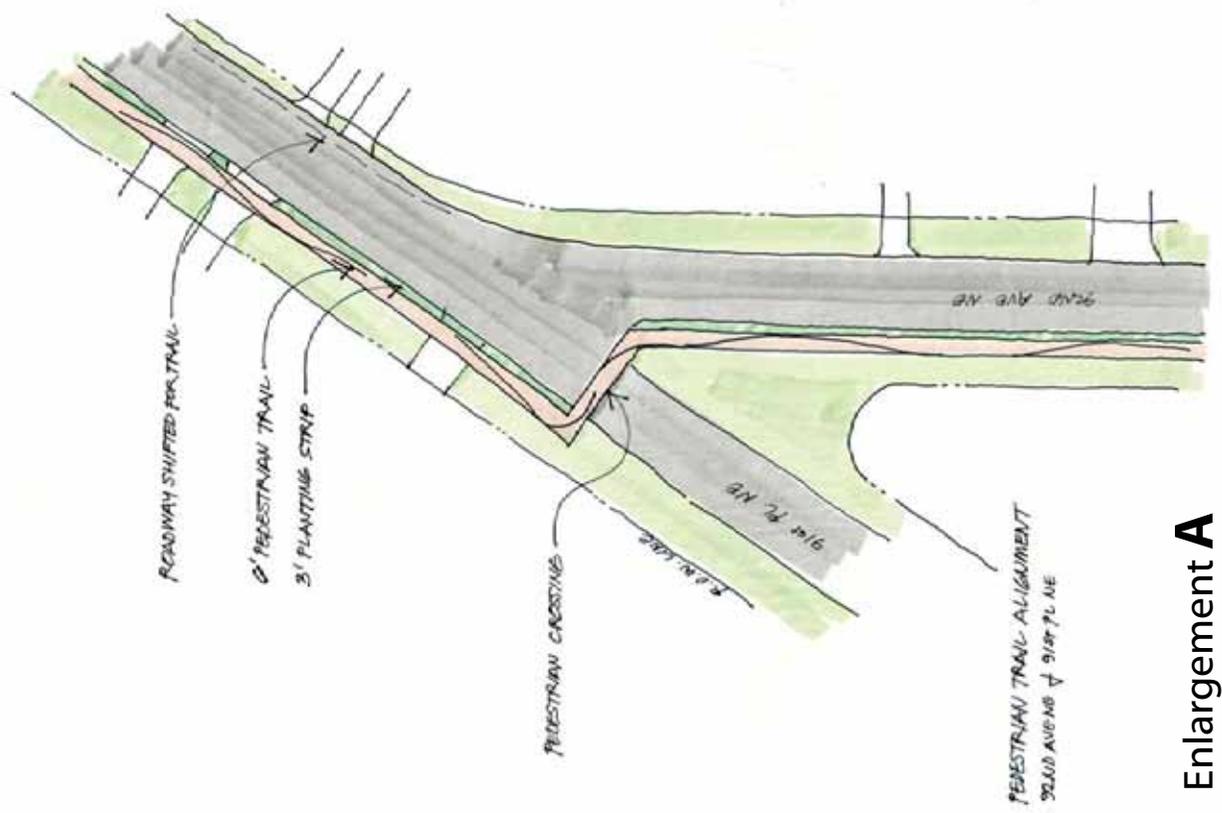
Area Keyplan

Yarrow Point Trails Master Plan

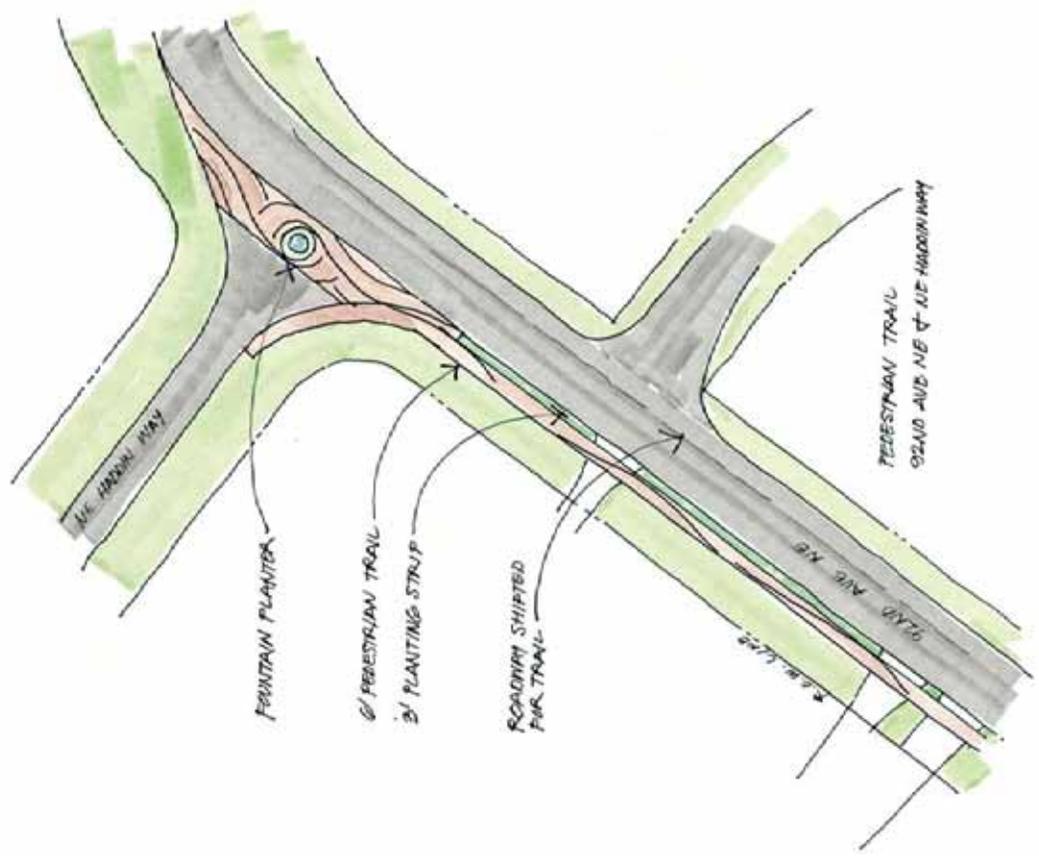


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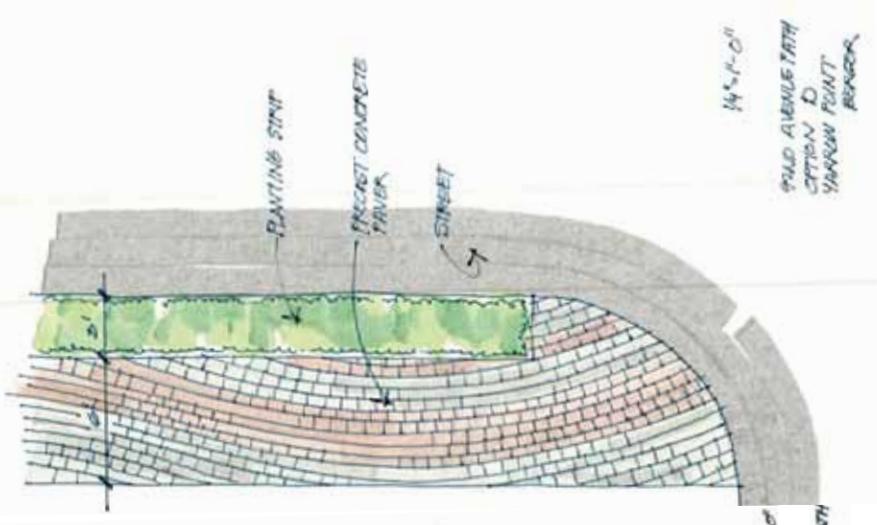
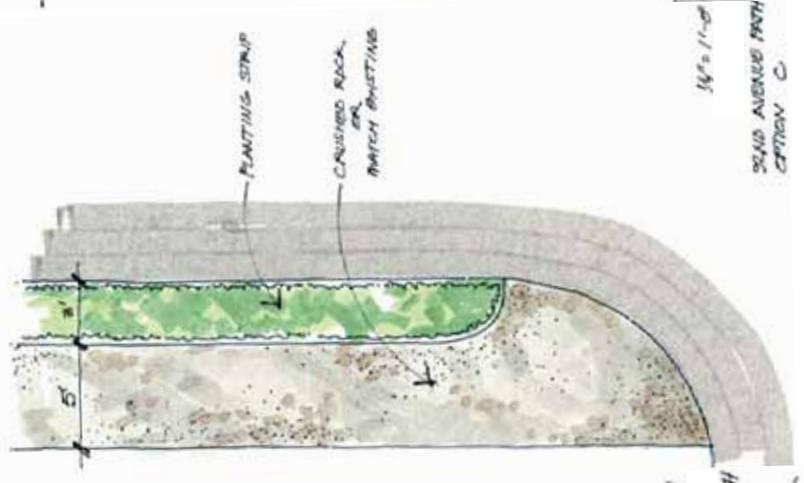
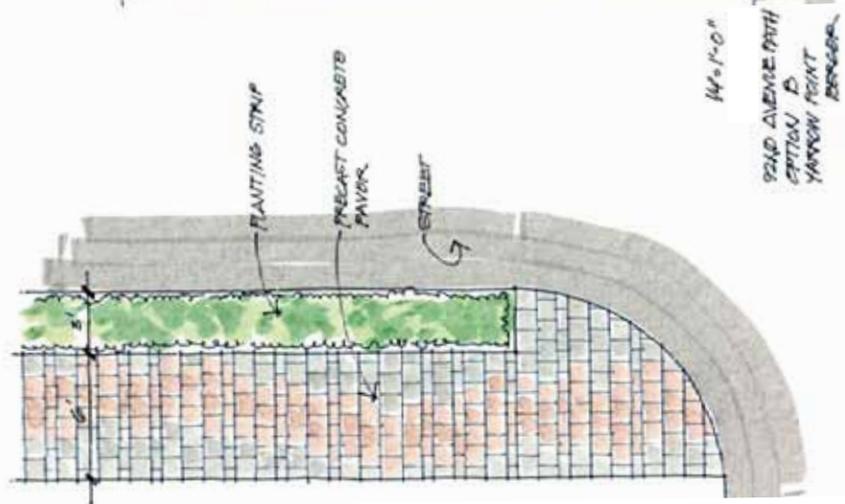
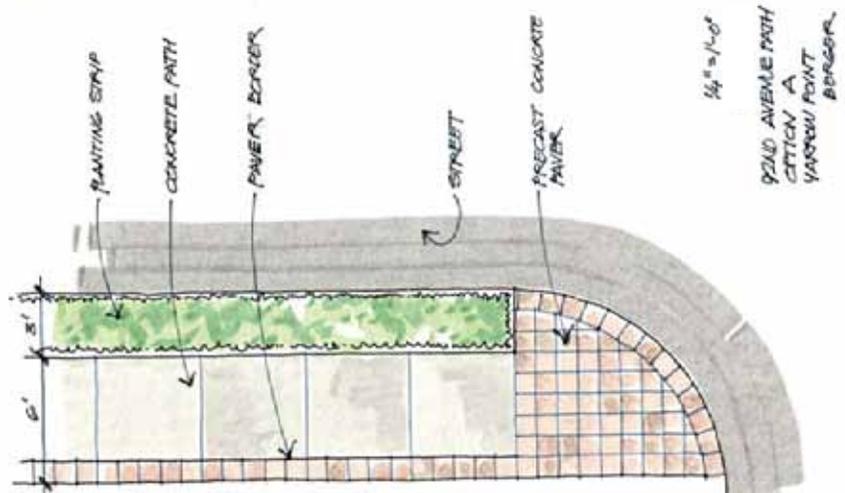




Enlargement A



Enlargement B



Trail Pavement Options

Trail Options

Yarrow Point Trails Master Plan



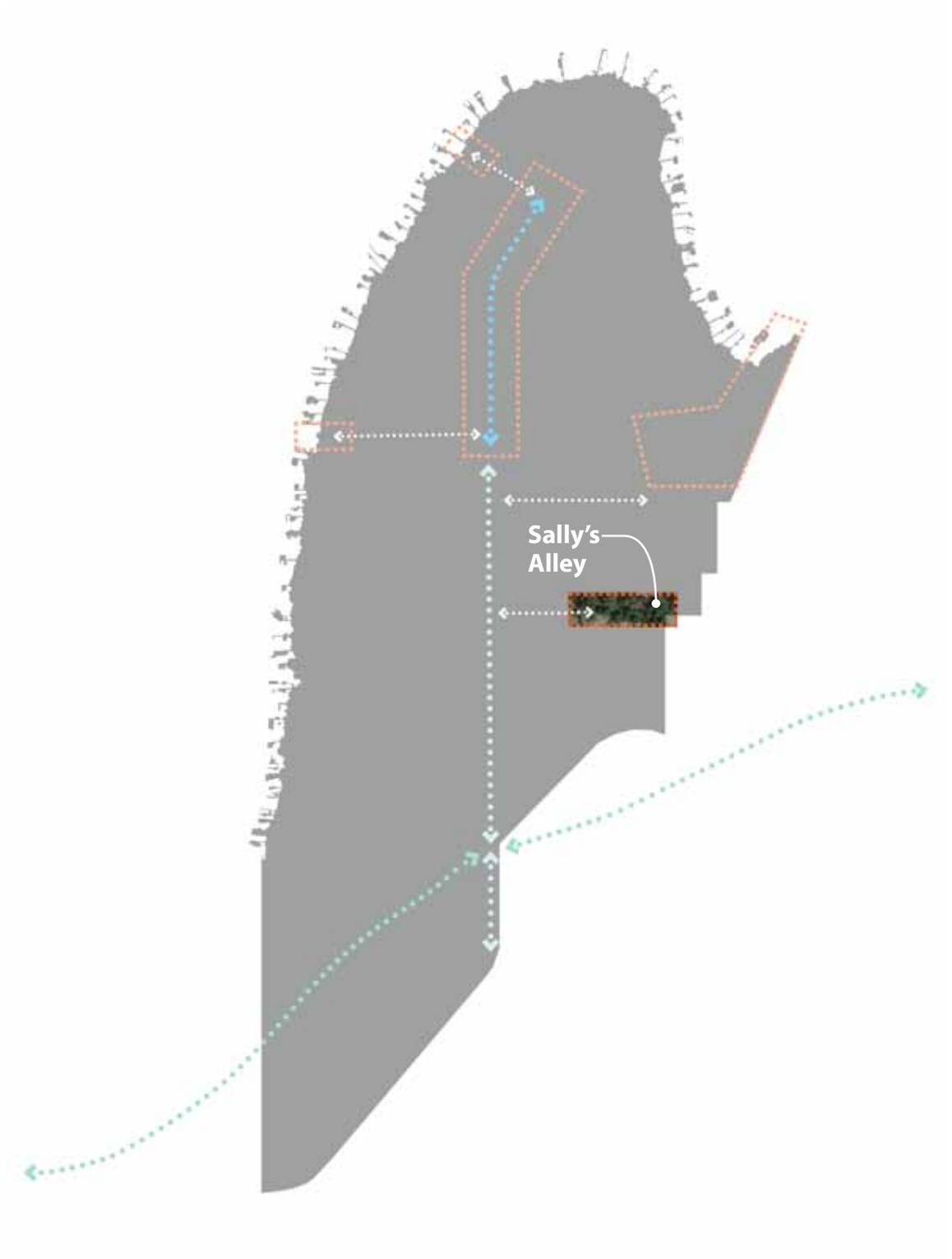
92nd Avenue Trail Cost Estimate

Site Preparation & Grading	78,000.00
Paths (unit pavers, repair & restore, paving at fountain)	106,000.00
Landscape (restored ROW, planting strip)	55,000.00
Signage	10,000.00
Project Subtotal	249,000.00
Design Contingency (30%)	74,700.00
Project Total	\$323,700.00

Note: The costs presented here are for a trail implemented at the time the road is realigned. Road realignment costs are not included.

Yarrow Point Trails Master Plan

Sally's Alley



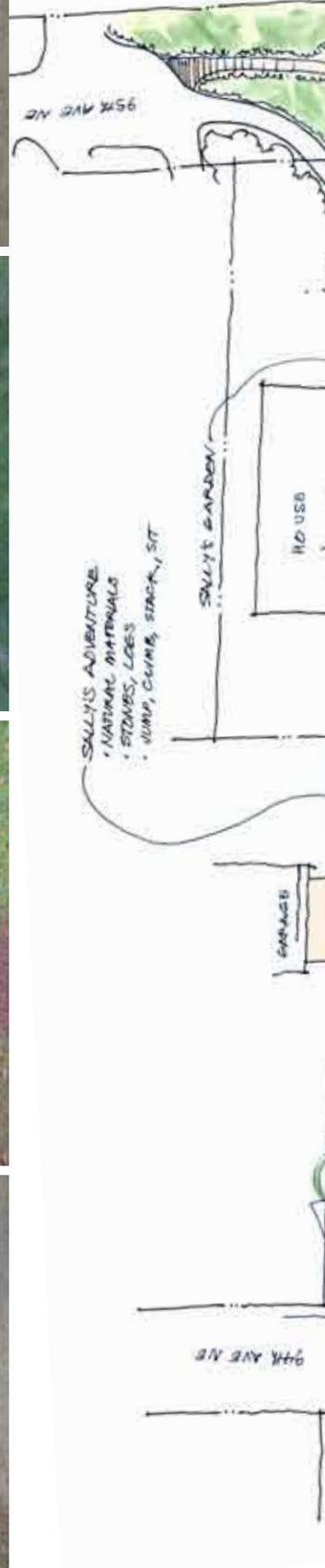
Yarrow Point Trails Master Plan

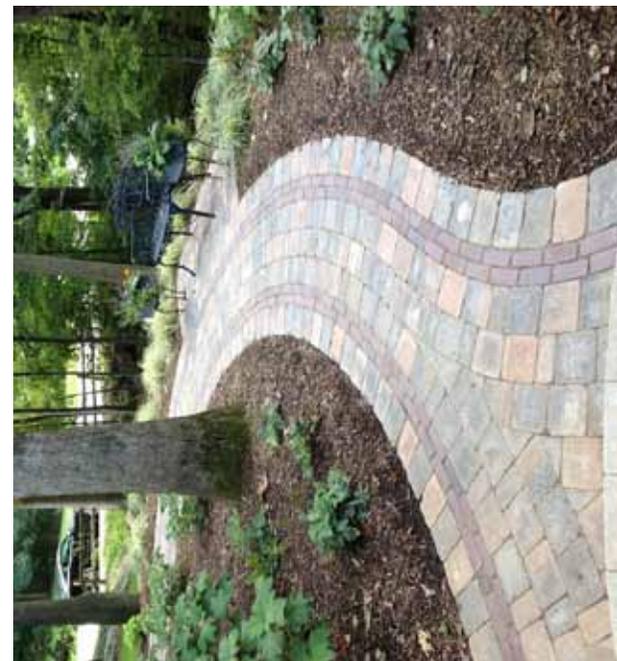
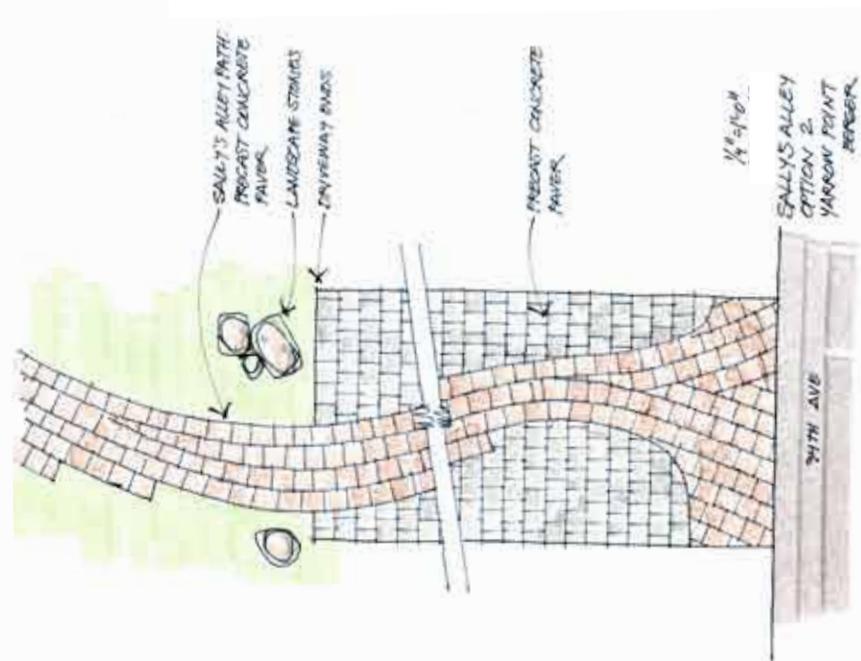
Sally's Alley Narrative

One of the notable discoveries made about Sally's Alley is that a few residents were unaware of its existence. The alley and trail are difficult to find due to obscured access points and a lack of identifying signage. Both ends of the alley and trail have private driveways as the dominant feature. This issue has been addressed by providing a pedestrian scale and aesthetically pleasing material. This material is a precast concrete paver placed in a unique pattern similar to the 92nd Avenue trail. The east end of the alley will have a trail separated from the existing driveway that includes paving which matches the west end.

The alley has an existing trail and a variety of significant trees. There is also an open space lawn and no active recreation. The improvements to the trail include a uniform walkable surface, initially crushed rock and possibly improved to concrete pavers in the future. The trail meanders around the existing trees and defines the edges of the activity spaces such as Sally's Adventure and Sally's Garden. A viewpoint on the east end provides local views of the Yarrow Bay Wetlands. This viewpoint area may also be a location to connect to the adjacent neighborhood to the east. Due to a fairly steep slope to the east additional study is needed to fully understand this trail connection.

Sally's Adventure is a passive, low maintenance area that incorporates natural elements such as logs, large stones, sand, and gravel. The materials would be placed to create opportunities for climbing, jumping, balancing, and imaginative play. Surfaces may be sand, gravel, or wood chips. The path is split to engage the garden and provide optional routes of travel and experiences.





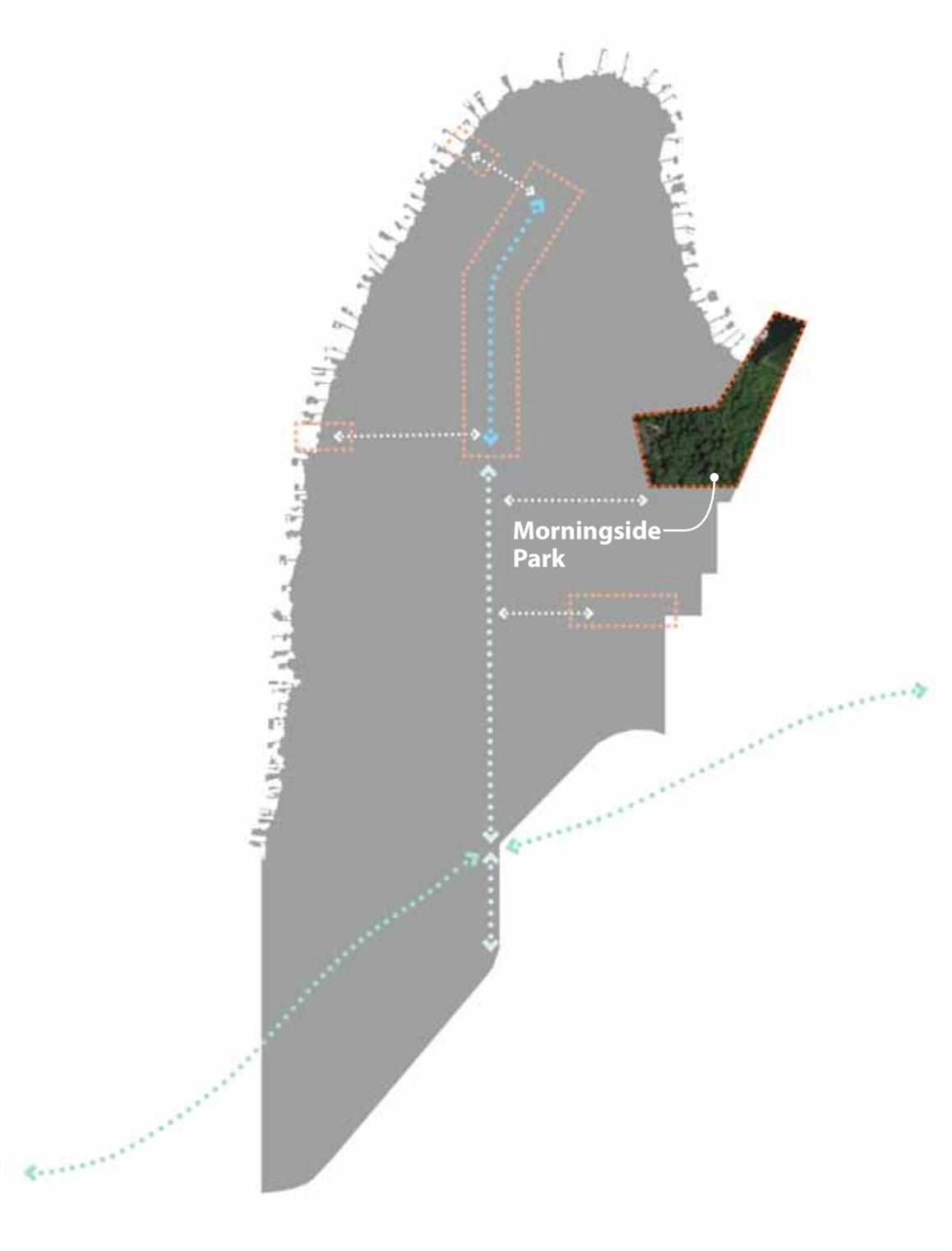
Sally's Alley Existing and Proposed Yarrow Point Trails Master Plan

Sally's Alley Cost Estimate

Site Preparation & Grading (paths, lawn, planting, grading, irrigation)	10,000.00
Lookout & Entry Areas	30,000.00
Paths	12,000.00
Landscape (lawn, planting, garden, irrigation)	75,000.00
Adventure Area (rocks, boulders, logs, natural materials)	40,000.00
Project Subtotal	167,000.00
Design Contingency (30%)	50,100.00
Project Total	\$217,100.00

Yarrow Point Trails Master Plan

Morningside Park



Yarrow Point Trails Master Plan

Morningside Trails Narrative

Morningside Park provides a unique opportunity to expand the trail system and diverge from the paved trails along 92nd onto soft surface trails leading down a forested hillside and onto a boardwalk accessing the eastern shoreline of Lake Washington. There is currently no access to the water from the site due to the extent of the lake fringe wetland. Developing trails on the site will provide opportunities for recreation, education and stewardship.

The park is approximately eight acres and currently includes the Town Hall, a small parking lot for nine cars, a sport court, an informal event lawn with informal pathways, and a service drive accessing the lower level of the building. There are some trails on the hillside developed as part of a scout project which were not maintained and have fallen into disrepair. For the purposes of the trails master plan, the site breaks out into three main categories: upper park site (1 acre), hillside (3.4 acres), and lower wetland (3.7 acres).

In 2012 the Town contacted the Friends of the Cedar River Watershed (FCRW) to assist with a community outreach and engagement campaign to implement a vegetation management plan. The main goal of the plan is to control invasive plants on the site and guide restoration efforts to bring back and preserve a diversity of native flora. Several community work parties are being held throughout 2013 to begin this effort. This work is in concert with the goals that are being discussed as part of the master plan process for the park.

To gauge public interest in the development of trails and amenities on the site, a draft master plan was put together for the public meeting in March 2013. The plan considered the following elements for each of the three main zones with sub-categories as follows:

Upper site improvements – The plan looks to maximize community benefits on the gently sloping upper acre that is close to parking and is ADA accessible. Elements would be sited such that existing trees would be retained to the greatest extent possible, and vegetation either preserved to buffer surrounding homes or enhanced as part of onsite restoration efforts. Park elements considered include:

1. Pathways: A series of connected paved walking trails that link the upper lawn and play areas to the Town Hall.
2. Adventure play: The play area at the edge of the informal event lawn will have play equipment focusing on natural play/tree house elements that complement the wooded character of the site.
3. Native landscaping to enhance the native vegetation on site. This could consider demonstration gardens on how native plants could be used around homes to mitigate the escape of non-native species.

Hillside trails and amenities:

The hillside consists of a series of switchback trails intended to take advantage of natural benches (or level areas) on the hillside. The trail layout also intends to save all mature trees on site and link key features of the landscape. Additionally, there needs to be a coordinated effort with the restoration work to ensure that goals of each phase are not undoing previous restoration efforts.

- 1.** Observation tower: This element links to the upper site improvements and would allow people with disabilities the opportunity to explore the canopy of the forest with a potential view of the lake from the platform. This also allows an opportunity to observe birds and other animals that live in the upper tree canopy.
- 2.** Hillside trails: These would consist of crushed rock and would be cut into the existing grade and contoured to balance cut and fill and minimize disturbance. Overall trail width would be between four and six feet and the design will need to consider how to handle runoff to avoid problems with erosion. Trail width will be minimized in steep areas to reduce construction impact. Layout of the trails will take into account natural features as noted above and help facilitate hillside restoration efforts. Wood crib or other stairways can be considered if the grade is too steep, but would generally be discouraged to the greatest extent possible.
- 3.** Hillside features: While walking the site, a relic steel frame from a former picnic table was discovered at one of the level benches just below the open lawn. This appears to be the larger of the benches and represents a great opportunity for a new seating area, mini amphitheater or interpretive point to talk about onsite restoration efforts. Four nodes are indicated as an asterisk on the plan and are intended as seating/resting points that coincide with interpretive signage elements. Exact locations need to be determined to coincide with more level areas on site.
- 4.** Future connections: Once at the toe of the slope, a trail can be considered to link to a future boardwalk or trail system in the adjacent parcel owned by the City of Kirkland (Yarrow Bay Wetlands). Other opportunities have been discussed to connect back through this lower parcel out to the southern neighborhoods and back to the Points Loop Trail along SR 520.
- 5.** Wetland buffer impacts: Restoration and mitigation efforts for any trails built in the wetland buffer will need to provide mitigation based on the recommendations of the Wetland Reconnaissance report.

Yarrow Point Trails Master Plan

Wetland boardwalk and opportunities:

One of the most intriguing aspects of the site is the lake fringe wetland and adjacent aquatic bed that extends out into Lake Washington. Currently, access to the water through the wetland is only open to the brave soul who is wearing rubber boots with a sense of adventure. The master plan proposes to provide a boardwalk that would weave through the existing alder, willow and shrub scrub vegetation of the wetland for wildlife viewing and education of this unique ecosystem. The boardwalk would then lead people to sitting areas at the lake edge where interpretive signs can talk about either the history of the site (former lake bed) or natural elements.

- 1.** The boardwalk would be designed to have a minimal impact on the site. Tree removal would be avoided and the overall width of the boardwalk limited to six to eight feet. We propose to elevate the boardwalk in order to not disrupt the movement of animals through the greater Yarrow Bay wetland complex. The boardwalk has been located on the NW edge of the property to keep the vegetation and habitat as intact as possible.
- 2.** Construction would consist of a pier system with a small footprint that would support a boardwalk that will allow plants to grow below the structure and not interfere with wildlife. A Fibergrate decking system is recommended to allow light to penetrate the structure while also being durable and slip resistant.
- 3.** Water access for kayaks or canoes to land at the boardwalk was considered (not to be confused with a launch, which is prohibitive). This can continue to be discussed but was felt to be unnecessary.

Interpretive opportunities:

Connecting the unique aspects of Morningside Park with a trail system brings an opportunity to consider an overall interpretive signage program that can consider the history, geology, flora and fauna of the site.

Design, permitting and construction for trails at Morningside Park:

Per the 2012 Shoreline Master Plan (SMP), Morningside Park is categorized as a Natural Environment. Under this classification, certain activities are allowed and removing existing vegetation is discouraged. Recreational development is allowed in the park but is limited to passive activities such as low-impact trails, viewpoints, interpretive signage and similar passive, low-impact facilities. In addition, these facilities, such as a boardwalk, should be designed and constructed in a manner that assures no net loss of shoreline ecological functions.

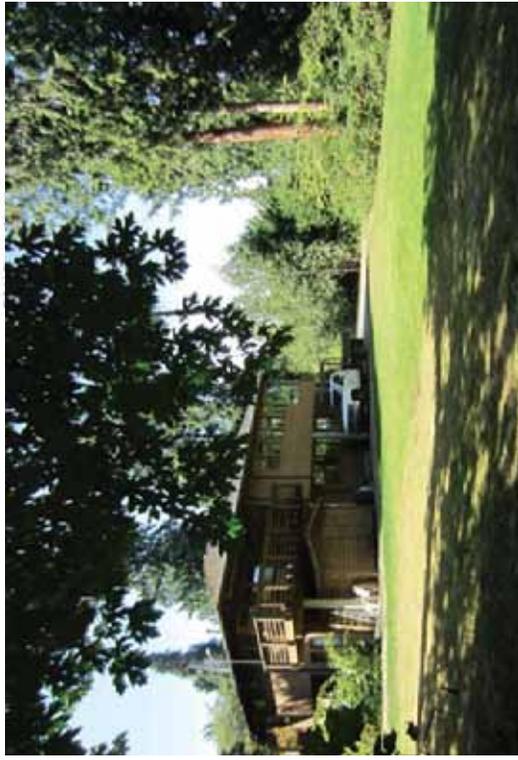
The trails proposed on the hillside are allowed under the current SMP. Their development will need to minimize impacts to the existing slopes and vegetation. It is recommended that a geotechnical report be obtained prior to laying out the trails to identify if any geological hazards are present which may limit trail development. Recommendations can then be made to maximum cut slope allowance and how to build any structures needed to construct the trails. Slopes of the trail should not exceed the design guidelines for trails of this type. The Forest Service Trail Accessibility Guidelines (FSTAG) is a good resource to determine acceptable slopes that will preserve existing site features. The plans should also take into account restoring the hillside with native vegetation to heal all disturbances to the site.

Boardwalks built inside the ordinary high water mark should minimize the amount of fill and impact to wildlife. The layout will need to remain flexible to limit the amount of vegetation and tree removal so construction of the boardwalk does not damage the ecological function of the wetland. Mitigation for these impacts will need to be identified as part of the design process at a later phase.

Summary:

Input from the public is synthesized in the meeting notes from the workshop that was held in March. The consensus seemed to be that the overall framework of the plan was good and supported the goals for the community. Certain elements, like the observation tower, were seen as great elements but possibly outside the reach of funding or maintenance. A cost estimate has been prepared that helps break out work in each zone:





Morningside Park Existing Conditions

Yarrow Point Trails Master Plan



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Existing Site Section

Proposed Trail Notes:

- Accessible Trail Slopes: 0-5%
- Hillside Trail Slopes: 5%-12%
- Stair Slopes: 12% and greater

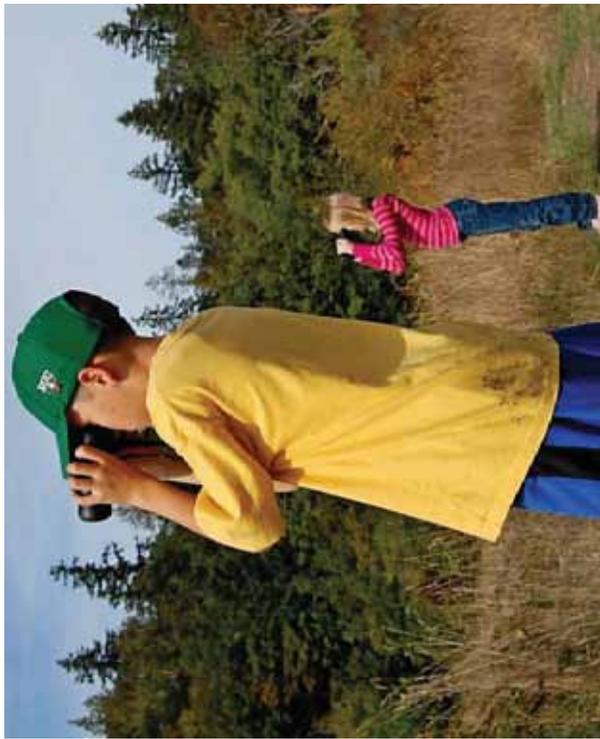


Morningside Park Proposed Plan

Yarrow Point Trails Master Plan



Nature & Stewardship



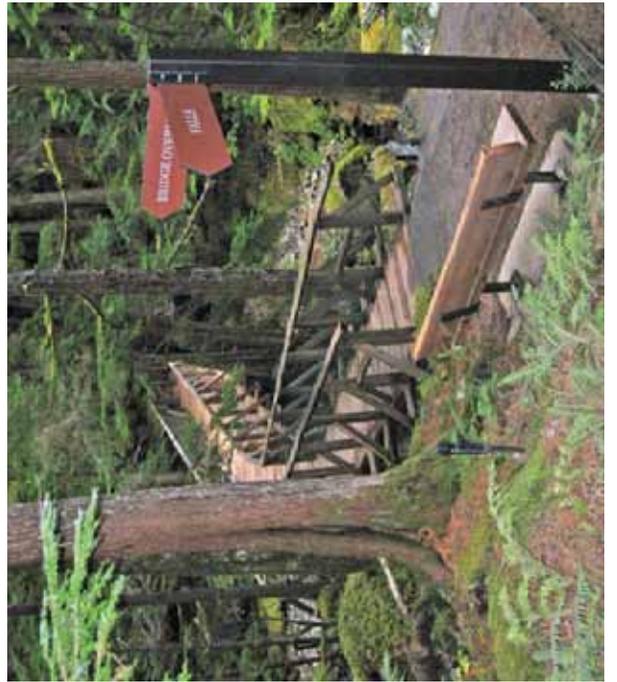
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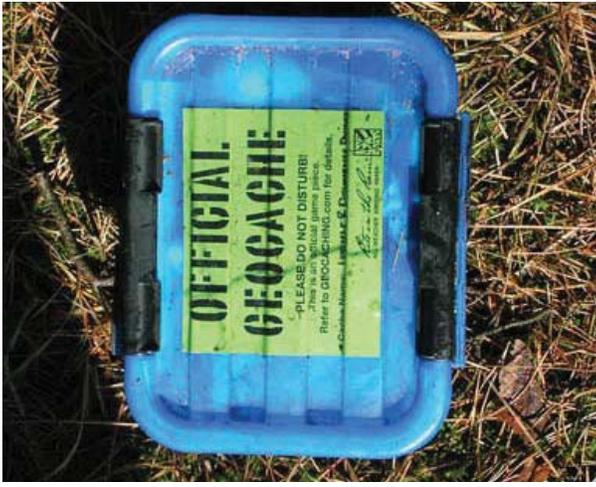
Morningside Park Elements Yarrow Point Trails Master Plan



Park Structures



Active



Morningside Park Elements

Yarrow Point Trails Master Plan



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Morningside Trails Cost Estimate

Upper Project:

Site Improvements **92,000.00**
(paths, lawn, planting, grading, irrigation)

Lawn & Central Adventure Play Area **140,000.00**
(paths, lawn, planting, play equipment & structure, grading, irrigation)

Upper Project Subtotal **232,000.00**
Design Contingency (30%) **69,600.00**
Upper Project Total **\$301,600.00**

Hillside Project: **130,000.00**
Treehouse Lookout Tower
(paths, grading, tower & canopy walk, restoration planting)

Hillside Pathways & Amenity Areas **125,000.00**
(paths, restoration planting, grading, amenity areas, benches)

Hillside Project Subtotal **255,000.00**
Design Contingency (30%) **76,500.00**
Hillside Project Total **\$331,500.00**

Wetland Project **420,000.00**
(paths, mitigation planting, boardwalk)

Wetland Project Subtotal **420,000.00**
Design Contingency (30%) **126,000.00**
Wetland Project Total **\$546,000.00**

Combined Project Total \$1,179,100.00

Yarrow Point Trails Master Plan

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Trail & Paving Options - Meeting Board with Public Input	46
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References:

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Friends of Cedar River - Wetherill Nature Preserve Vegetation Survey and Restoration Management Summary

Meeting Notes



Project: Yarrow Point Trails
Location: Town Hall
Time: 6:00 – 8:00pm

Date: 3.27.13
Page: 1 of 4

Purpose: Public Meeting Input

Discussion:

Community comments for the trails and for Morningside Park.

Trails (Written comments provided by attendees)

1. Really like Sally's Alley proposed plan. (2 agreements)
2. Like the way it feels now. Concerned about drawing attention to pathways; worried about changing Town's current character.
3. The plan for Sally's Alley is really attractive. I'd like to see that one used.
4. Crushed rock with binder surface for walking path is friendlier for folks walking or running.
5. I don't like the brick Sally's Alley idea. The more pervious surfaces we have, the less stormwater runoff and the less pollution. Sometimes more material isn't better.
6. Ditto for the ideas in #5. We are working intensely in this area about one of our biggest problems—stormwater pollution/runoff. Let's walk the talk and work together on this problem.
7. I'm with #5 and #6. Please leave Sally's Alley as it is.
8. I have used Sally's Alley to access my garage (studio) building since we moved to the Point in 1967, also to park cars. Historically, including previous owners of this property, I would assume that the history of such usage going back prior to the Point's incorporation should have legal meaning.

Morningside Park (Written and verbal comments provided by attendees)

1. Really like the Juanita Bay Preserve walkways – both the trails and signage. Check it out, good inspiration for this site. Jill Keeney; Jim and Shirley Hall, Kirkland Residents that would have information about that project.
2. Boat landing at boardwalk would be helpful for kayaks and canoes. (Difficult to use this as a launch site, however).
3. Consider safety at the overlook platform railing. All elements need to be safe.
4. Is the sport court used? Consider how site could be best utilized without the court where it is currently located.
5. Consider big loop trails in park—maximize the upper developable space.
6. Is the park (or elements in it) lit? (Closed at dusk)

Meeting Notes



Project: Yarrow Point Trails
Location: Town Hall
Time: 6:00-8:00pm

Date: 3.27.13
Page: 2 of 4

7. Consider Boy Scout troops and their involvement / troop #600 - Presbyterian Church
8. How to manage parking and how this site can become a destination.
9. Bruce Yule (former property owner) may know if there were any Artifacts on site. He now lives in Snohomish.
10. Ropes and ladder from overlook as play elements. (Fireman pole?)
11. Little kids play is needed and is not represented currently in the community
12. Spots at end of the boardwalk are good for seating
13. Interpretive signs/educational aspects are good
14. Any construction within public areas (should) preserves trees
15. We need to preserve the safety of residents. If we construct any more it will lead to cutting trees and cause even more noise from highways, noise from which is directly heard.
16. We need to be sure there is adequate signage so the public can find the trail.
17. Consider the wildlife!
18. Like the boardwalk for access to lake shore.
19. Paths should preserve habitat while providing _____ around.
20. Looks great—need the park to be opened up so that we can all enjoy it.
21. I like the wetland information signs; it's important to educate residents on the ecological functions of these valuable wetlands.
22. I think it is so important to keep it as natural as possible so that man and environment are coexisting as opposed to cutting down trees for views. Less structure, but more education to understand how we can learn about our environment and what it does for us and to us if we don't treat it well.
23. Zip line

Additional trails notes and comments:

1. Sally's Alley – vacated ROW? Verify.
 - a. Downgrade ROW to other designation.
2. Keep fountain at Haddin Way – enhance
3. Private work does not repair existing path along 92nd.
4. Connect to Wetherill

Meeting Notes



Project: Yarrow Point Trails
Location: Town Hall
Time: 6:00-8:00pm

Date: 3.27.13
Page: 3 of 4

5. Continue trail loop on 95th
6. Consider pedestrian connection to Road End Beach. Haddin Way is narrow. Pedestrian safety
7. Meander path along 92nd
8. Path through Sally's Alley needs to be more path/trail, less sidewalk.
9. Separate path at 95th is a good idea. Makes it feel like a public trail.
10. Consider how to sell residents on improvements. Many ideas fail because of cost or don't want to spend the money

Develop supporting argument—pedestrian safety, power lines underground, etc.
11. History: costs as a roadblock—consider strategy to sell community
12. Some thoughts on priorities for Sally's Alley: 1. Address entrance, 2. Build path, 3. Establish lawn, 4. special paving/play element/view opportunity
13. Sally's Alley alternate stories behind the name: "Sally wasn't a goat she came from a brothel"
14. Separate Sally's Alley path from driveway of newly constructed home
15. "We had no idea Sally's Alley was there"
16. Good signage so people can use the trails to find the various public spaces
17. Connect to street/regional trail though Morningside and adjacent homes at Yarrow Bay wetlands. Connect from Sally's Alley also.
18. Connection to Ray's Garage within Sally's Alley. Study options.

Comments received by email:

1. I would like to see any trails project incorporate additional undergrounding of the overhead power lines and other utilities, as has been done along a portion of 92nd Ave – but the rest of the Point needs this, too!

2. I would like the surface of any new trails along our streets to be smooth enough so that it can be used by people in wheelchairs, strollers, and luggage with wheels/rollers. The existing path on 92nd was paved with a very uneven material that is unpleasant for strollers and wheeled luggage, and perhaps wheelchairs. This becomes even more important with the opening of the new transit stop, and maybe it should be required for full ADA compliance.

Meeting Notes



Project: Yarrow Point Trails
Location: Town Hall
Time: 6:00-8:00pm

Date: 3.27.13
Page: 4 of 4

3. Any roadside plantings need better protection from incursion by trucks and cars than what has been previously provided on 92nd Ave, where the plants regularly get crushed by tires.

Morningside Park conversations:

1. In considering development, think about who will use it, how it will be maintained and what it will cost.
2. If this becomes a destination, how will parking be handled? Parking is currently tough at road end beaches and does not encourage launching kayaks or canoes.
3. People currently come to this park from other communities looking for public beach access. How will future development address this?
4. Will the site be run like an environmental educational facility like what is currently in Bellevue? If so, how will this be funded and managed?
5. Consider doing nothing. Who will use this? (Encouraged discussion to consider future and younger generations).
6. Will building a boardwalk disrupt the natural areas? Is there a way develop the site with minimal impact?
7. Consider how art can be integrated into the concept. Is there a % for the arts program?

Meeting Adjourned

The preceding is assumed to be a complete and correct record of the significant items and actions agreed upon at the above meeting. Please advise the author immediately of any additions or corrections to the minutes. Work is proceeding on the basis of this record.

Prepared by:

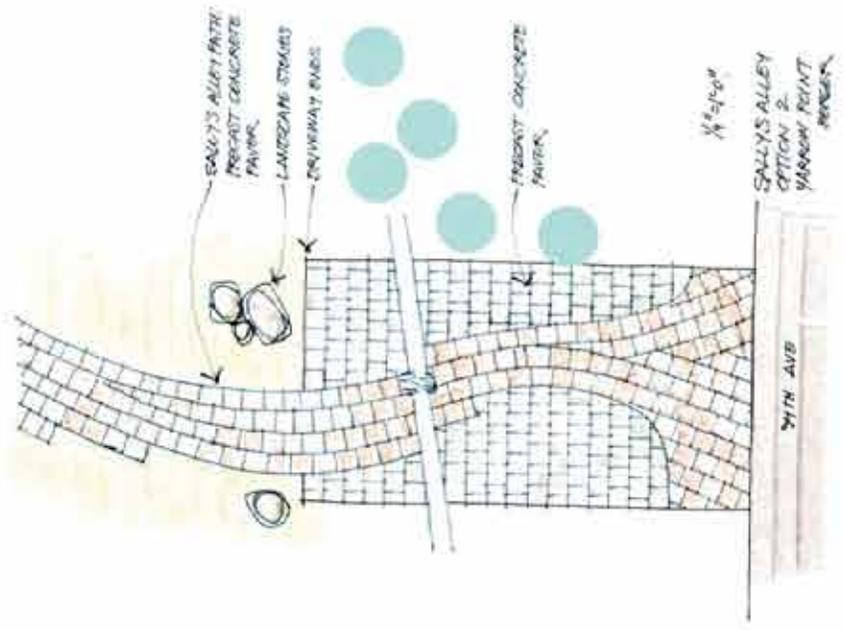
Berger Partnership PS

Greg Brower & Andy Mitton
Landscape Architects



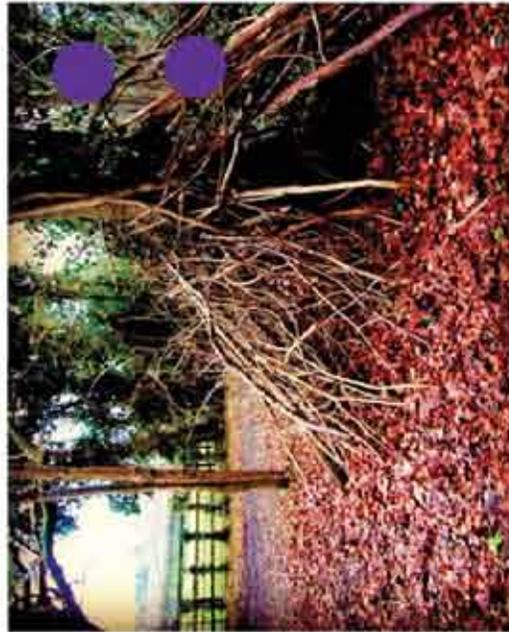
- SULLY'S ADVENTURE
- NATURAL MATERIALS
 - STONES, LOGS
 - JUMP, CLIMB, SLACK, SIT

SULLY GARDEN



Sally's Alley Existing and Proposed Yarrow Point Trails Master Plan

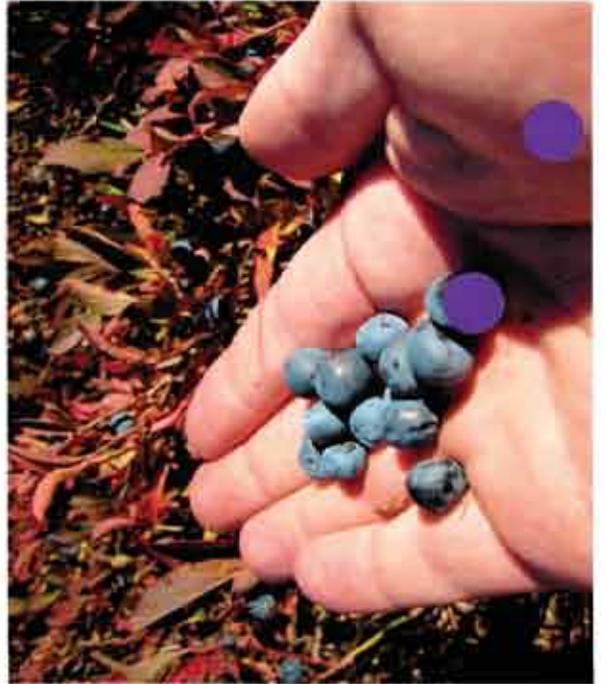
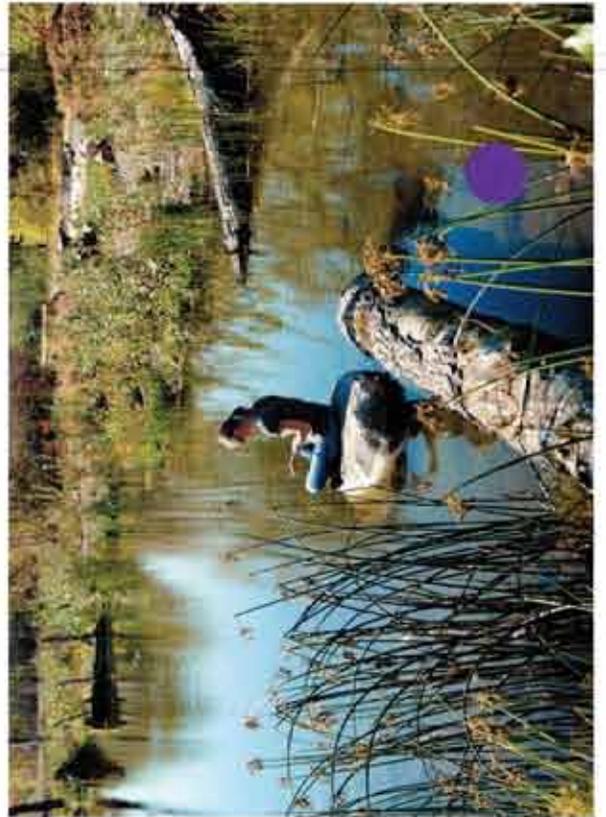
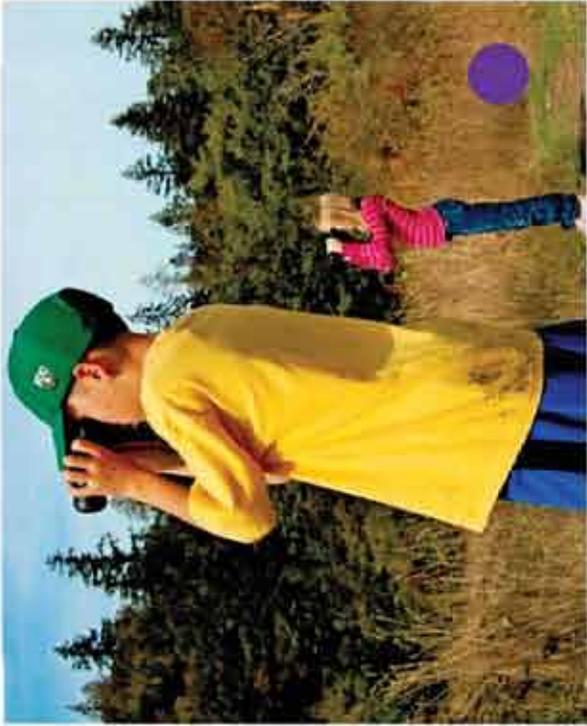




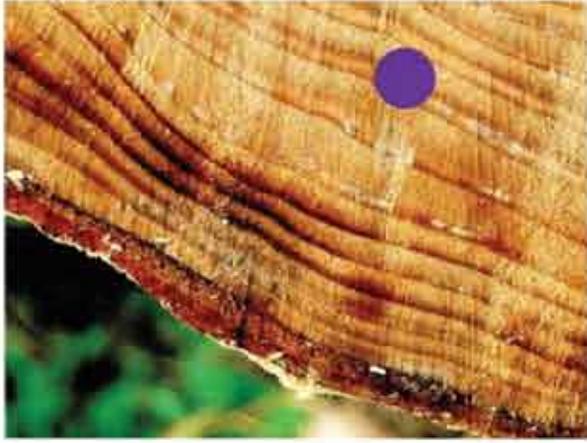
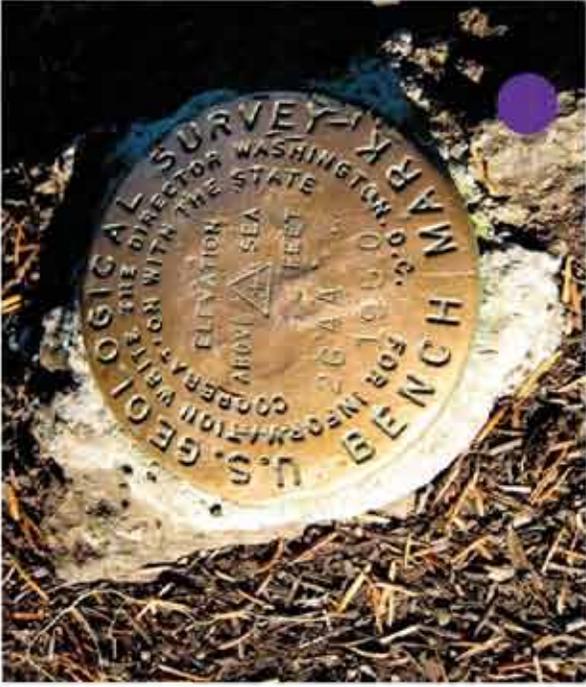
Morningside Park Proposed Plan

Yarrow Point Trails Master Plan

Nature & Stewardship



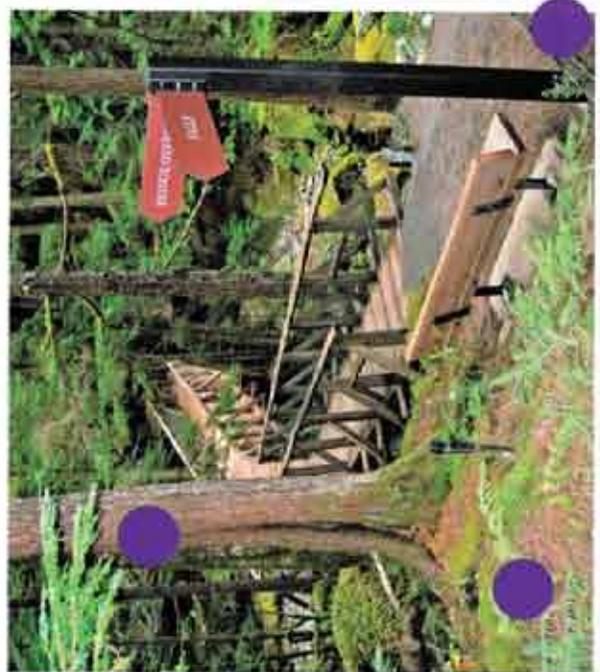
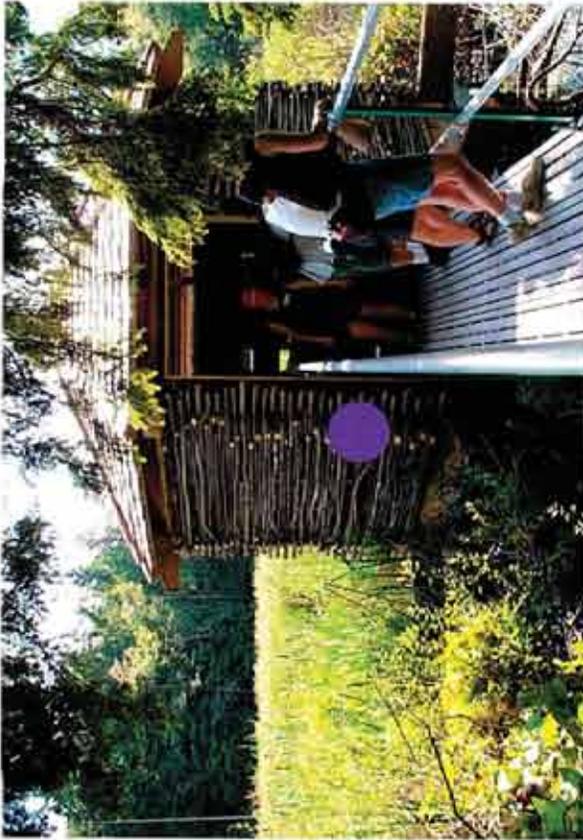
Learn



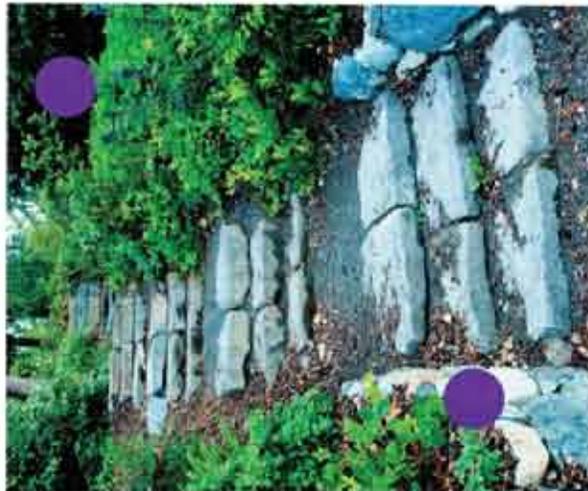
Morningside Park Elements

Yarrow Point Trails Master Plan

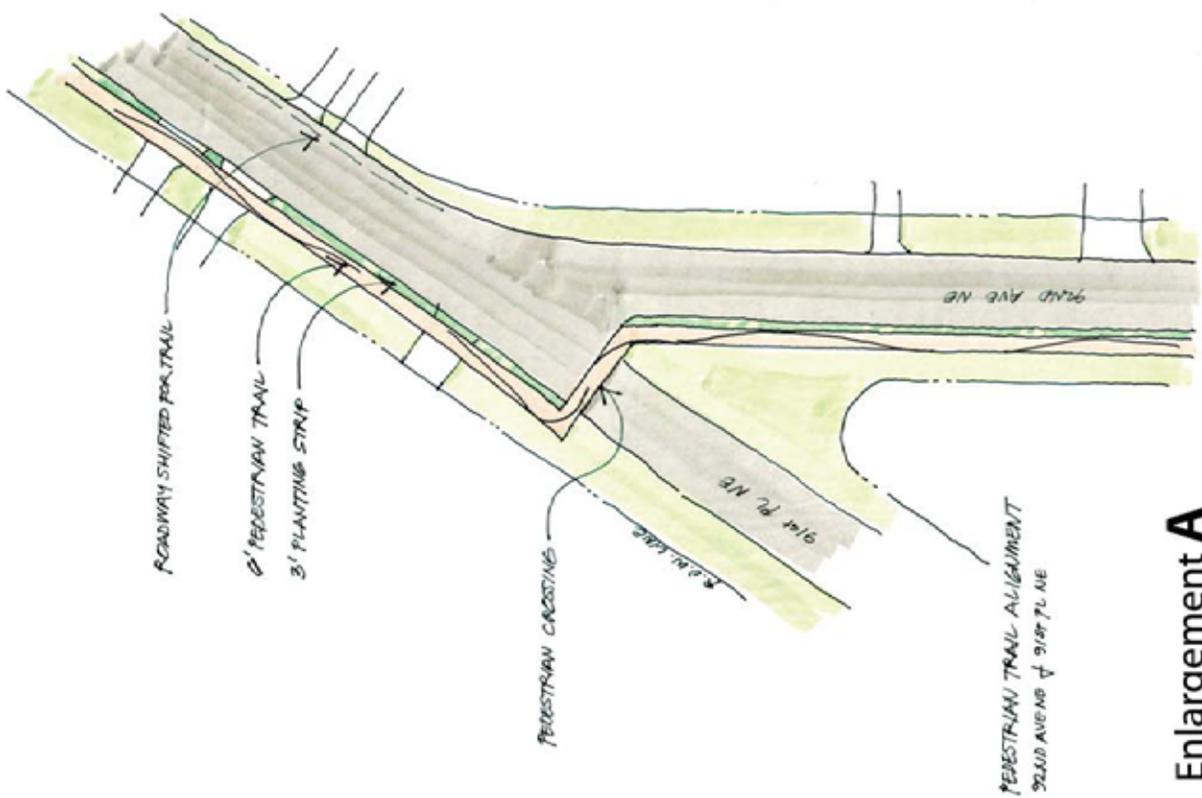
Park Structures



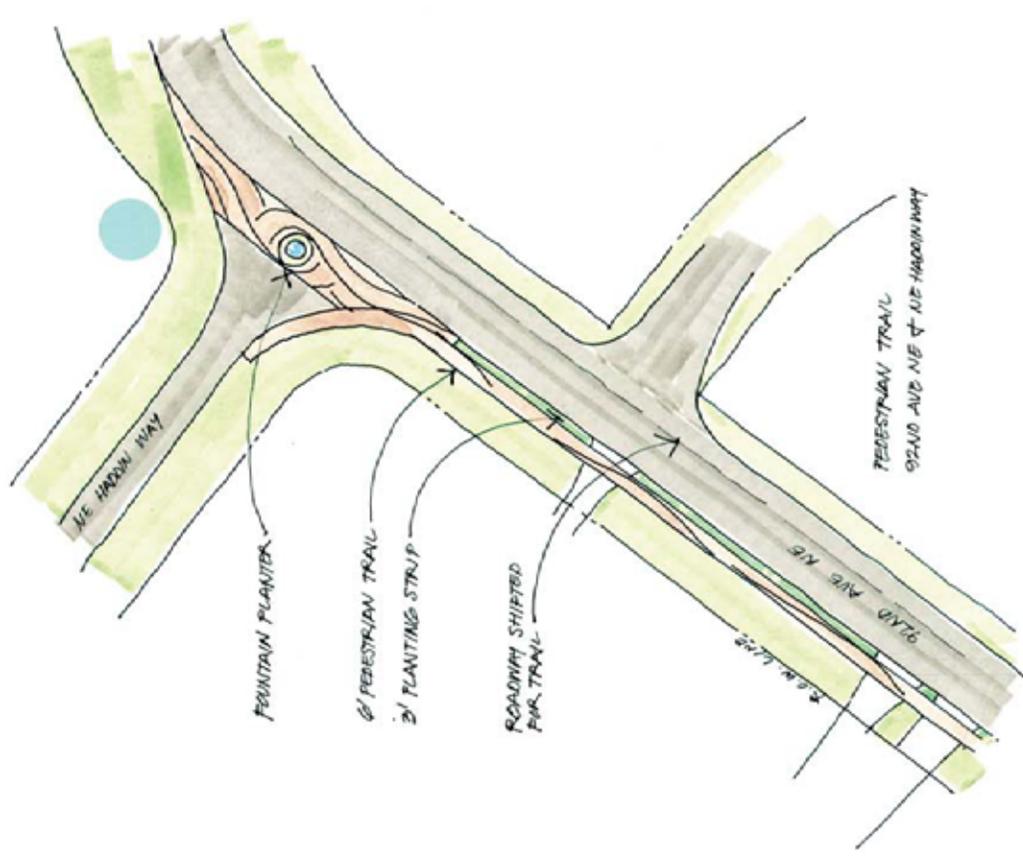
Active



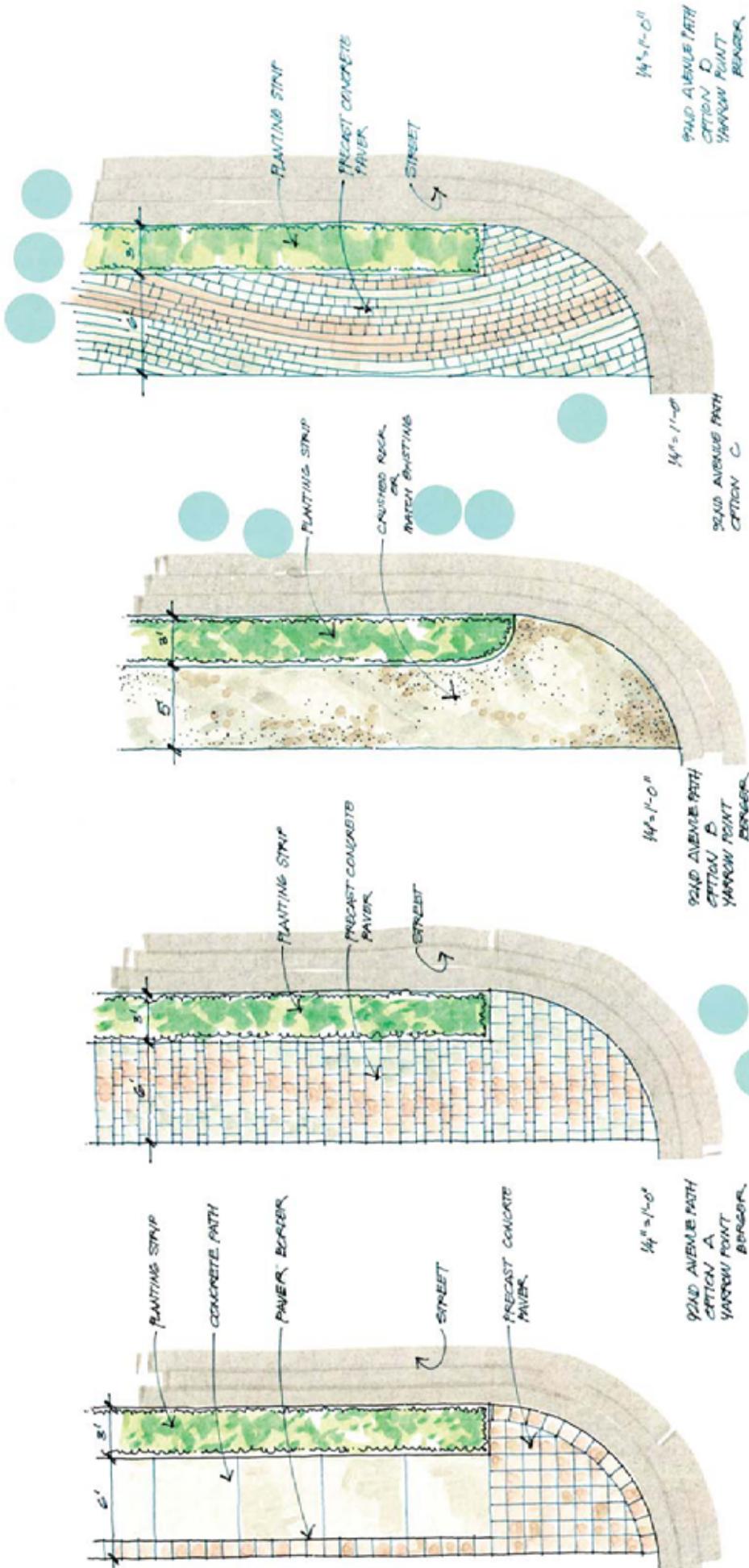
Morningside Park Elements Yarrow Point Trails Master Plan



Enlargement A



Enlargement B



Trail Pavement Options

Trail Options

Yarrow Point Trails Master Plan



May 28, 2013

Andy Mitton
The Berger Partnership
1721 8th Ave. S.
Seattle, WA 98109-3015

Re: Morningside Park Wetland Reconnaissance Report

The Watershed Company Reference Number: 120619

Dear Andy:

On March 14, 2013, Ecologist Mike Foster and I visited Morningside Park in Yarrow Point. The purpose of our visit was to conduct a wetland reconnaissance study within the park. This letter summarizes the findings of this study and details applicable federal, state, and local regulations. The following attachments are included:

- Wetland Rating Form
- Wetland Reconnaissance Sketch

Methods

Public-domain information on the subject properties was reviewed for this reconnaissance study. These sources include USDA Natural Resources Conservation Service Soil maps, U.S. Fish and Wildlife Service National Wetland Inventory maps, Washington Department of Fish and Wildlife interactive mapping programs (PHS on the Web), and King County's GIS mapping website (iMAP).

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). Wetland evaluations are made on the basis of an examination of vegetation, soils, and hydrology. Only areas meeting the criteria set forth in the Regional Supplement were determined to be wetland. Wetland boundaries, as depicted on the attached wetland reconnaissance sketch, are approximate only. Wetland boundaries were not delineated as part of this study.

The on-site wetland was classified using the *Western Washington Wetland Rating System* (Ecology, Aug 2004, version 2) (Rating System).

We also evaluated the park property for potential restoration opportunities within wetland and/or buffer areas.

Findings

The park slopes from west to east at a moderately steep decline over the southwestern half of the property. The slope ends abruptly near the center of the property, and the northeastern half remains relatively flat as it approaches Lake Washington. Non-wetland vegetation includes a mixed deciduous/coniferous forest dominated by bigleaf maple, western red cedar, and Douglas-fir in the canopy layer and beaked hazelnut, osoberry, sword fern, and low Oregon grape dominant in the understory. English ivy is present in significant quantities in many areas throughout the forest, but generally, it is mixed in with the native vegetation. There is one wetland, Wetland A (see below), located on the park property.

Wetland A

Wetland A is a large lake-fringe wetland associated with Lake Washington. The wetland unit contains a variety of Cowardin vegetation communities including forested, scrub-shrub, emergent, and aquatic bed. Prominent vegetation in the wetland includes red alder, Pacific willow, red-osier dogwood, salmonberry, water parsley, lady fern, reed canarygrass, common cattail, and water lily. According to NRCS soil maps and confirmed by field sampling, much of Wetland A contains an organic soil profile identified as Tukwila Muck. Hydrology for Wetland A is provided by a high groundwater table and is also affected by the varying water elevations in Lake Washington.

Local Regulations

The Yarrow Point Municipal Code does not contain language specific to the regulation of wetlands. However, Appendix D of the draft Shoreline Master Program (SMP), which is currently under review by Ecology, provides for wetland buffers in areas of shoreline jurisdiction. If the proposed SMP is approved, Wetland A would fall under the regulation of Appendix D. Wetlands under the proposed Appendix D are rated as one of four categories based on the Rating System, which scores wetlands according to water quality functions, hydrology functions, and wildlife habitat functions. According to the Rating System, Wetland A received 20 points for water quality functions, 12 points for hydrology functions, and 24 points for habitat functions for a total of 56 points. This score qualifies Wetland A as a Category II wetland.

Wetland buffers under the proposed SMP are determined based on the wetland category and the habitat score. The standard buffer width for a Category II wetland is 75 feet. An additional 30 feet is applied to the standard buffer for Category II wetlands that receive

a habitat score between 21 and 25 points. Therefore, the applicable wetland buffer associated with Wetland A is 105 feet, as measured from the wetland boundary.

Under the proposed SMP, low-impact public access and recreation facilities, such as raised boardwalks, are allowed in Category II wetlands and their buffers. Such facilities shall avoid substantial vegetation removal and shall result in no net loss of wetland or buffer function. All adverse impacts associated with such facilities are required to be mitigated.

State and Federal Regulations

Wetlands are also regulated by the Corps under section 404 of the Clean Water Act. Any filling of Waters of the State, including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetland A would not be considered isolated, due to its connectivity to Lake Washington. Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology. Typically, the Corps and Ecology do not consider raised boardwalks on pin piles as fill, and therefore, these features do not typically require authorization from either agency.

In general, neither the Corps nor Ecology regulates wetland buffers, unless direct, regulated impacts are proposed. When such impacts are proposed, mitigated wetlands may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

The Washington Department of Fish and Wildlife (WDFW) also regulates State waters. Specifically, they must review, condition, and approve or deny “any construction activity that will use, divert, obstruct, or change the bed or flow of State waters.” Any project that requires in-stream or in-lake work would require a Hydraulic Project Approval (HPA) from WDFW.

Restoration Opportunities

The site was evaluated for possible restoration opportunities within Wetland A and its associated buffer. Wetland A is generally a highly functioning, native wetland habitat that provides little opportunity for restoration or enhancement. We did identify one area in the southern portion of the site where buffer restoration opportunities are present. The area, which contains substantial areas dominated by Himalayan blackberry and English ivy, is directly adjacent to the boundary of Wetland A. Removal of invasive

species and replacement with native shrubs and groundcovers in this area would provide significant enhancement to the buffer.

The information contained in this letter or report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available to us at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, State and Federal regulatory authorities. No other warranty, expressed or implied, is made.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,



Ryan Kahlo, WPIT
Ecologist

Enclosures

Wetland name or number: A

WETLAND RATING FORM – WESTERN WASHINGTON
 Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
 Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland A Date of site visit: 3/15/2013
 Kahlo, R;
 Rated by: Foster, M Trained by Ecology? Yes No Date of Training 3/2009
 SEC: 18 TOWNSHIP: 25N RANGE: 5E Is S/T/R in Appendix D? Yes No

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III IV

Category I = Score \geq 70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30

Score for Water Quality Functions	20
Score for Hydrologic Functions	12
Score for Habitat Functions	24
TOTAL score for functions	56

Category based on SPECIAL CHARACTERISTICS of wetland

I II Does not Apply

Final Category (choose the “highest” category from above)

II

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	X
Mature Forest		Slope	
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	X	Check if unit has multiple HGM classes present	<input type="checkbox"/>

Wetland name or number: A

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>	X	
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	X	

***Online PHS data from WDFW was reviewed for this study. Coho salmon and bald eagles are documented within the wetland unit. Nearshore areas may occasionally be used by all salmon species present in Lake Washington. The wetland is identified in the Yarrow Point Proposed Shoreline Master Program.**

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1. Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)?
 NO – go to 2 YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit
 NO – go to 3 YES – The wetland class is **Flats**

If your wetland can be classified as a “Flats” wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?
 The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 At least 30% of the open water area is deeper than 6.6 ft (2 m)?
 NO – go to 4 YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?
 The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 The water leaves the wetland **without being impounded**?
NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).*
 NO – go to 5 YES – The wetland class is **Slope**

Wetland name or number: A

5. Does the entire wetland unit **meet all** of the following criteria?

- The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
- The overbank flooding occurs at least once every two years

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

- NO - go to 6 YES – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

- NO – go to 7 YES – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

- NO – go to 8 YES – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. **NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

<i>HGM classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number: A

L	Lake-fringe Wetlands	Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
L	L 1. Does the wetland have the potential to improve water quality?	(see p. 59)
L	L 1.1 Average width of vegetation along the lakeshore: <input checked="" type="checkbox"/> Vegetation is more than 33ft (10m) wide points = 6 <input type="checkbox"/> Vegetation is more than 16 (5m) wide and <33ft points = 3 <input type="checkbox"/> Vegetation is more than 6ft (2m) wide and <16 ft points = 1 <input type="checkbox"/> Vegetation is less than 6 ft wide points = 0	6
L	L 1.2 Characteristics of the vegetation in the wetland: <i>choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. In this case the herbaceous plants can be either the dominant form (called emergent class) or as an understory in a shrub or forest community. These are not Cowardin classes. Area of Cover is total cover in the unit, but it can be in patches. NOTE: Herbaceous does not include aquatic bed.</i> <input type="checkbox"/> Herbaceous plants cover >90% of the vegetated area points = 6 <input checked="" type="checkbox"/> Herbaceous plants cover >2/3 of the vegetated area points = 4 <input type="checkbox"/> Herbaceous plants cover >1/3 of the vegetated area points = 3 <input type="checkbox"/> Other vegetation that is not aquatic bed in > 2/3 vegetated area points = 3 <input type="checkbox"/> Other vegetation that is not aquatic bed in > 1/3 vegetated area points = 1 <input type="checkbox"/> Aquatic bed cover > 2/3 of the vegetated area points = 0	4
L	Total for L 1 <i>Add the points in the boxes above</i>	10
L	L 2. Does the wetland have the opportunity to improve water quality? (see p. 61) Answer YES if you know or believe there are pollutants in the lake water, or surface water flowing through the wetland to the lake is polluted. <i>Note which of the following conditions provide the sources of pollutants.</i> <input type="checkbox"/> Wetland is along the shores of a lake or reservoir that does not meet water quality standards <input type="checkbox"/> Grazing in the wetland or within 150ft <input type="checkbox"/> Polluted water discharges to wetland along upland edge <input type="checkbox"/> Residential or urban areas are within 150 ft of wetland <input type="checkbox"/> Parks with grassy areas that are maintained, ballfields, golf courses (all within 150 ft. of lake shore) <input checked="" type="checkbox"/> Power boats with gasoline or diesel engines use the lake <input type="checkbox"/> Other _____ YES multiplier is 2 NO multiplier is 1	multiplier <u>2</u>
L	TOTAL - Water Quality Functions Multiply the score from L 1 by L 2 <i>Add score to table on p. 1</i>	20

Comments

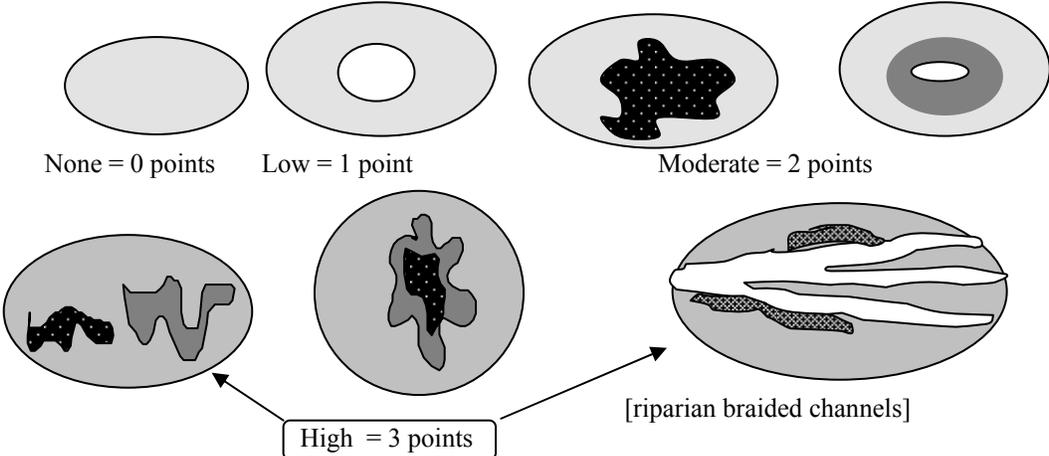
Wetland name or number: A

L Lake-fringe Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce shoreline erosion		
L 3. Does the wetland have the potential to reduce shoreline erosion? (see p. 62)		
L	L 3 Average width and characteristics of vegetation along the lakeshore (do not include aquatic bed): <i>(choose the highest scoring description that matches conditions in the wetland)</i> <input type="text" value="6"/> $> \frac{3}{4}$ of fringe vegetation is shrubs or trees at least 33 ft (10m) wide points = 6 $> \frac{3}{4}$ of fringe vegetation is shrubs or trees at least 6 ft. (2 m) wide points = 4 $> \frac{1}{4}$ of fringe vegetation is shrubs or trees at least 33 ft (10m) wide points = 4 Fringe vegetation is at least 6 ft (2m) wide points = 2 Fringe vegetation is less than 6 ft (2m) wide points = 0	6
L	<i>Record the points from the box above</i>	6
L	L 4. Does the wetland have the opportunity to reduce erosion? (see p. 63) Are there features along the shore that will be impacted if the shoreline erodes? <i>Note which of the following conditions apply.</i> <input checked="" type="checkbox"/> There are human structures and activities along the upland edge of the wetland (buildings, fields) that can be damaged by erosion <input type="checkbox"/> There are undisturbed natural resources along the upland edge of the wetland (e.g. mature forests other wetlands) than can be damaged by shoreline erosion <input type="checkbox"/> Other _____ YES multiplier is 2 NO multiplier is 1	multiplier <u>2</u>
L	TOTAL - Hydrologic Functions Multiply the score from L 3 by L 4 <i>Add score to table on p. 1</i>	12

Comments

These questions apply to wetlands of all HGM classes.									
HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat									
H 1. Does the wetland have the potential to provide habitat for many species?									
<p>H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Aquatic bed <input checked="" type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input checked="" type="checkbox"/> Forested (areas where trees have >30% cover) <input checked="" type="checkbox"/> Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon <p>Add the number of vegetation types that qualify. If you have:</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>4 structures or more</td><td>points = 4</td></tr> <tr><td>3 structures</td><td>points = 2</td></tr> <tr><td>2 structures</td><td>points = 1</td></tr> <tr><td>1 structure</td><td>points = 0</td></tr> </table>	4 structures or more	points = 4	3 structures	points = 2	2 structures	points = 1	1 structure	points = 0	4
4 structures or more	points = 4								
3 structures	points = 2								
2 structures	points = 1								
1 structure	points = 0								
<p>H 1.2. Hydroperiods (see p. 73) Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Permanently flooded or inundated 4 or more types present points = 3 <input type="checkbox"/> Seasonally flooded or inundated 3 types present..... points = 2 <input type="checkbox"/> Occasionally flooded or inundated 2 types present points = 1 <input type="checkbox"/> Saturated only 1 types present.....points = 0 <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input checked="" type="checkbox"/> Lake-fringe wetland = 2 points <input type="checkbox"/> Freshwater tidal wetland = 2 points 	2								
<p>H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</p> <p>If you counted: <table style="margin-left: auto; margin-right: auto;"><tr><td>> 19 species.....</td><td>points = 2</td></tr><tr><td>5 - 19 species.....</td><td>points = 1</td></tr><tr><td>< 5 species</td><td>points = 0</td></tr></table></p> <p>List species below if you want to:</p> <p>ALRU, SALU, SASI, POBA, COSE, LOIN, RUSP, HEHE, RUAR, RHPU, SPDO, SARA, OESA, ATFI, POGL, DREX, URDI, EQTE, TYLA, NULU, RARE, GLsp., Hypericum, Cardamine, Violet, LEMI, SODU, GEMA,</p>	> 19 species.....	points = 2	5 - 19 species.....	points = 1	< 5 species	points = 0	2		
> 19 species.....	points = 2								
5 - 19 species.....	points = 1								
< 5 species	points = 0								

Wetland name or number: A

<p>H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p>  <p>NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".</p>	3
<p>H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) <input checked="" type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present <input type="checkbox"/> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants <p><i>Note: The 20% stated in early printings of the manual on page 78 is an error.</i></p>	4
<p>H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	15

<p>H 2. Does the wetland have the opportunity to provide habitat for many species?</p> <p>H 2.1 <u>Buffers</u> (see p. 80) <i>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</i></p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5</p> <p><input type="checkbox"/> 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference..... Points = 4</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference..... Points = 4</p> <p><input type="checkbox"/> 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference..... Points = 3</p> <p><input type="checkbox"/> 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference..... Points = 3</p> <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK..... Points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer. Points = 1</p> <p><input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland Points = 0</p> <p><input checked="" type="checkbox"/> Buffer does not meet any of the criteria above..... Points = 1</p>	1
<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>).</p> <p style="text-align: center;">YES = 4 points (go to H 2.3) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;">YES = 2 points (go to H 2.3) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <p style="padding-left: 20px;">within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?</p> <p style="text-align: center;">YES = 1 point NO = 0 points</p>	1

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>)

Which of the following priority habitats are within 330ft (100m) of the wetland?

(NOTE: the connections do not have to be relatively undisturbed)

- Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acres).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full description in WDFW PHS report p. 152)
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.
- Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)
- Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.

If wetland has **3 or more** priority habitats = **4 points**

If wetland has **2** priority habitats = **3 points**

If wetland has **1** priority habitat = **1 point**

No habitats = **0 points**

Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.

4

Wetland name or number: A

<p>H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development)..... points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile..... points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed..... points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile..... points = 3</p> <p>There is at least 1 wetland within ½ mile..... points = 2</p> <p>There are no wetlands within ½ mile..... points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	9
<p>TOTAL for H1 from page 14</p>	15
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	24

Wetland name or number: A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

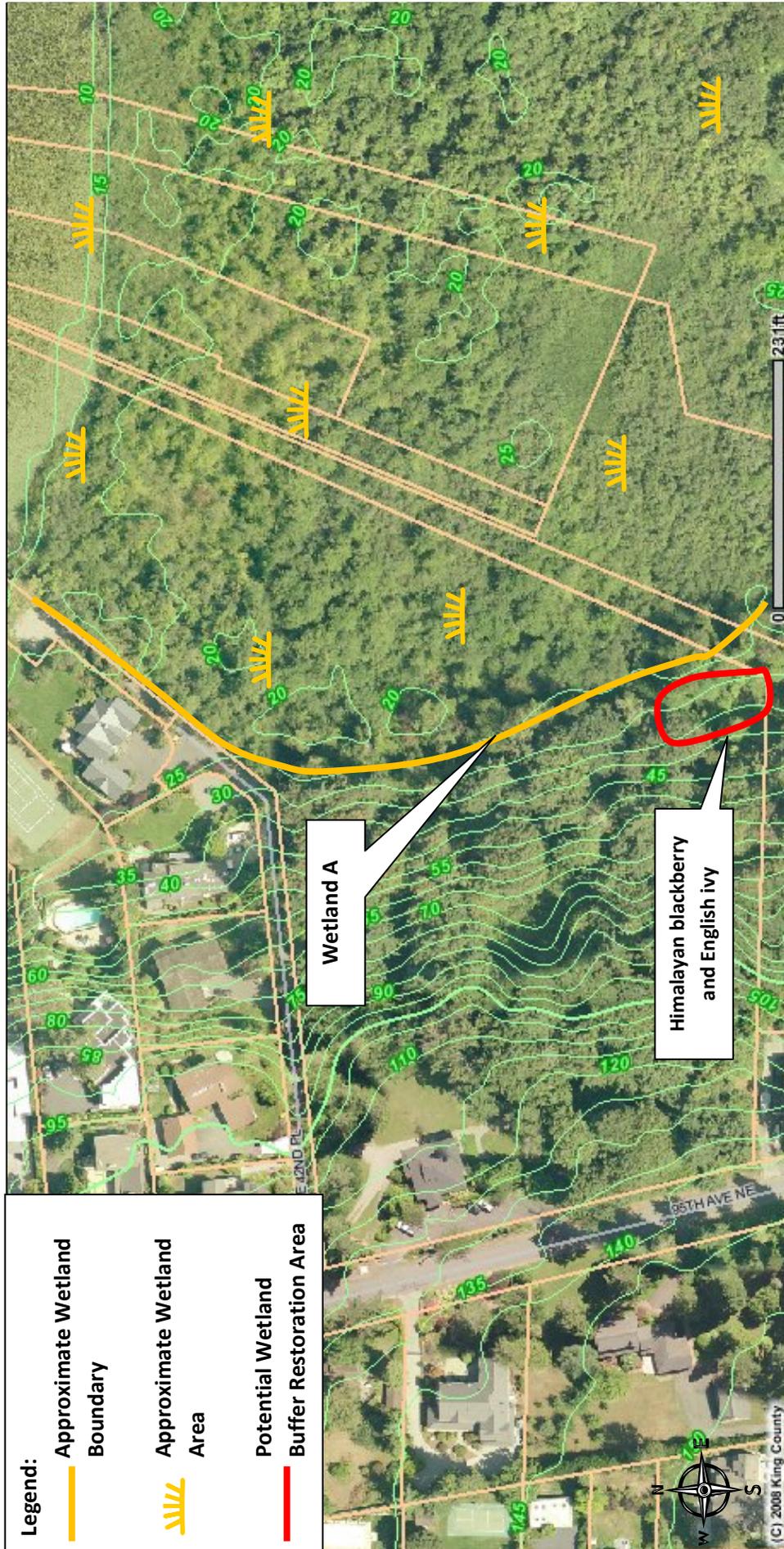
Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
<p>SC 1.0 Estuarine wetlands (see p. 86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p>YES = Go to SC 1.1 NO <input checked="" type="checkbox"/></p>	
<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2</p>	<p>Cat. I</p>
<p>SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?</p> <p><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.</p> <p><input type="checkbox"/> The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I</p> <p>Cat. II</p> <p>Dual rating I/II</p>

<p>SC 2.0 Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i> S/T/R information from Appendix D <input type="checkbox"/> or accessed from WNHP/DNR web site <input type="checkbox"/> YES <input type="checkbox"/> – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO <input type="checkbox"/> Not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16” or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO <input type="checkbox"/> is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 <i>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog.</i> 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO <input checked="" type="checkbox"/> is not a bog for purpose of rating 	<p>Cat. I</p>

Wetland name or number: A

<p>SC 6.0 Interdunal Wetlands (see p. 93) Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES – go to SC 6.1 NO <input checked="" type="checkbox"/> not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: – Long Beach Peninsula – lands west of SR 103 – Grayland-Westport – lands west of SR 105 – Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics <i>Choose the “highest” rating if wetland falls into several categories, and record on p. 1 .</i> If you answered NO for all types enter “Not Applicable” on p.1.</p>	<p>NA</p>



Wetland Reconnaissance Sketch

Morningside Park

Yarrow Point, Washington

Prepared March 18, 2013

Note:
 Areas depicted have not been delineated or surveyed. All locations are approximate and not to scale.



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