CITY OF BAINBRIDGE ISLAND

Department of Planning and Community Development

Staff Report and Recommendation

Waterfront Park Storm Pipe Replacement SSDP, PLN51474 SSDP

Prepared by: Annie Hillier, Planner

Date: September 18, 2019

Request	The request is for a shoreline substantial development permit (SSDP) to replace a failing catch basin and stormwater pipes that flow into an existing outfall, and to add a new tee diffuser to the end of the outfall. The existing pipes will be removed.
Owner	City of Bainbridge Island
Applicant	Emily Cady COBI Public Works 280 Madison Ave. N. Bainbridge Island, WA 98110
Project Location	301 Shannon Dr. SE
Tax Assessor #	41140020010000
Environmental Review	The project is exempt from SEPA review, pursuant to WAC 197-11-800(23).

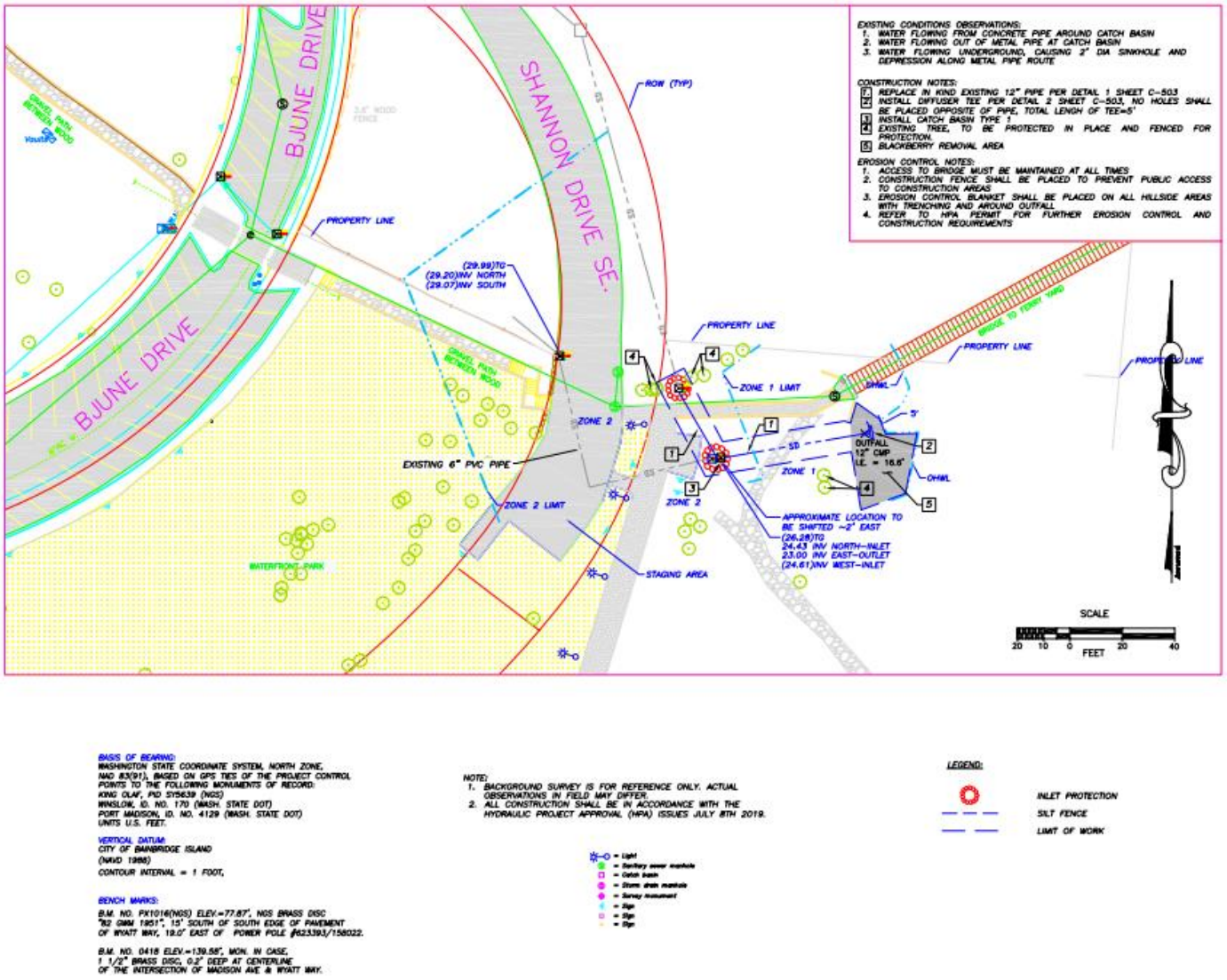
Part I: DESCRIPTION OF PROPOSAL AND RECOMMENDATION

A. Description of Proposal: The proposal includes replacing a stormwater pipe that connects catch two catch basins (approximately 30'); replacing a stormwater pipe that connects a catch basin and an existing outfall (approximately 50'); replacing one catch basin; and installing a new tee diffuser on the end of the existing outfall. Aside from the new tee diffuser, the proposal does not include any expansion of the stormwater system. The replacement pipes will be located in the same location as the existing structures, and the catch basin will be shifted approximately 2' to the east of its existing location. No permanent impacts to the shoreline vegetation are anticipated.

B. Review: Shoreline substantial development permits shall be approved through the general administrative review procedures described in BIMC 2.16.030 except as described in BIMC 2.16.165.F.2.a, which provides a 30-day comment period.

C. Staff Recommendation: Approval of the SSDP, with conditions.

Figure 1 – Site plan



Part II: GENERAL INFORMATION AND SITE CHARACTERISTICS

Assessor's Record Information:	
Tax lot number	41140020010000
Owners of record	City of Bainbridge Island
Lot size	5.54 acres
Site Development:	
Park and restroom facilities, marina, and rowing clubhouse.	
Access:	
The project area is access via SE Shannon Dr.	
Public Services:	
Police	City of Bainbridge Island Police Department
Fire	Bainbridge Island Fire District
Schools	Bainbridge Island School District

Water	City of Bainbridge Island
Sewer	City of Bainbridge Island
Surrounding Uses:	
Commercial (grocery store, post office, yacht club), residential (apartment buildings) and ferry-related	
Existing Zoning:	
Central Core Overlay	
Surrounding Zoning:	
Central Core Overlay, Water Dependent Industrial, and Gateway Overlay	
Existing Comprehensive Plan Designation:	
CORE	
Surrounding Comprehensive Plan Designation:	
CORE, Water Dependent Industrial, and Gateway District	
Shoreline Designation	
Island Conservancy and adjacent to Priority Aquatic A	
Surrounding Shoreline Designation	
Island Conservancy, Shoreline Residential Conservancy, and adjacent to Priority Aquatic A	
Shore Geomorphology	
Marsh/lagoon	

Figure 2 – Vicinity Map, Aerial Image, and Zoning

Part III: APPLICATION BACKGROUND

Date:	Action:
June 18, 2019	A preapplication conference was held.
July 24, 2019	The applicant submitted a shoreline substantial development permit for the project, described herein.
August 21, 2019	Application deemed complete on the 28th day (BIMC 2.16.020.M.4.c).
September 6, 2019	A (revised) notice of application was published, with a 30-day comment period.

Part IV: PUBLIC/SEPA AGENCY COMMENTS

No public comments or agency comments were received.

Part V: DEPARTMENT COMMENTS

Agency:	Action:
City Development Engineering	Approved.

Part VI: LAND USE CODE ANALYSIS

A. Shoreline Substantial Development Permit (SSDP) Decision Criteria (BIMC 2.16.165)

The proposal meets the decision criteria for SSDPs outlined in BIMC 2.16.165.F.3.b as described below:

In making the decision, the administrator shall grant a substantial development permit only when the development proposed is consistent with the following:

1. The applicable policies, guidelines, and regulations of the Shoreline Management Act of 1971; Chapter 90.58 RCW, as amended; and Chapters 173-26 and 173-27 WAC or their successors.

   The Bainbridge Island SMP is consistent with the SMA; as such, compliance with the local program demonstrates consistency with the SMA.

2. The goals, policies, objectives and regulations of the city of Bainbridge Island Shoreline Master Program.

   Compliance with the Bainbridge Island SMP is outlined below.

3. The City of Bainbridge Island comprehensive plan and municipal code; all other applicable law; and any related documents and approvals.

   The proposal was reviewed for consistency with the Bainbridge Island Comprehensive Plan, which states that the City shall utilize the goals, polices, and use regulations of the Shoreline Master Program to protect the environmental quality and public access to the Island's saltwater shoreline. Compliance with the Bainbridge Island SMP is outlined below. The proposal was reviewed for consistency with the Bainbridge Island Municipal Code (BIMC) and was found to meet all use and dimensional standards. No other related documents or approvals apply.

The administrator shall also consider whether the cumulative impact of additional past and future requests that reasonably may be made in accordance with the comprehensive plan, or similar planning document, for like actions in the area will result in substantial adverse effects on the shoreline environment and shoreline resources.

If like actions in the area were requested, it is likely that the City would approve similar requests because the replacement system will fix the sink hole that is currently forming from the cracks in existing pipes, will reduce scouring on the shoreline from the installation of the tee diffuser, and minimizes impacts to existing vegetation. The cumulative impact of such additional requests would not result in substantial adverse effects on the shoreline environment and shoreline resources.

B. Compliance with the Bainbridge Island Shoreline Master Program – applicable SMP regulations

Compliance with applicable sections of the Bainbridge Island SMP is described in the following sections:

1. Section 3.0: Shoreline Designation Policies and Regulations

   The purpose of the Island Conservancy designation is to accommodate a variety of private or public recreational uses that might have a higher level of impact than would be allowed in the Natural designation. **The proposal is consistent with the purpose and management policies of the Island Conservancy designation in that it involves the replacement of an existing structure that is accessory to a water oriented recreational use.**

2. Section 4.0: General (Island-wide) Policies and Regulations

   Table 4-1. Shoreline Use and Modification

   Accessory utilities are defined as "small scale distribution systems directly serving a permitted shoreline use. These include power, telephone, cable, water, septic, and stormwater lines." The replacement stormwater system meets the definition of an accessory utility. Accessory underground utilities are permitted in the Island Conservancy shoreline designation. There is no change to the use proposed as a part of the project.

3. Section 4.1.2: Environmental Impacts

   All shoreline development, uses and activities are required to result in no net loss of ecological functions and processes necessary to sustain shoreline resources. **The applicant submitted a Site-Specific Impact Analysis to demonstrate no net loss for the proposal**.

   a. <u>Baseline Conditions</u>

      The project area is located within Zone 1 of the shoreline buffer, at the east end of Waterfront Park. Within the project area, the western end is developed with a concrete walking path, a compacted dirt trail, and a road and parking area; this is the area where the new pipes and catch basin will be installed. The eastern end contains a slope that is vegetated with mixed forest, high shrub layers in the understory, other native plant species, and a band of blackberry bushes; this is the area where the existing outfall daylights and where the tee diffuser will be installed.

   b. <u>Anticipated Impacts and Proposed Mitigation</u>

      The construction of the new pipes and catch basin will not result in the removal of any vegetation, as this area lies above the vegetated slope. In the area where the tee diffuser will be installed, vegetation will be temporarily impacted. The tee diffuser will reduce the

beach scouring that is currently occurring. No new impervious surface area is proposed.

A Site-Specific Impact Analysis submitted with the application includes an overview of mitigation sequencing applied to project design and construction, as summarized below:

- **Avoiding** impacts altogether is not practicable because the stormwater system is in need of replacement, according to the report. However, staff finds that impacts can still be avoided by taking certain measures, such as staging constructing in existing impervious areas, clearly making the construction limits, and adhering to the conditions included in the HPA. The project is appropriate conditioned to avoid impacts (Conditions 4, 5).
- **Minimizing** impacts is being achieved by working within existing areas of development and limiting disturbance to existing vegetation.
- **Rectifying** impacts will be achieved by replacing any areas of disturbed vegetation with native plants. Invasive blackberries will also be removed in the area of the new tee diffuser, and native shrubs will be installed.
- **Reducing** impacts over time is not necessary, as once the project is complete there will be no new impacts to the shoreline buffer.
- **Compensating** for impacts is not required, as there will be no new permanent impacts as a result of the project.
- **Monitoring** is not required, as there are no new permanent impacts the necessitate compensatory mitigation.

During construction activities, best management practices (BMPs) will be utilized to protect the shoreline environment with regard to siltation caused by exposed soils within the impacted shoreline buffer. BMPs for siltation will include the use of silt fences, hay bales, and other means to prevent movement of soil material in the critical area during all phases of the construction process.

4. Section 4.1.3: Vegetation Management

Tree or vegetation removal within the Shoreline Buffer that is associated with maintenance of existing public facilities (including: roads, paths, bicycle ways, trails, bridges, sewer infrastructure facilities, storm drainage facilities, fire hydrants, water meters, pumping stations, street furniture, potable water facilities, and other similar public infrastructure), may be approved by the Administrator if no significant trees are removed, the requirements of Section 4.1.2, Environmental Impacts are met, and the maintenance measures meet the goals and policies of Section 4.1.3, Vegetation Management. (SMP Section 4.1.3.7.d)

No significant trees are proposed for removal, and the proposal meets the requirements of Section 4.1.2 and 4.1.3, described herein.

Utilities that run approximately perpendicular to the buffer (for example, a stormwater tightline to the water to protect a slope or a sewer line to a marina), may be allowed within the Shoreline Buffer provided that disturbance is minimized and the disturbed area is revegetated after construction. (SMP Section 4.1.3.7.e)

The proposal includes minimizing disturbance by working within existing developed areas and marking construction boundaries, and revegetating areas of vegetation that will be temporarily impacted.

New vegetation planted in the Shoreline Buffer shall be native species using a native plant-community approach of multi-storied, diverse plant species that are native to the Central Puget Lowland marine riparian zone. Other plant species may be approved that are similar to the associated native species in diversity, type, density, wildlife habitat value, water quality characteristics, and slope stabilizing qualities, excluding noxious/invasive species provided that, as submitted by a qualified professional, it is demonstrated to the satisfaction of the Administrator that the selected ornamental plants can serve the same ecological function as native plant species. (SMP Section 4.1.3.5.5)

As described on page 6 of the Site-Specific Impact Analysis, the proposal meets this requirement as a range of high and low growing species will be planted under the existing tree canopy.

5. Section 4.1.5: Critical Areas

   Landslide hazard areas mean 'any area with a slope of 40 percent or greater and with a vertical relief of 10 or more feet except areas composed of competent consolidated rock'. Although there is a mapped slope on the site, it contains less than 10' of vertical relief. There are no other critical areas in the project area.

6. SMP 4.1.6: Water Quality and Stormwater Management

   All shoreline development must minimize any increase in surface runoff through control, treatment, and release of surface water so that the receiving water quality, shore properties, and features are not adversely affected (SMP Section 4.1.6.6).

   The project is not expected to increase surface runoff as there is no increase in stormwater generating development as a part of the project. The city development engineer found the proposal meets the provisions of SMP Section 4.1.6.

7. Section 4.2.2: Cultural Resources

   New shoreline uses and development must preserve and protect cultural resources that are recorded by the Washington State Department of Archeology and Historic Preservation or local registry and resources that are inadvertently discovered during use or development activities.

   If any historical or archaeological artifacts are uncovered during excavation or construction, work shall immediately stop and the Department of Planning and Community Development and the State of Washington Department of Archaeology and Historic Preservation shall be immediately notified. Work shall only continue thereafter in compliance with the applicable provisions of law. (Condition 1)

8. Section 4.2.7: Utilities

   All utilities shall meet the height and setback standards in Table 4-2.

   The existing system is located underground with catch basins located on-grade, therefore the height and setback standards in Table 4-2 do not apply. Further, the proposal is in substantially the same location as the existing, so no changes to the setbacks are anticipated.

CONCLUSION

All proposed uses and development occurring within the shoreline jurisdiction must conform to the Washington State Shoreline Management Act (SMA) and the Bainbridge Island Shoreline Master Program (SMP). The proposed project meets the definition of "development" as provided in the SMA and Bainbridge Island SMP; appropriately, the applicant submitted a complete Shoreline Substantial Development Permit (SSDP) application and supporting documentation to evaluate the merits of the permit request.

Staff finds the proposal meets all shoreline substantial development decision criteria and complies with applicable sections of the Comprehensive Plan, BIMC and SMP. As conditioned, the proposal will result in no net loss of shoreline ecological functions and processes.

APPEAL PROCEDURES

Any decision of the Director may be appealed to the Hearing Examiner in accordance with the procedures of BIMC 2.16.020.P.

CONDITIONS

1. If any historical or archaeological artifacts are uncovered during excavation or construction work shall immediately stop and the Department of Planning and Community Development and the State of Washington Department of Archaeology and Historic Preservation shall be immediately notified. Work shall only continue thereafter in compliance with the applicable provisions of law.
2. Areas of vegetation disturbance shall be minimized to the extent practicable and shall be restored immediately after construction or as soon thereafter as possible due to seasonal growing constraints. Native vegetation shall be protected and retained to the extent possible. New vegetation planted within the construction area shall follow the recommendations from the biologist included in the proposal, and shall be native species using a native plant-community approach of multi-storied, diverse plant species.
3. All significant trees must be retained. The critical root zone (CRZ) of any significant trees within the trenching area must be identified and marked with fencing or other measure recommended by an ISA-arborist. Trenching must avoid the CRZ of all significant trees. Clearing limits must be clearly established with construction fencing or other measure as approved and inspected by PCD.
4. Best Management Practices (BMPs) for construction activities shall be followed at all times to prevent adverse impacts to the shoreline environment and wetlands onsite. BMPs for siltation must include use of silt fences, hay bales, or other means to prevent movement of soil material during all phases of the construction process.
5. Activities to be undertaken as part of this permit require a Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife. All HPA conditions are conditions of approval.
6. The applicant shall notify City planning staff within 48 hours of project completion in order to allow for field inspection and verification of compliance with the conditions of approval.
7. A copy of all public agency approvals and approved drawings shall be given to all contractors performing work at the site prior to beginning any construction work.

8. Construction pursuant to this permit shall not begin and is not authorized until 21 days from the date of filing with the Department of Ecology as defined in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within 21 days from the date of such filing have been terminated; except as provided in RCW 90.58.140 (5)(a) and (b).
9. The authorization granted by this SSDP to replace a failing catch basin and stormwater pipes that flow into an existing outfall, and to add a new tee diffuser to the end of the outfall, shall expire within two years unless substantial progress towards completion is undertaken. Authorization for the proposed structures shall terminate five years after the date the permit is approved by the city, unless an extension is granted in accordance with BIMC 2.16.165.F.5.b.iv.
10. Any use, construction, placement, removal, alteration, or demolition of any structure, land, vegetation or property in a manner that violates the terms or conditions of this permit shall be considered a violation of the Bainbridge Island Shoreline Master Program and be subject to the applicable violations, enforcement and penalties provisions of the Program.

ATTACHMENTS:

A. SSDP Application
B. Revised Notice of Application/SEPA Comment Period
C. Plan Set
D. Site-Specific Impact Analysis

CITY OF BAINBRIDGE ISLAND
MASTER LAND USE APPLICATION
P100

FOR OFFICIAL USE ONLY
City of Bainbridge Island
JUL 24 2019
Planning and Community Development
PROJECT # 51474 SSDP
PLANNER _____

Project Name:	Waterfront Park
Parcel Number(s):	4114002001 0000
Property Address:	301 Shannon dr SE

Type of Application (check all that apply)

- ☐ Adjustments to an Approved Land Use:
  - ☐ Major ☐ Minor
- ☐ Administrative Code Interpretation
- ☐ Agricultural Conditional Use
- ☐ Agricultural Retail Plan
- ☐ Boundary Line Adjustment
- ☐ Buffer Enhancement Plan
- ☐ Buoy Application
- ☐ Conditional Use Permit:
  - ☐ Major ☐ Minor
- ☐ Critical Area Permit:
  - ☐ Major ☐ Minor
- ☐ Housing Design Demonstration Project
- ☐ Legislative Review of Development Regulations
- ☐ Pre-Application Conference
- ☐ Reasonable Use Exception
- ☐ Revision: Type_____
- ☐ Rezone:
  - ☐ Site Specific ☐ Area-Wide
- ☐ Shoreline Clearing Permit
- ☐ Shoreline Conditional Use
- ☐ Shoreline Exemption
- ☒ Shoreline Substantial Development
- ☐ Shoreline Variance
- ☐ Sign Permit
- ☐ Site Plan and Design Review:
  - ☐ Major ☐ Minor
- ☐ State Environmental Policy Act (SEPA)
- ☐ Subdivision – Large
- ☐ Subdivision – Long
- ☐ Subdivision – Short
  - ☐ Preliminary
  - ☐ Final
  - ☐ ALT/ADJ/AMEND
- ☐ Tree Removal & Vegetation Management
- ☐ Variance:
  - ☐ Major ☐ Minor
- ☐ Zoning Verification Letter
- ☐ Wireless:
  - ☐ EFM ☐ WCF
- ☐ Other_____

Project Description: Replacing 2 sections of storm pipe

Parcel #	Address	Property Owner
4114002001 0000	301 Shannon dr.	

Project Contacts *(owner, surveyor, engineer, etc)*		
Property Owner: City of Bainbridge Island		
Address: Madison dr		
City: Bainbridge Island	State: WA	Zip: 98110
Email: ecady@bainbridgewa.gov		Phone:
Name:	Agency:	
Address:	Function:	
City:	State:	Zip:
Email:		Phone:
Name:	Agency:	
Address:	Function:	
City:	State:	Zip:
Email:		Phone:
Name:	Agency:	
Address:	Function:	
City:	State:	Zip:
Email:		Phone:

Authorized Agent *(Please attach notarized Owner/Applicant Agreement Form)*		
Name:	Agency:	
Address:		
City:	State:	Zip:
Email:		Phone:

If additional parcels or contacts are required, please attach additional sheets

Applications ***must be submitted in person, and by appointment only*** by either the owner or the owner's designated agent. Applications to remove trees and vegetation, do not require an appointment and may be submitted electronically to pcd@bainbridgewa.gov. Should an agent submit an application, a ***notarized Owner/Applicant Agreement*** must accompany the application.

To schedule an appointment:

https://www.bainbridgewa.gov/1110/Planning-and-Building-Submittal-Appointm

Supporting information and/or documents may be required to review your application. If you have questions about specific requirements for your project, please consult with planning staff prior to submitting your application. **Submittal requirements for each application are described in the Administrative Manual for Planning Permits.**

ELECTRONIC FILES AND TWO (2) PAPER COPIES ARE REQUIRED FOR ALL SUBMITTED DOCUMENTS

I affirm, under penalty of perjury, that all answers, statements, and information submitted with this application are correct and accurate to the best of my knowledge. I also affirm that I am the owner or designated agent of the subject site. Further, I grant permission to any and all employees and representatives of the City of Bainbridge Island and other governmental agencies to enter upon and inspect said property as reasonably necessary to process this application.

Print Name (Owner)	Signature (Owner)	Date
Emily Cadey	Emily Cadey	7/24/2019
Print Name (Owner)	Signature (Owner)	Date
Print Name (Owner)	Signature (Owner)	Date
Print Name (Owner)	Signature (Owner)	Date
Print Name (Agent)	Signature (Agent)	Date

**** INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED OR WILL DELAY PROCESSING. ****

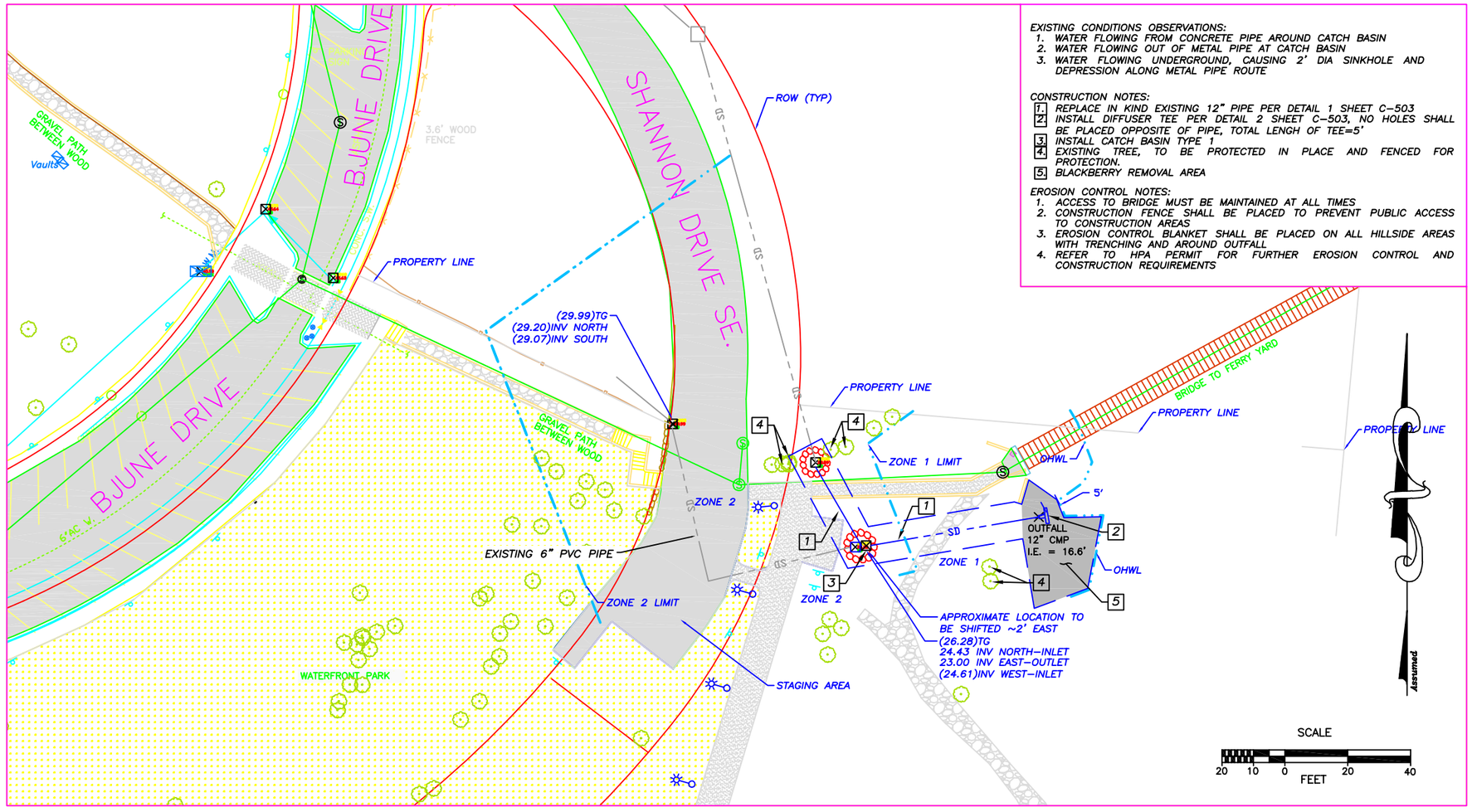
CITY OF BAINBRIDGE ISLAND
PLANNING & COMMUNITY DEVELOPMENT
280 MADISON AVENUE NORTH | BAINBRIDGE ISLAND, WA 98110
206.780.3750 | PCD@BAINBRIDGEWA.GOV | WWW.BAINBRIDGEWA.GOV

NOTICE OF APPLICATION

The City of Bainbridge Island has received a Master Land Use Permit Application for the following project. The public has the right to review contents of the official file, provide written comments, participate in any public meetings or hearings, and request a copy of the decision. This notice is posted at the project site, in City Hall kiosks, the City of Bainbridge Island website, mailed to property owners within 500 feet of any boundary of the subject property and including any property within 500 feet of any contiguous property in the applicant's ownership and published in the Bainbridge Island Review.
NOTE: This is a revised Notice of Application, with a new comment period. All other project elements are the same.

PROJECT DESCRIPTION:	Replace existing storm drain line, catch basin, and outfall with new pipe, a new catch basin, and add a small T-diffuser at the end of the existing outfall to reduce erosion.
PROJECT NAME:	Waterfront Park Storm Pipe Replacement SSDP
PROJECT NUMBER:	PLN51474 SSDP
PERMIT TYPE:	Shoreline Substantial Development Permit
TAX PARCEL:	41140020010000
PROJECT SITE:	301 SHANNON DR SE
DATE SUBMITTED:	July 24, 2019
DATE COMPLETE:	August 21, 2019
DATE NOTICED:	September 6, 2019
COMMENT PERIOD:	September 6, 2019 – October 7, 2019 **Comments must be submitted no later than 4:00pm on Monday, October 7, 2019.** **Public comments may be mailed, emailed or personally delivered to the City using the staff name and contact information provided on this notice.** The public comment period for this application is 30 days and the City will not act on the application until the comment period has ended. Any person may comment on the proposed application, request notice of and participate in the public hearing (if a hearing is required) and request a copy of the decision. Only those persons who submit written comments prior to the decision or participate in the public hearing (if a hearing is required) will be parties of record and only parties of record will have the right to appeal.
STAFF CONTACT:	**Annie Hillier, Planner** pcd@bainbridgewa.gov or (206) 780-3773
PROJECT DOCUMENTS:	https://ci-bainbridgeisland-wa.smartgovcommunity.com/PermittingPublic/PermitDetailPublic/Index/50369287-4f59-4bf5-8dd0-aa8801680079?_conv=1 To review documents and environmental studies related to this proposal, please follow the link above or go to the City website at bainbridgewa.gov, select 'Online Permit Center' and search using the project information noted above. Files are also available at the Planning & Community Development Department at City Hall (M-F 8:00am-12:00pm).
ENVIRONMENTAL REVIEW:	This proposal is exempt from State Environmental Policy Act (SEPA) review pursuant to WAC 197-11-800.

REGULATIONS/POLICIES:	Applicable development regulations and policies to be used for project mitigation and consistency include, but may not be limited to, the City of Bainbridge Island 2016 Comprehensive Plan, the Bainbridge Island Municipal Code (BIMC) Chapter 2.16 (Land Use Review Procedures), Title 15 (Buildings and Construction), Title 16 (Environment) and Title 18 (Zoning).
OTHER PERMITS:	Other permits not included in this application but known at this time include: grade and fill permit (TBD).
DECISION PROCESS:	This type of land use application is classified as 'Administrative' pursuant to BIMC 2.16.010-1 and does not require a public hearing pursuant to BIMC 2.16.020.C. A decision on the proposal will be made by the Planning & Community Development Director following the comment period and a notice of the decision will be sent to those parties who comment on this notice. Please note, City decisions on shoreline variances, shoreline substantial development permits, and shoreline conditional use permits must be reviewed by the Washington Department of Ecology (DOE) pursuant to WAC 173-27-130 and RCW 90.58.140(10). The DOE may approve, approve with conditions, or deny the application. Additional appeal provisions will be included with the notice of decision.



BASIS OF BEARING:
WASHINGTON STATE COORDINATE SYSTEM, NORTH ZONE, NAD 83(91), BASED ON GPS TIES OF THE PROJECT CONTROL POINTS TO THE FOLLOWING MONUMENTS OF RECORD:
KING OLAF, PID SY5639 (NGS)
WINSLOW, ID. NO. 170 (WASH. STATE DOT)
PORT MADISON, ID. NO. 4129 (WASH. STATE DOT)
UNITS U.S. FEET.

VERTICAL DATUM:
CITY OF BAINBRIDGE ISLAND
(NAVD 1988)
CONTOUR INTERVAL = 1 FOOT,

BENCH MARKS:

B.M. NO. PX1016(NGS) ELEV.=77.87', NGS BRASS DISC "82 GWM 1951", 15' SOUTH OF SOUTH EDGE OF PAVEMENT OF WYATT WAY, 19.0' EAST OF POWER POLE #623393/158022.

B.M. NO. 0418 ELEV.=139.58', MON. IN CASE, 1 1/2" BRASS DISC, 0.2' DEEP AT CENTERLINE OF THE INTERSECTION OF MADISON AVE & WYATT WAY.

NOTE:
1. BACKGROUND SURVEY IS FOR REFERENCE ONLY. ACTUAL OBSERVATIONS IN FIELD MAY DIFFER.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HYDRAULIC PROJECT APPROVAL (HPA) ISSUES JULY 8TH 2019.

= Light
= Sanitary sewer manhole
= Catch basin
= Storm drain manhole
= Survey monument
= Sign
= Sign
= Sign

LEGEND:

INLET PROTECTION
SILT FENCE
LIMIT OF WORK

STATE OF WASHINGTON · ERIC CHRISTENSEN · 53744 · REGISTERED PROFESSIONAL ENGINEER

G:\PW_CAPITAL_PROJECTS\ACTIVE_2019_CAPITAL_ANNUAL_DRAINAGE_PROGRAM_00231\2019_ANNUAL_DRAINAGE_00851\5.0_DESIGN_PHASE\WATERFRONT_PARK_STORM_PIPE_REPLACEMENT\WATERFRONT_PARK_STORM_PIPE_REPLACEMENT.DWG <<Site Plan and Erosion Control>> September 16, 2019 3:32:57 PM

Filename: Waterfront Park Storm Pipe Replacement
XREF Filename:
Drawn By: EC/RTG
Checked By:
Section: __-S-__T_N-R_E
Surveyed By: MCCLEARNSBERRY
Date:
Control Monument:
Field Bk/Pg:
Recorded Survey
Kitsap County Auditor
AF#_____
Vol/Bk Page
Constructed By:
Date:

CITY OF BAINBRIDGE ISLAND
280 Madison Avenue N
Bainbridge Island, WA
206-842-2016

PUBLIC WORKS ENGINEERING DEPARTMENT

PROJECT INFORMATION

WATERFRONT PARK STORM OUTFALL REPLACEMENT

REVISION BLOCK

NO.	DATE	BY	REVISION

SEC.26 , T.25N., R.2E., W.M.,
CITY OF BAINBRIDGE ISLAND, KITSAP COUNTY, WA.

Scale:
Horiz: 1"=20'
Vert: NONE
Coordinate System: N/A
Vertical Datum: N/A
Designed By: EC
Drawn By: EC
Inspected By: ?
W.O. No.: ?
Issue Date: 07-19-2019

SHEET TITLE

SITE PLAN AND EROSION CONTROL

Drawing No.
C-501

Sheet No. 13 of 20

Attachment D

SITE SPECIFIC ANALYSIS AND NO NET LOSS ASSESSMENT

July 17, 2019

Waterfront Park SSA

Bainbridge Island, Washington

Prepared for

Bainbridge Island Public Works
280 Madison Avenue
Bainbridge Island, WA 98110
(206) 842-2016

Prepared by

Ecological Land Services

1157 3rd Avenue, Suite 220A • Longview, WA 98632

(360) 578-1371 • Project Number 2680.02

TABLE OF CONTENTS

FIGURES & PHOTOPLATES

SIGNATURE PAGE

The information and data in this report were compiled and prepared under the supervision and direction of the undersigned.

Joanne Bartlett, PWS
Senior Biologist

INTRODUCTION

Ecological Land Services, Inc. (ELS) has been contracted by Bainbridge Island Public Works Department (BIPW) to prepare a Site-Specific Analysis (SSA) and No-Net-Loss Assessment (NNL) report to address potential impacts of the proposed stormwater outfall structure at the Waterfront Park in Bainbridge Island, Washington. This project is located on the east side of the Waterfront Park and next to the bridge to the ferry yard (Figure 2). The project study area begins at catch basins within shoreline jurisdiction and upslope of the bridge and along the existing park path (Figure 3a). The park address is 309 Shannon Drive SE and the Kitsap County Tax Parcel Number is 4114-002-001-0000, which is situated in a portion of Section 26, Township 25 North, and Range 2 East of the Willamette Meridian (Figure 1). The project involves work within the shoreline jurisdiction and requires completion of the SSA to assess potential impacts to the shoreline environment as a result of improvement of the stormwater outfall An NNL enhancement is also provided to restore areas impacted by construction activities and achieve a no-net-loss of buffer function.

BAINBRIDGE ISLAND SHORELINE MASTER PROGRAM

This project is being reviewed under the *BISMP* that was adopted July 30, 2014 because the stormwater system outfall repairs are proposed within 200 feet of the shoreline. Under the current administrative process, projects proposing construction within 200 feet of the shoreline must complete a site-specific analysis to document existing conditions and show that there will be no-net-loss of buffer function per *Section 4.1.2* of the *BISMP*. Mitigation or enhancement is often required to address project impacts within shoreline jurisdiction and the specified shoreline buffer to achieve a no-net-loss of buffer function.

PROJECT AREA DESCRIPTION

The Waterfront Park stormwater outfall project is located at the east end of the park where the existing trails lead to the ferry yard bridge (Figure 2). This area is primarily composed of the trails through forested uplands that slope steeply down into the estuary alongside the Winslow Ravine stream (Figure 3a). The existing catch basins are located adjacent to the trails and are connected by underground pipes (Photoplate 1). There is a pipe from the southern catch basin to the outfall, which emerges from the steep slopes just east of the bridge, and discharges down the slope into the estuary (Photoplate 5). The outfall creates a shallow channel across the mudflat and into the stream channel (Photoplates 2 and 4). The slope down to the estuary is dominated by a mixture of native shrubs and herbaceous vegetation with Himalayan blackberry thickets across the middle of the slope (Photoplate 5). There are a couple of trees that overhang the estuary within the study area but they are mostly located near the top of the slope (Photoplates 2, 3, and 5).

PROJECT PROPOSAL

The current stormwater system is in a state of disrepair because of pipe failures in several locations that is causing water to flow around the pipe. The most notable failure is at catch basin 2, which receives water from catch basin 1 and other pipes from the park. There are cracks in several pipes that cause water to discharge into the surrounding soils and create a sink hole around catch basin 2. The failure at catch basin 2 is resulting in issues within the pipe between the catch

basin and the outfall at Eagle Harbor. The existing outfall is composed of a pipe that emerges from the shoreline slope and causes direct discharge of water into the estuary (Photoplates 4 and 5). This project proposes to replace catch basin 2, replace pipes between the catch basins and the stormwater outfall, and place a diffuser tee at the end of the outfall pipe (Figure 3b). The work will be confined to existing park trails and disturbed upland conditions on the shoreline slope (Photoplate 1) so will not directly impact existing native vegetation. It will not result in creation of new impervious surfaces so there will be no increase in stormwater discharge levels or volumes. This project is intended to improve conditions by replacing pipes so that water flows directly into the stormwater outfall rather than around the pipes and creating sinkholes. The diffuser tee at the end of the existing outfall pipe will more slowly discharge water into Eagle Harbor to reduce impacts created by the current stormwater discharge point. The proposed repairs will be completed this year and should take up to 2 weeks to complete. The trail area will be temporarily impacted to install the pipes but will be restored to current conditions.

The portion of the Waterfront Park where the project is proposed lies within the Island Conservancy shoreline designation, which requires a buffer of 75 feet because it is within the park (Figure 2). The Zone 1 buffer is a minimum 30 feet or the extent of existing native vegetation, and the Zone 2 buffer comprises the remainder of the buffer. The project area is located within the required buffer with the Zone 1 buffer lying between the shoreline and the existing trail because that is the extent of native vegetation. Much of this buffer is composed of native vegetation so the Zone 1 buffer comprises the entire 75 feet and there is no designated Zone 2 buffer. The project area is wholly within shoreline jurisdiction and within the shoreline buffer but will not change the character of the buffer. The project will also include enhancement of the shoreline slope, which will involve removal of blackberry thickets and replacement with native shrubs intended to increase the function for the critical shoreline area (Figures 2 and 8).

MITIGATION SEQUENCING

The project area lies within 200 feet of the Puget Sound shoreline and the small lagoon estuary in the project area is the only critical area (Figure 2). The existing stormwater infrastructure lies within shoreline jurisdiction and the designated shoreline buffer of Waterfront Park. The replacement of stormwater features is necessary to reduce the occurrence of a sinkhole along the trail and improve the discharge point. Because these features are within the buffer, the project cannot avoid the temporary impacts that will occur within the buffer. The project will minimize impacts by conducting the work within existing development features such as the existing trails and at the outfall pipe. Minor vegetation removal may be necessary to install the diffuser tee but will mainly include non-native plant species or common native species (Photoplate 5). No trees or significant shrub areas will be negatively impacted. Although only temporary impacts will take place within project area, compensation is proposed within the buffer area. The area of blackberry thickets that are growing on the shoreline slope will be removed and replaced with native shrub species (Figure 8). The replacement of blackberry will improve vegetative diversity and wildlife habitat along the shoreline of Waterfront Park by installing a variety of species that are used by wildlife for foraging, nesting, and protection.

ENVIRONMENTAL AND HABITAT CONDITIONS

Shoreline Environment

The shoreline within the project area is located on the east side of Waterfront Park where the stream from the Sakai Pond enters the Eagle Harbor Estuary (Photoplates 2, 3, and 5). Mudflat comprises the substrate of this shoreline area, which slopes gradually down to the main stream channel from the OHWM. The nearshore assessment conducted for the City of Bainbridge Island (Williams 2004) identifies this section of shoreline as Reach 3147 within the Eagle Harbor Management area. The shoreline is designated marsh/lagoon and is protected from wave exposure because of its position within a narrow inlet. Mudflat continues up and downstream from the project area and is continuous with mudflat and estuary within the main body of Eagle Harbor (Figure 6). The inlet is designated Priority Aquatic A, which are those aquatic areas "*…include those portions of marine waters of the city that exist in a relatively natural state, free of human influence, or which contains resources, biological diversity, or other features that are particularly sensitive to human activity, or which contain unique, historical, archaeological, cultural, educational features that merit special protection.*"

Forest along the west side of the inlet lies within Waterfront Park with trails running around the perimeter of the park about 100 feet from the shoreline community. (Figure 3b and Photoplate 1). The forested condition extends down the upland slope and provides overhanging shade along most of this shoreline area (Photoplates 2 and 3). The Washington State Department of Transportation (WSDOT) owns the property on the east side of the inlet and uses the area as a parking area for Washington State Ferries (WSF) employees. Maintenance facilities are located east of the parking area upland with two maintenance docks within Eagle Harbor. The WSF Bainbridge Island Terminal lies to the east of the maintenance facility. There is no access to this inlet by park users but there is a bridge across it that provides access to the ferry maintenance yard and terminal. The shoreline along the WSDOT maintenance facility is composed of rip rap that lies mostly below the OHWM with grassy conditions above (Photoplate 2). Overhanging vegetation is present on the east side but only north of the bridge (Photoplates 2 and 3).

State and Federally Listed Species and Critical Habitat

Federally listed fish, bird, and mammals for Puget Sound and Kitsap County (WDFW 2019b) identified using the NOAA Fisheries and USFWS websites are presented in Table 1.

Table 1: State and Federally Listed Endangered and Threatened Species and Critical Habitat

Species, ESU[1] or DPS[2]	State Status[4]	Federal Status[3]	Critical Habitat[5] in Project Vicinity
Fish			
Puget Sound ESU Chinook Salmon (*Oncorhynchus tshawytscha*)	Candidate	Threatened	Yes
Puget Sound DPS Steelhead (*Oncorhynchus mykiss*)	None	Threatened	Yes
Bull Trout (*Salvelinus confluentus*)	Candidate	Threatened	Yes
Puget Sound/Georgia Strait DPS Yellow-eye rockfish (*Sebastes ruberrimus*)	Candidate	Threatened	Yes
Puget Sound/Georgia Strait DPS Bocaccio (*Sebastes paucispinis*)	Candidate	Endangered	Yes

Species, ESU[1] or DPS[2]	State Status[4]	Federal Status[3]	Critical Habitat[5] in Project Vicinity
Birds			
Marbled murrelet *(Brachyramphus marmoratus)*	Threatened	Threatened	No
Yellow-billed Cuckoo (*Coccyzus americanus*)	Candidate	Threatened	No
Streaked Horned lark *(Eremophila alpestris strigata)*	Endangered	Threatened	No

1) ESU - Evolutionarily Significant Unit. A distinct group of Pacific salmon.
2) DPS – Distinct Population Unit.
3) Endangered - In danger of becoming extinct or extirpated; Threatened - Likely to become endangered within the foreseeable future throughout all or a significant portion of its range and that has been formally listed as such in the Federal Register under the Federal Endangered Species Act; Sensitive - Vulnerable or declining and could become Endangered or Threatened in the state; Species of Concern - An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing. State candidate species include fish and wildlife species that the Department will review for possible listing as State Endangered, Threatened, or Sensitive. A species will be considered for designation as a State Candidate if sufficient evidence suggests that its status may meet the listing criteria defined for State Endangered, Threatened, or Sensitive.
4) Washington Department of Fish and Wildlife, PHS website
5) NOAA 2019, USFWS 2019

Washington State Department of Ecology, Coastal Atlas

The Washington Department of Ecology (Ecology 2014), Coastal Atlas Mapping tool indicates that there are no eelgrass or kelp beds within the inlet on the east side of Waterfront Park (Figure 6). No other significant features were noted on the coastal atlas map. There was no eelgrass wrack observed on the mudflat during low tide.

Wildlife Inventory

Information obtained from online mapping sources indicates that there are priority habitats along this section of shoreline. The Priority Habitat and Species website (WDFW 2019a) mapping indicates that the mudflat area is mapped as estuarine and marine wetland and the associated stream has occurrence and migration by: resident cutthroat trout (*Oncorhynchus clarki*), fall chum (*Oncorhynchus keta*), coho salmon (*Oncorhynchus kitsutch*), and cutthroat trout (*Oncorhynchus clarki*). The Salmonscape website (WDFW 2019b) indicates the use of the stream as presented on the PHS map by fall chum and coho salmon species. The PHS map does not indicate the presence of forage fish, however, the forage fish spawning map for Washington State (WDFW 2018a) indicates that the east bank (along the WSDOT property) supports spawning surf smelt (*Hypomesus pretiosus*). The PHS and Salmonscape maps do not indicate the use of the stream by the listed Chinook salmon, steelhead, or bull trout.

The project area, which includes a portion of the Waterfront Park, does not appear to provide habitat features for the listed bird species. Marbled murrelets are found in old growth forests and foraging in marine or estuarine waters, and there are no such forested conditions in the project area or vicinity. The vegetation dominating the park area does not provide suitable habitat features for the yellow billed cuckoo or streaked horned lark.

Buffer Functions

The width of buffers necessary to protect a critical area from degradation is related to the functions of the critical area and the buffer itself (Castelle, et al. 1992). Buffers function to

protect water quality of critical areas including shorelines by removing sediment and nutrients from runoff. The function depends on the type of soils, vegetation, and characteristics of the runoff. The function of buffers is also based on width and slope. In some cases, buffers as low as 50 feet are effective in filtering pollutants when there is dense groundcover, no slope or a gradual slope, and the runoff sheet flows across the buffer. The portion of the Waterfront Park in which the study area lies is within the Island Conservancy shoreline designation and is zoned Core (Figure 4). The buffer width for the park is 75 feet and for the most part, the buffer is composed of a mixed forest with high shrub layers in the understory (Photoplate 1). The portion of the buffer within the study area is composed of a steep slope that is partially vegetated with native plant species. There is a band of blackberries along the slope below the overhanging trees from the upper slope (Photoplate 5).

The main function of the buffer in this portion of the park is provided by the slope itself as well as the trees that overhang from the upper shoreline slope. The blackberry thickets provide a measure of protection at the OHWM as well as a source of food for small birds and mammals but because blackberry forms monotypic communities, there is limited food choices, which limits the species that the existing vegetation community can support. The remainder of the buffer is on the park proper and is well vegetated with native trees and understory shrub and herbaceous species. There is a park trail near the edge of the 75-foot buffer but the vegetation in this location is providing high quality buffer for the shoreline environment (Photoplate 1).

IMPACT ANALYSIS

Shoreline Impacts

The repair to the existing stormwater system on the Waterfront Park will improve conditions within the park as well as the shoreline environment. The current failures are causing water to bypass portions of the existing stormwater system, which is creating water quality and erosion within the shoreline community. The repairs will include replacement of pipes into and exiting the catch basins as well as placing a diffuser tee at the end of the existing outfall pipe. Currently, there is no dissipation of stormwater from the existing pipe because it discharges directly from the pipe onto the shoreline. This has caused creation of a narrow channel across the mudflat into the stream, which disturbs the habitat provided by the estuarine community during low tides and periods of high stormwater discharge (Photoplate 3 and 4). The overall project will improve conditions within the shoreline environment by repairing the failures that cause water to flow around the existing stormwater catch basins and pipes.

Shoreline Buffer Impacts

The diffuser tee will be placed at the end of the existing discharge pipe by hand and the work will result in temporary impact to the existing vegetation. The vegetation in the project area is composed of invasive blackberry thickets with very little native vegetation coverage (Photoplate 5). Once the construction is completed, the area of blackberry thickets in the project area and extending east for about 100 feet, will be enhanced through removal of the blackberry and installation of native shrubs (Figure 8). No trees will be removed so there will be no change to the shade provided by the trees, which are rooted near the top of the shoreline slope. By replacing blackberry thickets with native plants, there will be an increase in vegetation diversity that will subsequently improve foraging function of the buffer.

Special Management Recommendations

Management recommendations for critical areas including shorelines involve identifying measures that will preserve high quality conditions or rectify disturbed conditions that maintain or improve the function of the critical area. Buffers are one of the main management methods employed to protect the function of critical areas. In areas where buffer conditions are poor, enhancement is conducted to improve the buffer function, which often enhances or improves the function of the critical area as well. Other special management recommendations are applied to aid in the preservation of special critical areas, wildlife species, and/or wildlife habitats that require additional protection measures to preserve their function and populations. They are often developed for endangered, threatened, sensitive, species of concern, rare habitat areas, etc. to preserve the critical area, habitat, or species. No special management recommendations are necessary for this project because there are no endangered, threatened, sensitive species or rare habitat areas on or in the project area that require additional protection measures. The shoreline area represents the most important critical area adjacent to the property and does not require additional protection measures because this project will have no direct or indirect impacts on the shoreline buffer or environment.

During construction activities, best management practices (BMPs) will be utilized to protect the shoreline environment with regard to siltation caused by exposed soils within the project area. Onsite construction activities will be conducted during the summer months to reduce the chance of rain events that could cause siltation into the downslope shoreline buffer and environment. BMPs for siltation will include use of silt fences, hay bales, and other means to prevent movement of soil material in the critical area during all phases of the construction process.

SHORELINE BUFFER ENHANCEMENT PLAN

The project area is mostly proposed within the existing park trail but will include a small area of vegetated buffer. The area of buffer that will be impacted is about 465 square feet in size so instead of just replacing vegetation in that small area, Bainbridge Island Public Works proposes to remove blackberry thickets from the shoreline slope extending about 100 feet east from the project area (Figure 8). The enhancement plan is intended to replace the vegetation that is removed from the for installation of the diffuser tee. The enhancement plan will involve installation of plant species that will be removed during construction with the native species that are successful in shoreline buffers to encourage good survival and growth to improve existing conditions.

Structures and Functions Sought

The shoreline buffer, which in the project area is composed of a moderately steep slope, is composed of a deciduous forest with trees rooted at the top. The tree canopy extends over the OHWM so provides shading for the shoreline community. The trees will not be affected by the project so there will be no change to the shade they provide. The blackberry has formed a monotypic shrub layer within the buffer that does not permit the development of a diverse upland community that functions in concert with the tree cover and the shoreline community. Removal of the blackberry thickets will allow for installation of native shrubs to include high and low growing species, which will improve the structure of the buffer vegetation. Because diversity is a goal of riparian zone management practices, the proposed enhancement will meet the goal of

providing a variety of buffer functions by installing a diversity of plant species to create a vertical structure below the overhanging canopy (WDFW 2018b).

Enhancement Success

The enhancement plan proposes installation of plant species within an area of dense blackberry thickets as part of the stormwater drainage system in Waterfront Park to encourage development of a native vegetation community. The goals of this enhancement can be achieved by defining proper installation techniques, proper removal and disposal of invasive buffer plants, and providing specifications for follow-up maintenance. Proper installation is important to ensure that the soil is prepared to accept the potted plants and that soil holes are at the appropriate depth. Another feature expected to increase the success of the enhancement plan is planting among the native vegetation that remains in other locations of the buffer. The existing trees and shrubs will provide shade from the sun for the new plants and some species may provide additional soil nutrients from decaying leaves that will encourage good growth of these plants. Specific methods for maintenance are outlined including regular removal of weeds and tall grasses and regular watering during the summer months will encourage growth and survival of the installed plants. If the maintenance methods are utilized as described, there is a high likelihood that the enhancement will be successful over the long term.

Specifications for Site Preparation

The tasks listed below will achieve the shoreline buffer enhancement goals and objectives. These tasks are listed in the order they are anticipated to occur; however, some tasks may occur concurrently or may precede other tasks due to site and procedural constraints.

Buffer Enhancement Area

1. Stake or flag the area of buffer enhancement as indicated on the attached buffer enhancement plan.
2. Remove any invasive vegetation from near the enhancement area during construction activities to reduce the chance of recovery following construction.
3. Install plantings according to the schedule and specifications proposed herein.

Goals, Objectives, and Performance Standards

Project Goal: Enhance shoreline buffer area that is dominated by invasive species to provide a higher functioning buffer.

Objective 1: Control invasive species.

Performance Standard 1 (a): During Years 1 through 5, invasive species will be removed and suppressed in the enhancement area as often as necessary to meet a performance standard of no greater than 10 percent cover by invasive species. Percent cover will be recorded annually and included in monitoring reports.

Objective 2: Enhance plant species and buffer vegetation community.

Performance Standard 2 (a): The project will maintain 100 percent survival of plants during the entire 5-year monitoring period. Plant species number will be recorded annually and compared with as-built conditions for inclusion with the monitoring reports.

Performance Standard 2 (b): There will be increasing cover by native plant species in the enhancement area over the 5-year monitoring period. The yearly percent cover in the enhancement area will be: Year 1 - 15 to 20 percent; Year 2 - 20 to 25 percent; Year 3 – 25 to 30 percent; and Year 5 – 40 to 50 percent. Plant species percentages will be recorded annually and compared with as-built conditions to determine overall success of the plantings.

Specifications for Planting

The plants specified for installation are intended to diversify the existing plant community and improve shoreline buffer function. The specified trees and shrubs – ocean spray, Indian plum, Nootka rose, Oregon grape, and sword fern – grow relatively quickly, and if maintained, will form a sub-canopy of trees and shrubs below the tall forested canopy. Their installation is intended to restore and improve the existing vegetation community by planting the same or similar plant species that require removal during construction. The final location of the plants is presented in the enhancement plan (Figure 8).

Plant Materials

Potted Stock

1. 1- and 3-gallon potted plants will be purchased from a native plant nursery.
2. Potted stock will have a minimum size of 2 to 3 feet tall.
3. Potted stock will be kept in a shaded area prior to being planted.
4. The potted stock will have well-developed roots and sturdy stems with an appropriate root- to-shoot ratio.
5. No damaged or desiccated roots or diseased plants will be accepted.
6. Unplanted stock will be properly stored at the end of each planting day to prevent desiccation.
7. The project biologist will be responsible for inspecting potted stock prior to and during planting and culling unacceptable plant materials.

Planting Specifications

Plant installation should take place during the first winter following repair of the stormwater system so that the plants are dormant during installation. Plants will be installed as roughly indicated on the attached planting plan (Figure 4) or in small groupings to mimic the natural environment and to enhance species survival. Table 1 provides a list of plants proposed for installation within the buffer based on the square footage of blackberry within the buffer. The spacing of plants listed in Table 1 is sufficient to allow removal of invasive plants during the 5-year monitoring period. To assist in control of invasives, natural woody mulch can be spread over the bank and jute matting placed over the top to prevent erosion.

Table 1. Plant specifications for buffer enhancement area.

Species Name	Spacing (feet from center)	Minimum Size	Quantity
Indian plum (*Oemleria cerasiformis*)	3-4	1 gallon, potted	13
Oregon grape (*Mahonia nervosa*)	3-4	1 gallon, potted	13
Ocean spray	3-4	1 gallon, potted	13

(*Holodiscus discolor*)			
Nootka rose (*Rosa nutkana*)	3-4	1 gallon, potted	13
Sword fern (*Polystichum munitum*)	2-3	1-gallon, potted	28
		Total Plantings	**80**

Planting Methods

1. Plant the specified shrubs and trees in winter 2019-2020 (or subsequent winter) after construction activities are completed, as listed in Table 1. Space the plants somewhat irregularly and in groups to create dense heterogeneity in the planting area, leaving enough space between each group to allow for mowing. Plant the potted stock with a tree shovel or comparable tool.
2. Place the potted species in the planting holes so that their roots are able to extend down entirely and do not bend upward or circle inside the hole.
3. Position the root crowns so that they are at, or slightly above, the level of the surrounding soil.
4. Firmly compact the soil around the planted species to eliminate air spaces.
5. Install a minimum 3-foot-by-3-foot weed-barrier fabric, secured with landscape staples, around the base of planted species where they are susceptible to being dominated by invasive plants.
6. Irrigate all newly installed plants as site and weather conditions warrant.

MAINTENANCE

Maintenance of the planting area will occur for five years and will involve removing invasive plant species, irrigating planted species, and reinstalling failed plantings, as necessary. The maintenance may include the following activities:

1. Remove and control non-native and/or invasive vegetation from within the planting area buffer a minimum of two times during the growing season for the first five years.
2. Irrigate planted species as necessary during the dry season, approximately July 1 through October 15. ELS biologists recommend that watering occur at least every two weeks during the dry season for the first three years. The most successful method of watering plants is using a temporary above-ground irrigation system set to a timer to ensure the plants are regularly watered.
3. Replace dead or failed plants as described for the original installation to meet the minimum annual survival rate and percent cover performance standards.

MONITORING PLAN

The buffer enhancement area will be monitored annually for a 5-year period following plant installation. Monitoring reports will be submitted to the City of Bainbridge Island Planning Department by December 31st of each monitored year. The goal of monitoring is to determine if the previously stated performance standards are being met. The enhancement area will be monitored once during the growing season, preferably during the same two-week period each year to better compare the data. Monitoring will likely occur in the entire enhancement area

because it is relatively small size and low number of plants required to restore the area to pre-construction conditions.

Vegetation

Vegetative monitoring will document the enhanced shoreline buffer. The following information will be collected during each monitoring visit:

- Percent cover and frequency of sapling/shrub species.
- Percent cover and frequency of tree species.
- Species composition of herbs, shrubs, and trees, including non-native, invasive species.
- Photo documentation of vegetative changes over time.

Fauna

General observations will be recorded, and photographs will be taken of wildlife during site visits to the site for monitoring. Observations of insects and other invertebrates, amphibians, reptiles, fish, birds, and mammals will be recorded and documented in the annual monitoring reports. Use of the onsite buffer areas by any priority species also will be noted.

Monitoring Report Contents

The annual monitoring reports will contain at least the following:

- Location map and representational drawing.
- Historic description of project, including dates of plant installation, current year of monitoring, and restatement of goals, objectives, and performance standards.
- Description of monitoring methods.
- Documentation of plant cover and overall development of plant communities.
- Assessment of non-native, invasive plant species and recommendations for management.
- Observations of wildlife, including, amphibians, invertebrates, reptiles, birds, and mammals
- Photographs from permanent photo points.
- Summary of maintenance and contingency measures proposed for the next season and completed for the past season.

No Net Loss Assessment

The proposed repair to the stormwater outfall system will occur within the existing trail to the bridge at the east end of Waterfront Park. The work will require excavation of the trail and soil material within the existing trail to replace the pipes between the catch basins and the outfall. The outfall itself will remain and a diffuser tee will be added to the end to eliminate the direct discharge. Mitigation is not proposed but enhancement of the shoreline slope is proposed to replace the monotypic blackberry thickets with native shrubs. Only a small amount of vegetation, which is mostly invasives, will be temporarily impacted by the placement of the diffuser tee. Overall, this project will improve conditions within this area of Eagle Harbor because the repair includes replacement of pipe that does not function, which will eliminate an unwanted source of sediment. Placement of the diffuser tee at the discharge pipe will eliminate the channelized discharge of stormwater across the mudflat (appears during low tide and during storm events). Because the project will improve conditions within Eagle Harbor and will not permanently impact the existing buffer, there will be no loss of shoreline or buffer function as a result of this project, it achieves the no-net-loss-standard of the *BISMP*.

LIMITATIONS

ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

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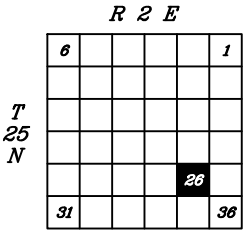
FIGURES AND PHOTOPLATES

7/17/2019 1:32 PM C:\Users\lennifer\Box\ELS\WA\Kitsap\Bainbridge Island\2680-Bainbridge Island Public Works Department\2680.02-Waterfront Park SSA\2680.02-Figures\2680.02_NNL.dwg Jennifer

WASHINGTON

Latitude: 47.6233°
Longitude: -122.5157°

LOCATION MAP



PROJECT VICINITY MAP

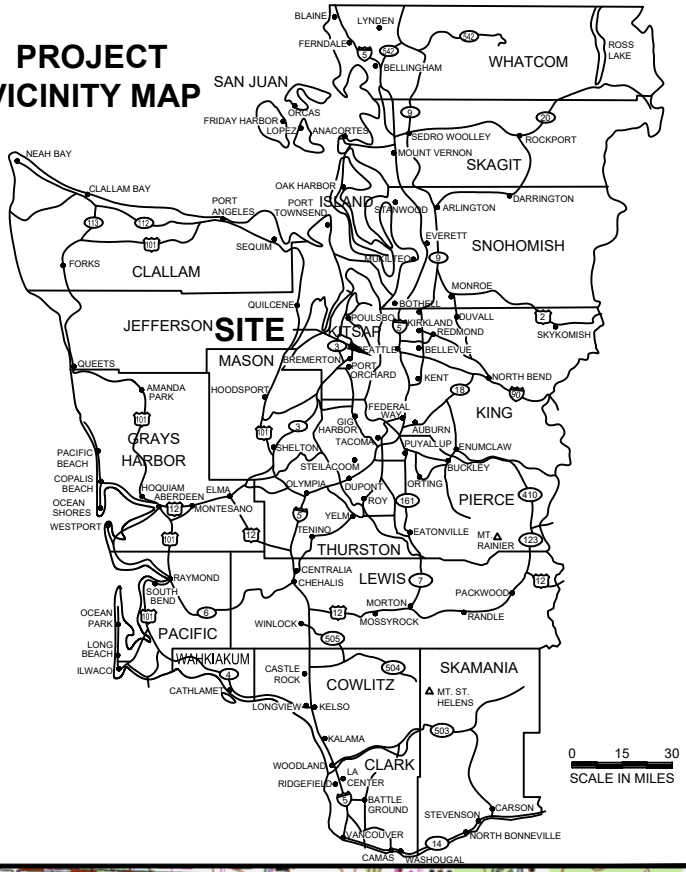


Figure 1
VICINITY MAP
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.

DATE: 7/17/19
DWN: JKJ
REQ. BY: JB
PRJ. MGR: JB
CHK:
PROJECT NO: 2680.02

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Longview, WA 98632
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Fax: (360) 414-9305
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Ecological Land Services

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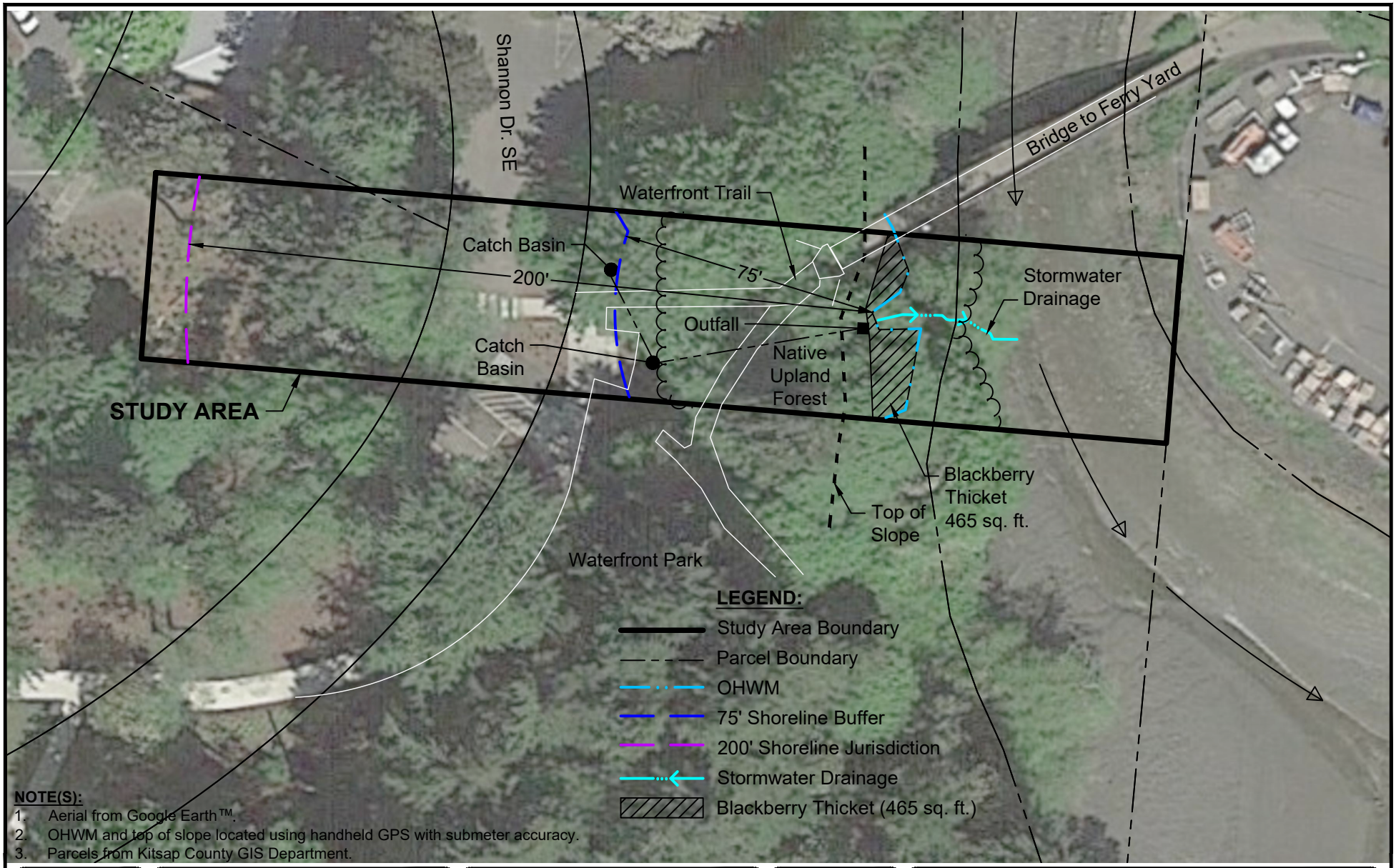

NOTE(S):
1. Aerial from Google Earth™.
2. OHWM and top of slope located using handheld GPS with submeter accuracy.
3. Parcels from Kitsap County GIS Department.

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Figure 2
PROJECT AREA MAP
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.

1:8,276

0 255 510 1,020 ft

0 75 150 300 m

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Web AppBuilder for ArcGIS
Bainbridge Island Metropolitan Parks and Recreation District, City of Bainbridge Island

Figure 3a
WATERFRONT PARK OVERVIEW MAP
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.

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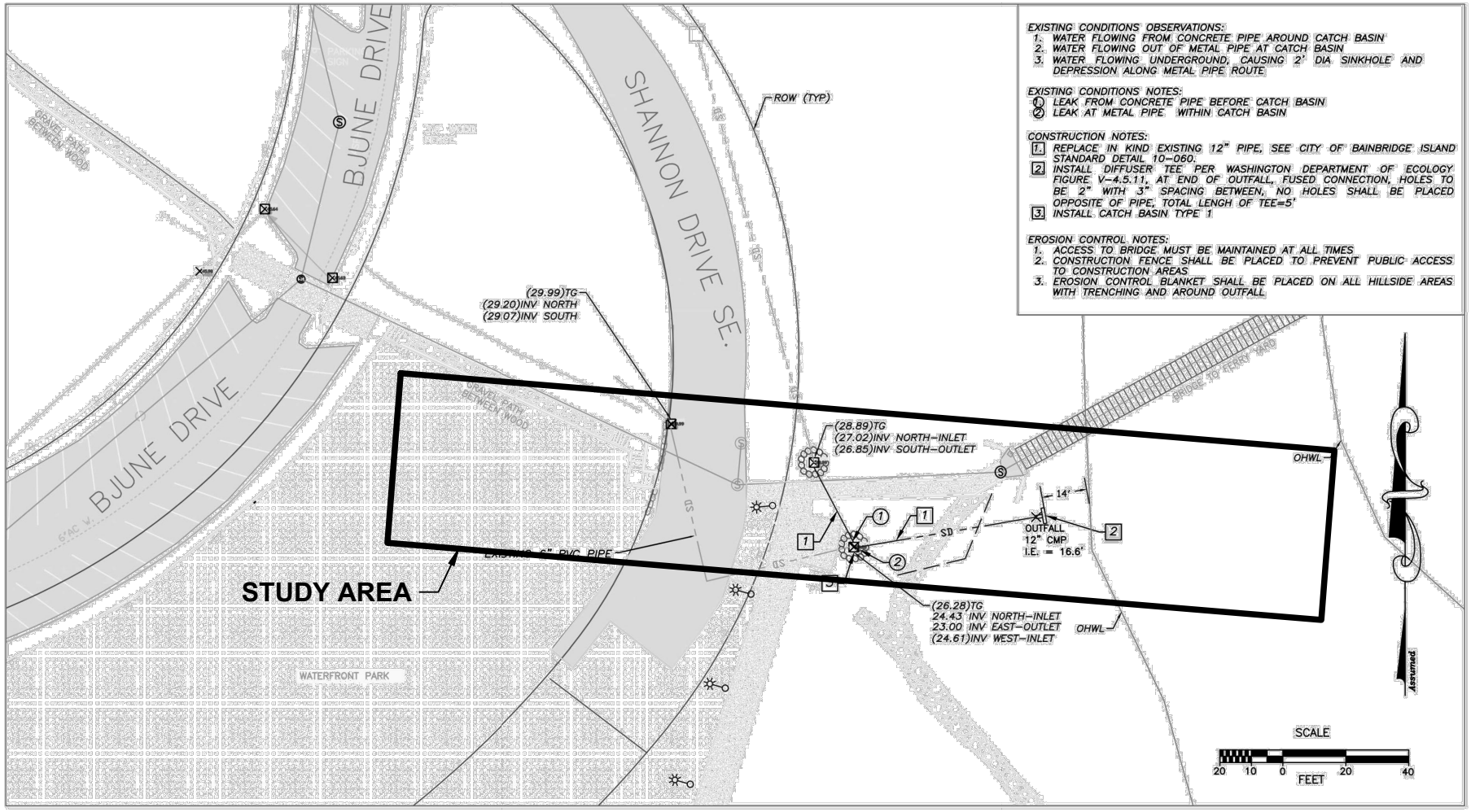

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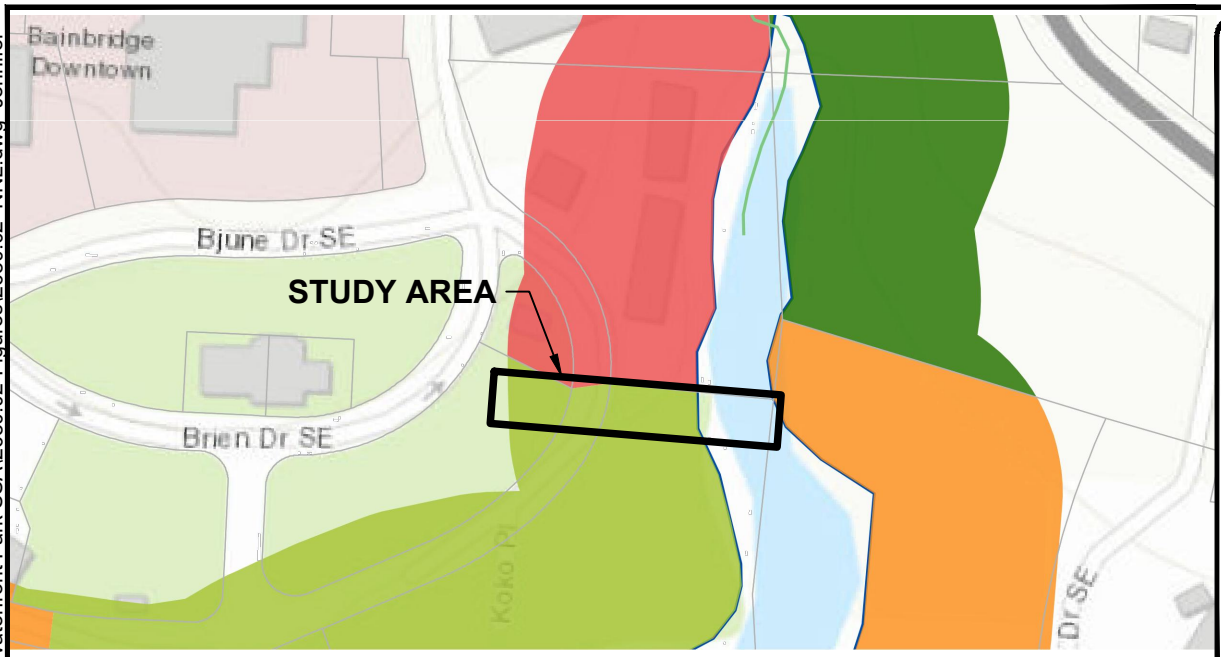
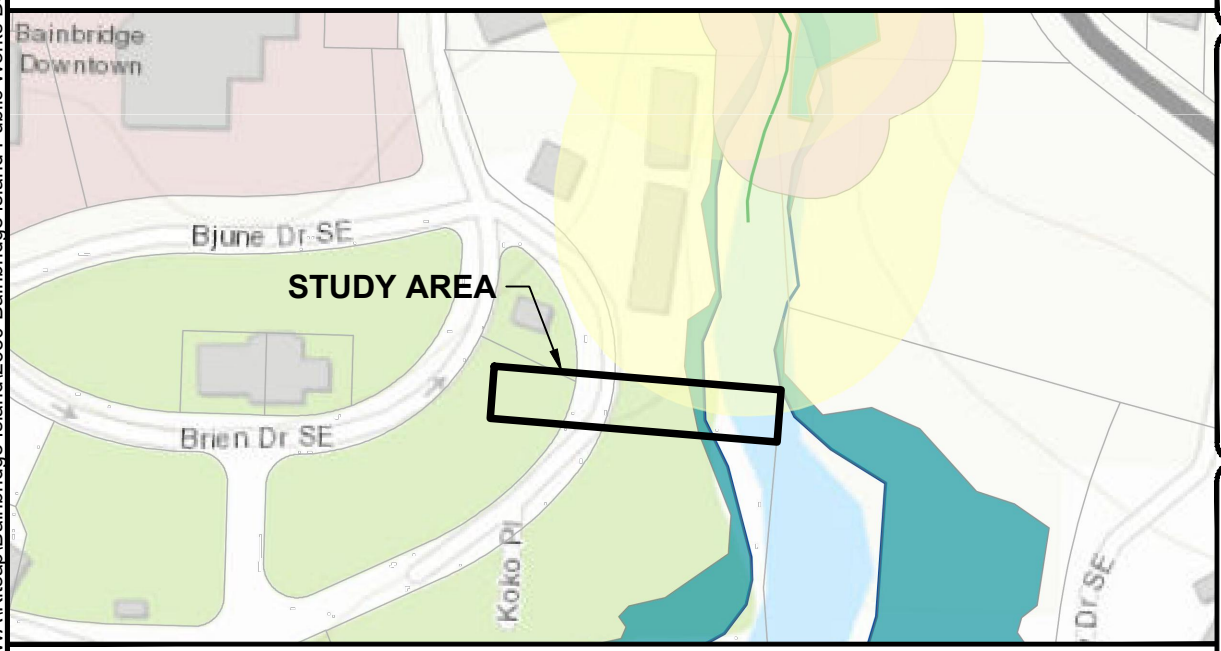
Figure 3b
STUDY AREA SITE PLAN
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.



Shoreline Designations
- Shoreline Residential Conservancy
- Shoreline Residential
- Island Conservancy

Shoreline Designations
- Natural
- Urban
- Shoreline



LEGEND:

Wetlands
- Delineated
- No Delineation
- Not a Wetland

Shoreline

Streams
- Fish
- Non-Fish
- Non-Fish Perennial
- Non-Fish Seasonal
- Stream Buffer July 2018

FEMA Flood Hazard
- A = Low Flood Risk
- AE = High Flood Risk
- VE = High Flood Risk

Kitsap County Parcels

NOTE(S):
1. Map provided on-line by the City of Bainbridge Island at web address: *https://cityofbi.maps.arcgis.com/home/index.html*

Figure 4
BAINBRIDGE ISLAND CRITICAL AREAS & SHORELINES MAP
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.

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Figure 5
WDFW PRIORITY HABITAT AND SPECIES MAP
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.

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LEGEND:

Freshwater Forested/Shrub Wetland
Estuarine and Marine Wetland

Resident Coastal Cutthroat Occurrence/Migration
Fall Chum Occurrence/Migration
Coho Occurrence/Migration
Cutthroat Occurrence
Winter Steelhead Occurrence/Migration (East Fork)

NOTE: Map provided on-line by Washington State Department of Fish & Wildlife at web address: *http://apps.wdfw.wa.gov/phsontheweb/*

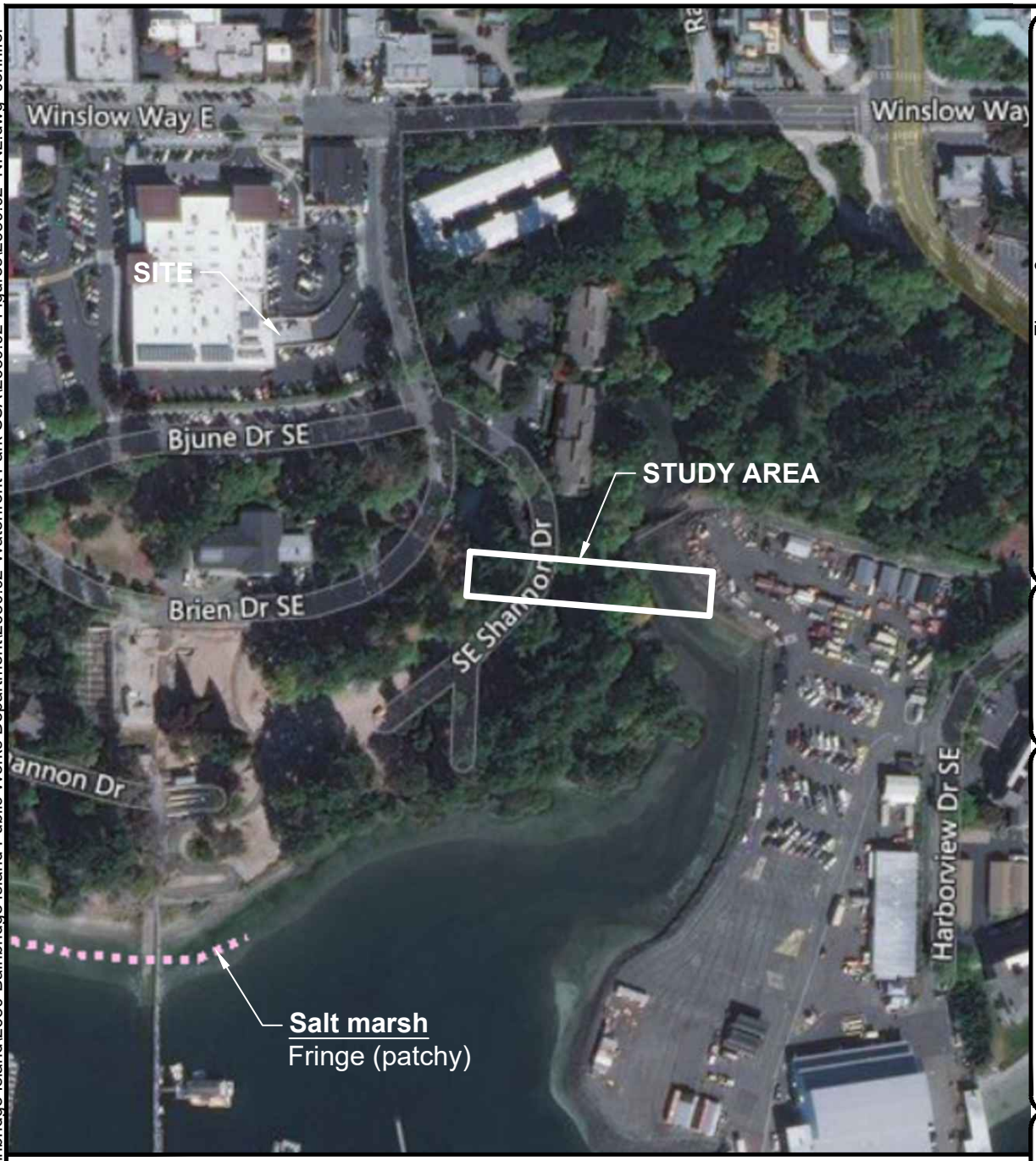

Figure 6
COASTAL ATLAS MAP
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.

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Legend:

Eelgrass
- Fringe (continuous)
- Fringe (patchy)
- Bed (continuous)
- Bed (patchy)

Dunegrass
- Fringe (continuous)
- Fringe (patchy)
- Bed (continuous)
- Bed (patchy)

Surfgrass
- Fringe (continuous)
- Fringe (patchy)

Kelp
- Fringe (continuous)
- Fringe (patchy)

Salt marsh
- Fringe (continuous)
- Fringe (patchy)
- Bed (continuous)
- Bed (patchy)

Low marsh
- Fringe (continuous)
- Fringe (patchy)
- Bed (continuous)
- Bed (patchy)

NOTE(S):
1. Map provided on-line by WA State Department of Ecology at web address: *https://fortress.wa.gov/ecy/coastalatlas/tools/map.aspx*

NOTE(S):

2016 shoreline photo provided on-line by WA State Department of Ecology at web address: *https://fortress.wa.gov/ecy/coastalatlas/tools/Map.aspx*

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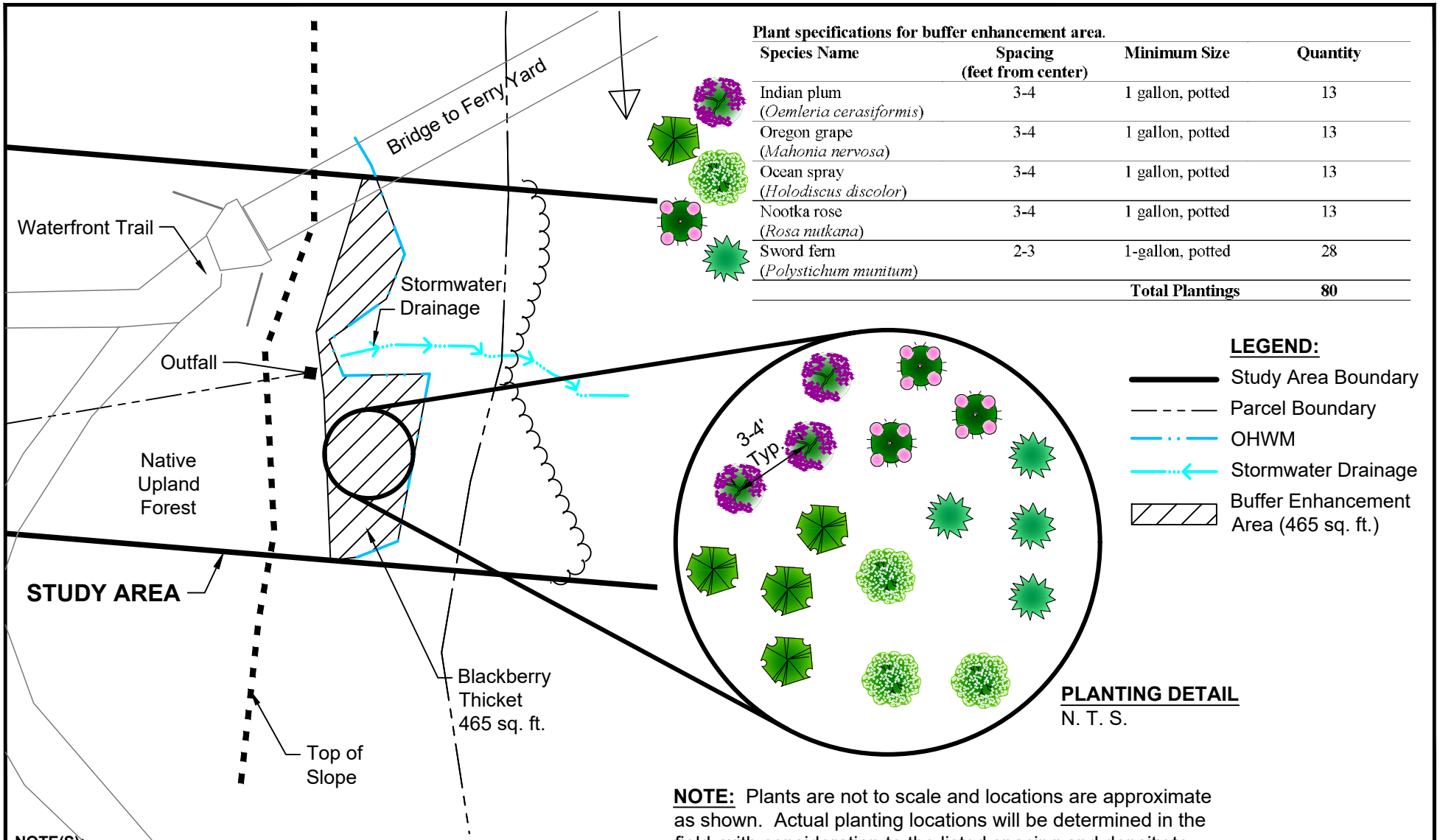
Figure 7
COASTAL SHORELINE PHOTO
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.



Plant specifications for buffer enhancement area.

Species Name	Spacing (feet from center)	Minimum Size	Quantity
Indian plum (*Oemleria cerasiformis*)	3-4	1 gallon, potted	13
Oregon grape (*Mahonia nervosa*)	3-4	1 gallon, potted	13
Ocean spray (*Holodiscus discolor*)	3-4	1 gallon, potted	13
Nootka rose (*Rosa nutkana*)	3-4	1 gallon, potted	13
Sword fern (*Polystichum munitum*)	2-3	1-gallon, potted	28
		Total Plantings	**80**

NOTE: Plants are not to scale and locations are approximate as shown. Actual planting locations will be determined in the field, with consideration to the listed spacing and density to produce the most natural appearance possible.

NOTE(S):
1. OHWM and top of slope located using handheld GPS with submeter accuracy.
2. Parcels from Kitsap County GIS Department.

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Figure 8
BUFFER ENHANCEMENT PLAN
Waterfront Park SSA
City of Bainbridge Island Public Works Department
City of Bainbridge Island, Kitsap County, Washington
Section 26, Township 25N, Range 2E, W.M.

Photo 1 was taken from just above the catch basin that will be replaced and the route of the replacement pipe. Both will be replaced as part of this project. The pipe will end at the current outfall into Eagle Harbor. A diffuser tee is proposed at the end of the current pipe, which is above the OHWM.

Photo 2 was taken from the same location as Photo 1. It looks westerly across the existing trail toward the catch basin that will remain. Pipe will be replaced under the trail to meet with the catch basin in Photo 1.

Photo 3 was taken from the same location as Photos 1 and 2. It looks south along the eastern trail of the Waterfront Park.

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Photoplate 1
Project Name: Waterfront Park SSA
Client: Bainbridge Island Public Works
Bainbridge Island, Washington

Photo 4 was taken from the bridge to the ferry yard, which lies east of Waterfront Park. It looks down into the mudflat area through which the stream flows. The drainage from the current outfall forms a channel across the mudflat and into the stream channel.

Photo 5 was also taken from the bridge and looks upstream into the narrowing estuary.

Photo 6 was taken from the ground at the shallow stormwater outfall channel as it crosses the mudflat and into the main stream channel.

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Photoplate 2
Project Name: Waterfront Park SSA
Client: Bainbridge Island Public Works
Bainbridge Island, Washington

Photo 7 was taken from the same location as Photo 6 and looks westerly toward the OHWM and the upland slope.

Photo 8 was taken from the same location as Photos 6 and 7. It looks upslope along the stormwater outfall channel that forms across the mudflat. The channel is little more than a shallow rivulet but is visible in the lower left of the photo.

Photo 9 was taken from the same location as Photos 6, 7, and 8. It looks northerly into the estuary as it narrows.

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Photoplate 3
Project Name: Waterfront Park SSA
Client: Bainbridge Island Public Works
Bainbridge Island, Washington

Photo 10 was taken from the upper edge of the mudflat that dominates this area. It shows the stormwater channel as it emerges from beneath the blackberry thickets.

Photo 11 was taken slightly downslope of the area pictured in Photo 10. There was flow within the channel during the site visit, because of the precipitation that fell during the day.

Photo 12 was taken from the same location as Photo 11. It looks easterly down the channel, which begins at the lower left corner and extends diagonally in the photo to the upper right corner.

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Photoplate 4
Project Name: Waterfront Park SSA
Client: Bainbridge Island Public Works
Bainbridge Island, Washington

Photo 13 was taken from the upper edge of the mudflat that dominates this area. It looks east toward the stream channel through the mudflat. The outfall of the storm sewer system drains through the narrow channel and into this channel.

Photo 14 was taken from the top of the upland bank and looks down the slope toward the pipe outfall. This bank was very steep, and the actual pipe outfall was not pictured. It is situated near the middle of the photo.

Photo 15 was taken from the same location as Photo 11. It looks south along the top of the upland bank. Native vegetation is present along portions of the bank with areas of blackberry in the other areas. Blackberry will be removed and replaced with native plants as part of this project.

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Photoplate 5
Project Name: Waterfront Park SSA
Client: Bainbridge Island Public Works
Bainbridge Island, Washington