



AGENDA
City of Gig Harbor Design Review Board
Meeting of March 27, 2025
Civic Center, 3510 Grandview Street
5:30 PM

This meeting may be accessed through Zoom at <https://us06web.zoom.us/j/89568206345> or by calling (253) 215- 8782 and entering Meeting ID 895 6820 6345. Please see the Public Comment & Decorum section at the end of this agenda for information on options to make public comment.

This meeting may also be viewed live in the Council Chambers at the Civic Center.

- I. **Call to order**
- II. **Roll call**
- III. **Approval of Minutes: February 27, 2025**
- IV. **Agenda Items for Formal Review.** Review will be conducted in the following order for each item.
 - a. Announcement of Application
 - b. Open Public Meeting Announcement
 - c. Appearance of Fairness Issues
 - d. Staff Report
 - f. Applicant Introduction and Presentation
 - h. Public Comment (See Assistance Memo)
 - i. Discussion and Voting
1. **GIG HARBOR HOLDING CO., LLC, 1613 S. CAPITAL OF TEXAS HWY #20, AUSTIN, TX 78746-6558: Rosedale Preliminary Plat, (PL-PPLAT-22-0002, (PL-DR-22-0025) and (PL-SEPA-22-0008).** The subject site consists of two parcels totaling 38.63 acres. The applicant proposes plating the 38.63-acre site into approximately 31 single-family lots with access from Rosedale Street. Most of the lots and interior roadways will be located on the northern portion of the existing parcels. The site is located at 5200 Rosedale St., | Parcel no. 0221063035/0221063034.

The applicant is requesting review of alternatives to the Gig Harbor Municipal Code, (GHMC) chapter 17.99.180, Zone Transition Buffering Standards and GHMC chapter 17.99.240, Natural Site Conditions.

V. Upcoming Meetings

VI. Adjourn

Public comment is taken during the formal review portion of the agenda, specific to the application being considered. As a recommending body for project permits, the DRB acts in a quasi-judicial manner and, therefore, does not take general public comment.



DRAFT MINUTES

City of Gig Harbor Design Review Board Meeting of February 27th, 2025 Civic Center, 3510 Grandview Street 5:30 PM

This meeting may be accessed through Zoom at <https://us06web.zoom.us/j/89568206345> or by calling (253) 215- 8782 and entering Meeting ID 895 6820 6345. Please see the Public Comment & Decorum section at the end of this agenda for information on options to make public comment.

This meeting may also be viewed live in the Council Chambers at the Civic Center.

- I. **Call to order: 5:30 pm**
- II. **Roll call:** Jon Ashlock, Darrin Filand, Kristine Isberg and Brianne Blackburn
Staff Present: Jeremy Hammar and Cindy Andrews
- III. **Approval of Minutes: January 23rd, 2025**
MOTION: Move to approve the minutes of January 23rd, 2025, as written. Ashlock/Blackbrn all in favor. Motion carried
- IV. **Agenda Items for Formal Review.** Review will be conducted in the following order for each item.
 - a. Announcement of Application
 - b. Open Public Meeting Announcement
 - c. Appearance of Fairness Issues
 - d. Staff Report
 - f. Applicant Introduction and Presentation
 - h. Public Comment (See Assistance Memo)
 - i. Discussion and Voting
1. **GIG HARBOR FIRE & MEDIC ONE, STATION 51, 6711 KIMBALL DR., GIG HARBOR: Gig Harbor & Medic One, Station #51, (PL-DR-24-0017).**
The site is located at 6711 Kimball Dr., | Parcel Number - 022183129.

CONTINUATION OF THE JANUARY 23RD, 2025 MEETING.

The proposal includes the demolition of the existing Fire Station 51 and the construction of a new 22,000 square-foot, two-story facility in approximately the same location as the previous facility. The new facility will house up to 10 career fire and medical emergency response staff and one battalion fire chief. Site improvements include the replacement of the existing fuel island with a new fuel island, new stormwater quality retention systems, parking improvements for staff and public use, and a new public space between the new building and the Kimball Drive entrance.

The applicant is proposing two design exceptions pursuant to GHMC 17.98.060, requesting relief from the specific requirements of GHMC 17.99.300 and 17.99.330, and proposing design alternatives for the specific requirements of GHMC 17.99.180 and 17.99.380.B.2.

Chair Filand opened the meeting introducing the applicant for their presentation:

Applicant Presentation: Howard Struve of Rice Fergus Miller. Mr. Struve outlined made to the proposal requested by the DRB members.

DRB members discussion: All DRB members agree that simplifying the design would represent a better design.

DRB members recommendation: Members recommended that the burnt cedar siding material could be applied to the south side elevation, utilizing one or two materials at most. Western elevation, upper balcony and gable projections, a good utilization of the metal railing and glass, simplifying the gables or trusses. The fire house numbers should be more proportionate and incorporate them more into the building. Give more consideration to the rooflines at the right end of the large bay doors, and also, include more detail to the trim.

MOTION: Move to approve the project with the design recommendations on the west and south elevation as noted. With those recommendations included in the design it will make the design equivalent or superior to the Design Manual and would meet the 13 components of the Design Manual. Additionally, the simplification of the roof line and removing the hip on the back elevation of the roofline as well as removing the clearstory monitors, although it lengthens the ridgeline, is a superior design solution as it simplifies the overall building composition. Filand/Ashlock – all in favor. Motion carried.

V. **Upcoming Meetings** March 27, 2025. Rosedale Preliminary Plat.

Brianne will not be available.

VI. **Adjourn** at 6:27 pm

MOTION: Move to adjourn at 6:27 pm. Filand/Ashlock – all in favor. Motion carried.

Public comment is taken during the formal review portion of the agenda, specific to the application being considered. As a recommending body for project permits, the DRB acts in a quasi-judicial manner and, therefore, does not take general public comment.



**COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION
STAFF REPORT**

TO: Design Review Board
FROM: Planning Staff – Jeremy Hammar, Senior Planner
DATE: March 13, 2025

RE: Rosedale Preliminary Plat (PL-DR-22-0025)
Public Meeting Date: March 27, 2025

I. GENERAL INFORMATION

- A. Applicant:** Harborstone Consulting, LLC
c/o Kathryn Jerkovich
PO Box 296
Gig Harbor, WA 98332
- B. Owner:** Gig Holding Company, LLC
1613 S. Capital of Texas Highway
Suite 201
Austin, TX 78746

II. PROJECT DESCRIPTION

The project proposal is to plat two undeveloped parcels totaling 38.63 acres into 31 single-family lots ranging from approximately 7,500 square feet to 10,000 square feet. The Wetland and Fish and Wildlife Habitat Assessment Report and Conceptual Mitigation Plan prepared by Soundview Consultants dated December 22, 2021 (Exhibit C) identified four onsite wetlands, and one offsite wetland. The wetlands, associated buffers, floodplain, as well as the project site's topography, severely restrict the developable area.

The applicant is requesting alternatives to design review standards to accommodate the proposed plat and subsequent single-family development:

1. Approval of a cut and fill quantity of up to 60,000 cubic yards; and

2. A reduction of the standard transition buffer along the eastern boundary of the site to from 40 feet to 25 feet.

III. SITE DESCRIPTION

- A. **Location:** Sec 06, Tw 21, R 02 Qtr 33
Assessor's Parcel Numbers: 0221063035 & 0221063034
- B. **Site Area/Acreage:** 38.63 acres
- C. **Existing Site Characteristics:**
 1. **Topography:** The project site is generally level, with a moderate slope to the northwest of no more than 15%. There is a ravine to the west of the site within which is an offsite wetland. The central and southern portions of the site have slopes up to 40% with a maximum vertical distance of 8 feet.
 2. **Vegetation:** Moderately dense understory of typical Pacific northwest ferns, shrubs, and invasive blackberry.
 3. **Wetlands and Critical Areas:** 4 onsite wetlands and 1 offsite wetland identified in a December 2021 report and depicted on the applicant's plan set (Exhibit B).
- D. **Zoning:**
 1. **Subject parcel:** R-1 – Single-Family Residential
 2. **Adjacent zoning and current use:**
 - a. **North:** ED – Employment District
 - b. **East:** PI – Public – Institutional District
 - c. **South:** R-1 – Single-Family Residential
 - d. **West:** Unincorporated Gig Harbor, single family dwellings
- E. **Road Access/Utilities:** The site is bound to the South by Rosedale Street, and there is access to 54th Avenue at the Northwest corner of the site. The proposed access road will link these points of right-of-way through a winding internal road.

IV. PERTINENT DESIGN REVIEW POLICIES

- A. **Comprehensive Plan:** The site is designated as Residential Low (RL). The Community Design Element is directly applicable (pgs. 4-1 through 4-19) while other elements are indirectly applicable.
- B. **Gig Harbor Municipal Code:** The subject parcel is zoned Single-Family Residential (R-1). Chapter 17.16 GHMC contains development and performance standards for this district.

- C. Design Manual:** The Design Review process is outlined in chapter 17.98 GHMC. Section 17.98.055 outlines the process for review of projects by the Design Review Board (DRB). This section states that after a public meeting, the DRB will make a recommendation to the decision maker for approval or denial of the application.

The DRB shall review an application which does not strictly conform to the specific requirements of the Design Manual under the following criteria: a) whether the alternative design represents an equivalent or superior design solution to what would otherwise be achieved by rigidly applying specific requirements; and b) whether the alternative design meets the intent of the general requirements of the Design Manual.

To best determine the general requirement's intent, the DRB shall consider the specific requirements as appropriate examples of compliance. General requirements include all bold and underlined text in the Design Manual. Specific standards include the more detailed text, which immediately follows the general requirement.

V. BACKGROUND INFORMATION

The subject site was part of the area incorporated as City of Gig Harbor in 2004 and is currently undeveloped. The first applications available with the City are from 2019 when the critical area assessment was completed and reviewed by the City. The applicant applied for a design review on March 25, 2022.

The applicant submitted a narrative to identify inconsistencies in the applicant's proposed design and the City of Gig Harbor's Design Manual. In their application, the applicant requested to propose design alternatives to the Design Review Board (DRB). This request is discussed in Section VI of this staff report and in the applicant's narrative, included with this staff report as Exhibit A.

VI. REQUESTED DRB REVIEW AND ANALYSIS

The applicant has requested that the following items be reviewed by the DRB. See Exhibits A and B of this staff report for the project agent's narrative and plans, discussing the proposed design. Planning staff has reviewed the materials submitted as Exhibits A and B to this staff report and makes the following analysis, findings, and recommendations on the specified Design Manual requirement.

Article II. Neighborhood Context

17.99.200 – Alternative zone transition standards.

As an alternative to the zone transition standards in GHMC 17.99.180 and 17.99.190, the DRB may recommend approval of development in a zone

transition area if it finds that the proposed development integrates, and is sensitive to, the pattern of development in the abutting zone. To determine if a proposed development is sensitive to the pattern of development in the abutting zone, the DRB shall consider the following elements of design.

- A. Separation of structures. Is there sufficient separation between structures on the site and structures in the opposing zone to mitigate the impacts of taller or larger structures?*
- B. Architectural modulation of building. Is there sufficient modulation in the design of the building to reflect the scale and massing of adjacent buildings in the opposing zone?*
- C. Rooflines. Do the rooflines of the proposed building(s) reflect the type, style, and form of the rooflines on the adjacent buildings in the opposing zone?*
- D. Location of service areas. Is there sufficient separation of service areas (e.g., loading docks, delivery areas, dumpster enclosures) to minimize impacts to development in the opposing zone?*
- E. Window and balcony orientation. Are windows and balconies in a manner that preserves the privacy of residents in the opposing zone?*
- F. Lighting. Is the location and intensity of outdoor lighting low enough to avoid negative impacts on abutting residential development?*
- G. Vegetative buffering. Does existing on-site vegetation provide screening opportunities or otherwise ensure the privacy of residents in opposing zones?*
- H. Existing nonconformities. Are there existing patterns of development in the opposing zone that do not conform with current development standards and should therefore not be perpetuated in new development?*
- I. Entryway orientation. Is the building entrance in a location that minimizes impacts to the privacy of abutting residential development?*
- J. Location of parking and driveway entrances. Are parking lots and driveways in locations that minimize traffic noise on, or invasion of privacy of, abutting residential development?*
- K. Open space and common areas. Does the project utilize common areas to provide separation between site development and development in the opposing zone?*
- L. Existing natural characteristics of the site. Does the development utilize existing site conditions such as topography or clusters of trees to provide buffering or to enhance view opportunities?*
- M. Siding materials and details. Do the siding materials and other architectural details reflect the type of materials and details that typify development on abutting parcels in the opposing zone?*

The alternative zone transition standards allow the DRB to consider these elements, but do not authorize the DRB to waive design standards otherwise required by this chapter or to vary from the minimum setback standards, maximum height standards, or maximum building size standards applicable to the underlying zoning district in which the subject site is located.

Applicant's Request: The applicant is requesting the DRB review and recommend approval of its proposal to reduce the 40-foot dense vegetative buffer required by 17.99.180 GHMC to 25 feet to allow for rear yards for all lots, and the construction of a stormwater facility.

Staff Analysis: The subject site is zoned R-1, Single-Family Residential, and the adjacent parcels to the east are both zoned PI, Public Institutional. Per 17.99.170 GHMC, these zones constitute opposing zones, and per 17.99.180 GHMC opposing zones require a minimum 40-foot densely vegetated buffer to separate and shield different use types. The applicant's narrative (Exhibit A) requests an alternative transition buffer of 25 feet to allow for the development of single-family lots to the minimum lot area and setbacks per 17.16.060 GHMC, and the siting of a stormwater facility. As this is an application for a preliminary plat, many of the design elements cited are not applicable, and this is reflected in the applicant's narrative.

The project site is significantly restricted by onsite wetlands, site topography, and tree protection zones. The applicant is not requesting an alteration of wetland buffers, and rather requesting an alternative zone transition standard. The adjacent parcels are developed with the City's new public works facility, and a public school campus owned operated by the Peninsula School District. These properties have developed parking lots, ball fields, and a small stormwater facility within 15 feet of the shared boundary, and the closest structure is more than 200 feet from the shared boundary. The applicant's narrative states that proposed buildings on the public school campus are located more than 500 feet from the proposed single-family lots.

Based on the proposed distance between single-family homes and adjacent structures, the retention of existing trees, and the retention of the standard wetland buffers, it is staff's opinion that the DRB should grant the applicant's request for an alternative zone transition buffer.

Article III. SITE DESIGN

17.99.240.C – Maintain natural topography.

Buildings and parking lots shall be designed to fit natural slopes rather than re-grading the slope to fit a particular building or parking lot design. Cuts and fills on

a site shall be balanced, and finished grades shall not include any retaining wall that exceed six feet. Instead, designs shall complement and take advantage of natural topography. Sloped lots may require multileveled buildings, terraced parking lots and/or lower-level parking garages.

Applicant's Request: The applicant is requesting the DRB review and recommend approval of its proposal to utilize a cut and fill quantity of up to 60,000 cubic yards. The applicant requests this deviation because much of the site is encumbered by wetland and wetland buffers, a floodplain is located within the wetland and wetland buffer, and fill is required to meet stormwater management mitigation methods.

Staff Analysis: The City considers cuts and fills on a project to be balanced when cut and fill on site are within 10% of one another. The applicant submitted plans dated March 7, 2025 (Exhibit B), and the Sheet C5, Overall Grading Plan, indicates an estimated 7,025 cubic yards of cut and 53,500 cubic yards of fill – with a net 46,475 cubic yards of fill. The applicant is requesting up to 60,000 cubic yards of fill as the necessary amount may change at the time final grading plans are submitted as part the civil review.

VII. PUBLIC NOTICE

Legal notice of the meeting was published in The News Tribune and posted on the subject site on March 13, 2025. In addition, notice was mailed to all property owners within 300 feet of the subject site on March 13, 2025. As of the date of this report, staff has received no public comments in response to the public meeting notice.

Project Planner: Jeremy Hammar, Senior Planner

Date: March 13, 2025

The following documents pertinent to your review are enclosed:

- A. Applicant's Design Review Narrative, prepared by Contour Engineering., dated August 24, 2023
- B. Applicant's Plan Set, prepared by Contour Engineering., revised March 7, 2025
- C. Wetland Report and Conceptual Mitigation Plan, prepared by Soundview Consultants., dated December 2021

RECEIVED

By C. ANDREWS at 3:33 pm, Aug 30, 2023



CIVIL ENGINEERING ♦ SURVEYING ♦ LAND PLANNING

P.O. Box 949, Gig Harbor, WA 98335
4706 97th St. NW, Suite 100
Gig Harbor, WA 98332

Phone: 253-857-5454
Fax: 253-509-0044
Email: info@contourpllc.com

August 24, 2023

Request for Design Review Board (DRB), Review of Alternative Design Elements for the Proposed Rosedale Plat

Dear Design Review Board Members,

The Rosedale Plat project is requesting review and approval recommendations of several alternative designs solutions from the requirements specified within Chapter 17.99, Design Manual, of the Gig Harbor Municipal Code (GHMC).

The written narrative and statements below discuss each specific requirement of Chapter 17.99 of the GHMC the project proposes an alternative design solution.

Respect and Maintain Natural Topography

GHMC 17.99.240.C.

Maintain natural topography. Buildings and parking lots shall be designed to fit natural slopes rather than re-grading the slope to fit a particular building or parking lot design. Cuts and fills on a site shall be balanced and finished grades shall not include any retaining walls that exceed six feet. Instead, designs shall complement and take advantage of natural topography. Sloped lots may require multileveled buildings, terraced parking lots and/or lower-level parking garages.

Response: On previous projects City Staff has indicated that a balanced site is one where the cut and fill quantities are within 10%. Currently, the preliminary cut and fill quantities are significantly higher. This is mainly due to the reasons below:

- Much of the site is encumbered by wetland and wetland buffers
- A floodplain located within the wetland and wetland buffer
- Fill is required to meet stormwater management mitigation methods

Since the site is largely covered with wetlands and wetland buffers, which limits the amount of available space for development on subject site. The site is not able to take material from unused portions of the site to help balance out the heavier fill portions as limited work is allowed within the wetland and wetland buffers.

The floodplain located on site requires that all improvements be located above this elevation. This requires that most of the site be built up. There are very little available to be cut down in order to stay above the floodplain elevation and prevent possible future flooding to buildings and infrastructure.

In order to meet the wetland criteria required as part of the stormwater manual, specifically Minimum Requirement #8 – Wetland Protection, the wetland hydroperiod must be maintained to the greatest amount feasible. To maintain this hydroperiod, the site is proposing to use dispersion for the majority of the site. These dispersion systems must be located topographically higher so that stormwater is able to slope down to existing grade and sheet flow to the ultimate discharge point on site (the wetlands). This requires the improvements to be built up at a higher elevation, requiring the large amount of fill and not allowing for earthwork to balance out.

Also, onsite mitigation measures require adequate separation to groundwater tables at the site. The shallow groundwater that is noted throughout the site is due to the proximity of the wetlands noted above and the flood plain that inundates the site during the winter months. Gig Harbor stormwater standards determine the required elevations of stormwater facilities.

While the site has tried to maintain the natural topography, site conditions do not allow for this. Natural topography and competing requirements of the city leads to situations where meeting the 10% maximum cut or fill requirement is not feasible. In this case, the site must be raised in order to stay above floodplain elevations while having very few high areas and mounds to borrow material from. This leads to a site which requires a significant amount of fill material to be brought in order for the site to be built upon.

The current plans show a total of 46,475 CY of fill required. This is based on a preliminary design, and it is assumed grading changes may be required through the permit process and as construction drawings evolve. During this time additional material may be required in order to make these changes, some of which cannot be determined until the time of construction documents. In order to capture these changes and prevent the need to go back to DRB for any grade changes above the current plan of 46,475 CY of fill, we are requesting additional fill quantities up 60,000 CY. Plan exhibits have been included on sheets C11 and C12 to give a visual representation of where the material will be placed on how the site will be raised up. While it is not anticipated that the site will require this much material to be brought in, this 60,000 CY of fill is a conservative number that allows for flexibility during the full civil engineering development phase without the need to go through multiple DRB meetings for the same issue.

Zone Transition Standards

The Rosedale Plat project proposed to reduce the transition buffer to 25 feet as allowed in the alternative zone transition standards in section 17.99.200 of the Gig Harbor Municipal Code (GHMC). The reduction is requested along the eastern portion of the property for the individual lots and the stormwater facility. This reduction allows for additional rear yards for all lots, and construction of the stormwater facility.

The Rosedale Plat project shares an eastern boundary with a 59.7-acre parcel owned by the Peninsula School District (SD) and a 5.3-acre parcel owned by the City of Gig Harbor (COGH). Both parcels are zoned PI -Public Institutional. The SD parcel is developed with the Gig Harbor High School, two elementary schools (Pioneer and Discovery), Henderson Bay Academy, and multiple ball fields, parks, and playgrounds. Currently no reduction to the transition buffer is requested next to the COGH property as this is an area set aside for open space. It should be noted that recent development on the COGH property did not provide a zone transition buffer to the Rosedale Plat property.

We are requesting a reduction to the transition buffer requirements given the existing trees are required to be maintained. Large existing trees on the edge or close to the edge of the buffer creates a space where no work will be allowed due to the tree protection zone. In some cases, the tree protection zone is up to 100 feet from the property line, reducing the amount of useable area below the minimum allowed for a single-family residence to be built. Due to the significant area of wetlands and associated wetland buffers on the subject site, these proposed lots cannot be relocated further from the property line in order to accommodate the large trees.

The reduction of the transition buffer to 25' will allow the project to maintain a dense vegetative buffer between the residential use and the high school, with the high school providing an additional dense vegetative screen along the undeveloped western portions of their property. All healthy significant trees, as determined by a qualified arborist, within the 25' buffer will be maintained and preserved.

Section 17.99.170 states that zone transition standards do not apply to development that is permitted under the development standards of the opposing zone. It is important to note that while not permitted outright schools are permitted conditional in the R-1 zone and parks are permitted outright.

17.99.200 *Alternative zone transition standards. As an alternative to the zone transition standards in GHMC 17.99.180 and 17.99.190, the design review board may recommend approval of development in a zone transition area if it finds that the proposed development integrates, and is sensitive to, the pattern of development in the abutting zone.*

A. Separation of structures.

Is there sufficient separation between structures on the site and structures in the opposing zone to mitigate the impacts of taller or larger structures?

Response: Proposed buildings on the SD property are located over 500-lineal feet from the proposed single-family lots. The proposed single-family lots will comply with building setbacks of the R-1 zoning district.

B. Architectural modulation of building. *Is there sufficient modulation in the design of the building to reflect the scale and massing of adjacent buildings in the opposing zone?*

No buildings are proposed as part of this application. Future single family homes will comply with the GHMC and Design Standards in effect at the time of application.

C. Rooflines. Do the rooflines of the proposed building(s) reflect the type, style and form of the rooflines on the adjacent buildings in the opposing zone?

Response: No buildings are proposed as part of this application. Future single-family homes will comply with the GHMC and Design Standards in effect at the time of application.

D. Location of service areas. Is there sufficient separation of service areas (e.g., loading docks, delivery areas, dumpster enclosures) to minimize impacts to development in the opposing zone?

Response: The application is for a detached single family home development. No services areas are proposed as part of this application.

E. Window and balcony orientation. Are windows and balconies located in a manner that preserves the privacy of residents in the opposing zone?

Response: No buildings are proposed as part of this application. Future single-family homes will comply with the GHMC and Design Standards in effect at the time of application.

F. Lighting. Is the location and intensity of outdoor lighting low enough to avoid negative impacts on abutting residential development?

Response: No outdoor lighting is proposed with this application. All outdoor lighting proposed in future applications will comply with the GHMC and Design Standards in effect at the time of application.

G. Vegetative buffering. Does existing on-site vegetation provide screening opportunities or otherwise ensure the privacy of residents in opposing zones?

Response: There is existing, significant vegetation on the subject site. Vegetation shown and proposed in the 25-foot landscape buffer will provide ample screening to the opposing zone directly east of the subject site.

H. Existing nonconformities. Are there existing patterns of development in the opposing zone that do not conform with current development standards and should therefore not be perpetuated in new development?

Response: Non known.

I. Entryway orientation. Is the building entrance in a location that minimizes impacts to the privacy of abutting residential development?

Response: No buildings are proposed as part of this application. Future buildings will comply with the GHMC and Design Standards in effect at the time of application.

J. Location of parking and driveway entrances. Are parking lots and driveways in locations that minimize traffic noise on, or invasion of privacy of, abutting residential development?

Response: No parking lots are proposed as part of this application. Driveways will be internal to the subject site and will minimize traffic noise and invasion of privacy to abutting residential developments.

K. Open space and common areas. Does the project utilize common areas to provide separation between site development and development in the opposing zone?

Response: A portion of the subject site along the eastern property line is open space, this includes critical area buffers and passive open space.

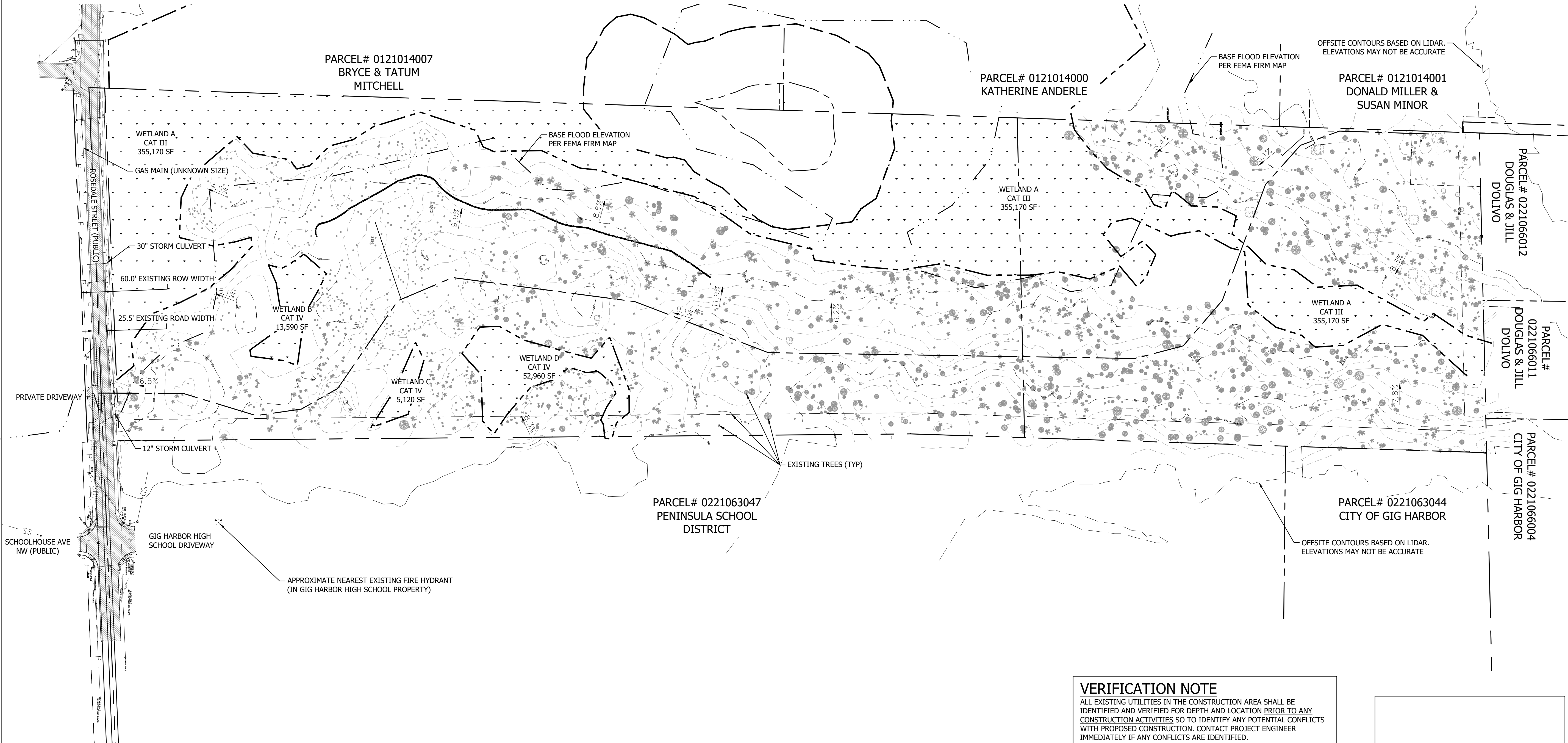
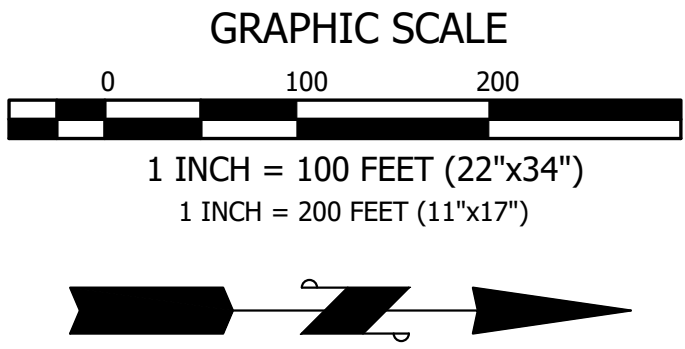
L. Existing natural characteristics of the site. Does the development utilize existing site conditions such as topography or clusters of trees to provide buffering or to enhance view opportunities?

Response: Wetlands and associated buffers encumber a large portion of the subject site which will allow for the preservation of large clusters of trees. Preservation of clusters of trees and vegetation will provide buffering between the subject site and adjacent developments.

M. Siding materials and details. Do the siding materials and other architectural details reflect the type of materials and details that typify development on abutting parcels in the opposing zone?

Response: No buildings are proposed as part of this application. Future buildings will comply with the GHMC and Design Standards in effect at the time of application.

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



VERIFICATION NOTE

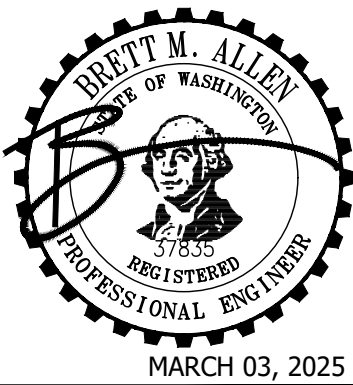
ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES, CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG**

BY	DATE	DESCRIPTION	REVISION

CONTOUR
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-508-0044 ~ info@contourplc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



SHEET TITLE: EXISTING CONDITIONS

ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

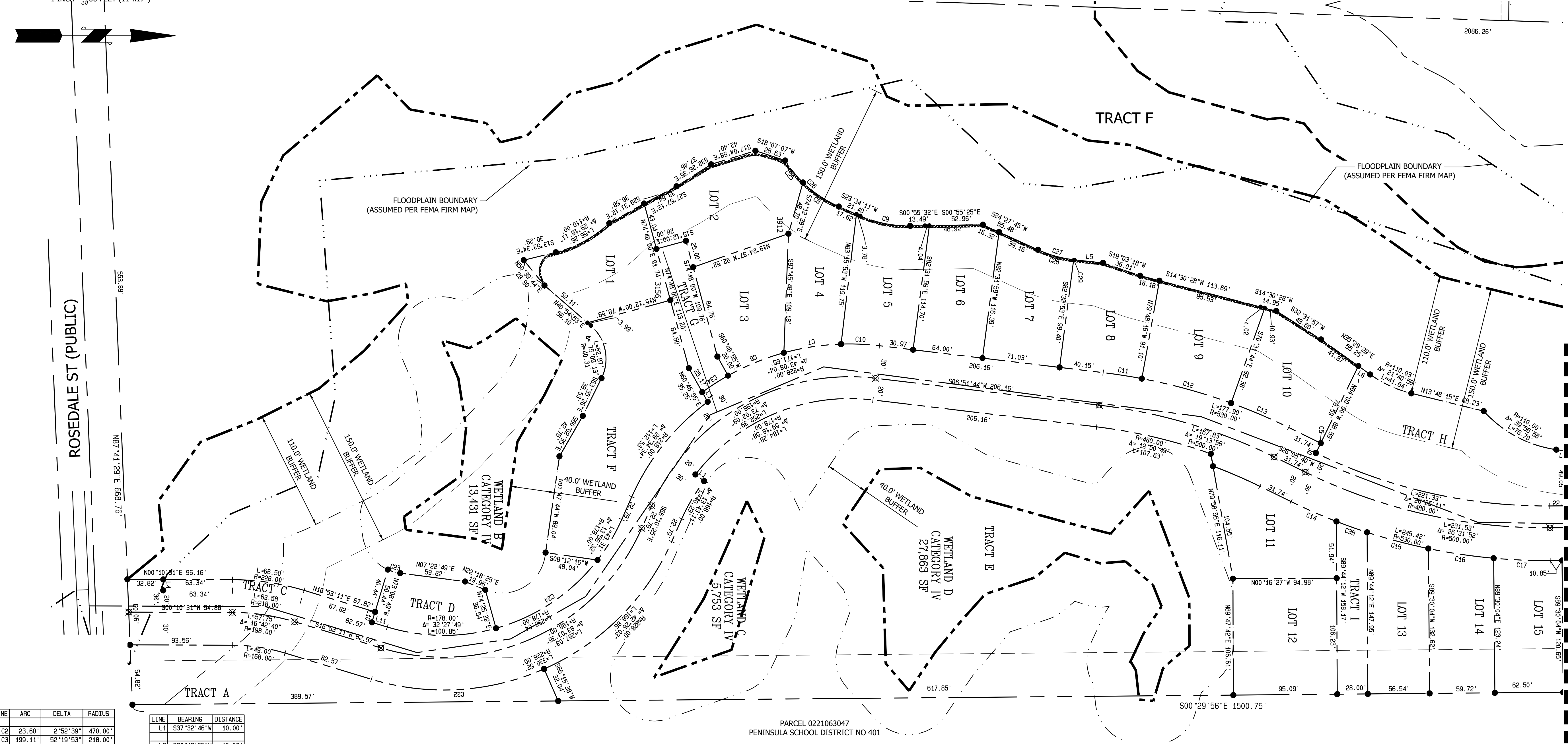
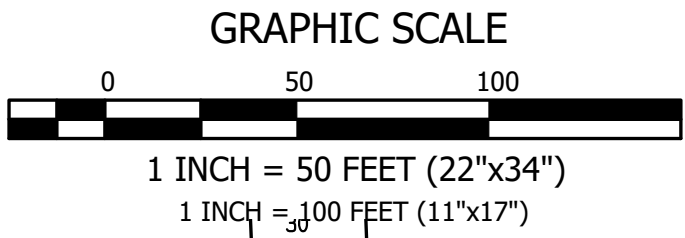
CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET	REV.
C2	2
2 OF 19	

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



LINE	ARC	DELTA	RADIUS
C2	23.60'	2°52'39"	470.00'
C3	199.11'	52°19'53"	218.00'
C4	26.12'	2°52'39"	520.00'
C5	0.91'	0°06'41"	470.00'
C6	55.26'	13°53'12"	228.00'
C7	53.11'	13°20'44"	228.00'
C8	39.69'	20°40'17"	110.00'
C9	47.02'	24°29'37"	110.00'
C10	35.21'	8°50'53"	228.00'
C11	35.83'	3°52'26"	530.00'
C12	84.80'	9°10'03"	530.00'
C13	57.27'	6°11'27"	530.00'
C14	45.41'	4°54'32"	530.00'
C15	58.03'	6°16'24"	530.00'
C16	60.48'	6°32'18"	530.00'
C17	51.73'	5°35'33"	530.00'
C18	36.67'	9°12'55"	228.00'
C19	47.73'	18°13'50"	150.00'
C20	39.07'	13°19'30"	168.00'
C21	35.19'	13°26'29"	150.00'
C22	161.66'	40°37'33"	228.00'
C23	11.86'	16°59'09"	40.00'
C24	113.87'	36°39'15"	178.00'
C25	25.96'	13°31'19"	110.00'
C26	65.65'	34°11'37"	110.00'
C27	35.27'	18°22'10"	110.00'
C28	34.02'	17°43'19"	110.00'
C29	1.24'	0°38'52"	110.00'
C30	25.11'	2°52'39"	500.00'
C31	43.91'	11°32'26"	218.00'
C32	45.92'	11°32'26"	228.00'
C33	20.98'	5°16'17"	228.00'
C34	28.07'	7°03'15"	228.00'
C35	29.77'	3°13'06"	530.00'

LINE	BEARING	DISTANCE
L1	S37°32'46"W	10.00'
L3	S60°46'55"W	10.08'
L4	N89°49'29"W	10.00'
L5	S05°05'35"W	25.80'
L6	N35°29'29"E	13.38'
L7	S02°37'31"W	14.16'
L8	S39°01'13"W	21.76'
L9	N89°01'20"W	33.19'
L10	S73°06'49"E	10.00'
L11	S16°53'11"W	14.75'
L12	S31°58'41"W	10.00'
L13	S89°47'27"W	10.00'
L14	N08°00'55"E	16.73'

LOT AREAS AND WIDTH

Lot #	SQ. FT.	MAX IMPERVIOUS COVERAGE	LOT WIDTH REQUIRED (FT)	LOT WIDTH PROVIDED (FT)	Lot #	SQ. FT.	LOT WIDTH REQUIRED (FT)	LOT WIDTH PROVIDED (FT)	MAX IMPERVIOUS COVERAGE
1	7990	3196	55.9	91.74	16	7599	53.2	63	25.2
2	9779	3911.6	68.5	78.71	17	7594	53.2	63	25.2
3	7704	3081.6	53.9	66.41	18	7590	53.1	63	25.2
4	7587	3034.8	53.1	54.52	19	7707	53.9	67.4	26.96
5	7573	3029.2	53.0	53.64	20	7625	53.4	61.03	24.412
6	7566	3026.4	53.0	64	21	7571	53.0	63	25.2
7	7530	3012	52.7	71.03	22	7532	52.7	63	25.2
8	7537	3014.8	52.8	76.94	23	7551	52.9	63.5	25.4
9	8328	3331.2	58.3	88.03	24	7511	52.6	63.5	25.4
10	8215	3286	57.5	84.59	25	7506	52.5	63.61	25.444
11	7836	3134.4	54.9	60.27	26	7510	52.6	98	39.2
12	10114	4045.6	70.8	106.23	27	7541	52.8	70.79	28.316
13	7861	3144.4	55.0	57.96	28	7545	52.8	61	24.4
14	7605	3042	53.2	60.42	29	7778	54.4	76	30.4
15	7586	3034.4	53.1	62.58	30	10514	73.6	79.42	31.768

WETLAND AND TRACTS NOTE:

WETLAND A: 397,140 SF (9.12 ACRES)
WETLAND B: 27,987 SF (0.64 ACRES)
WETLAND C: 5,753 SF (0.13 ACRES)
WETLAND D: 13,443 SF (0.31 ACRES)

TRACT A OPEN SPACE LANDSCAPING: 12,839 SF (0.29 ACRES)
TRACT B WETLAND/SENSITIVE AREA: 788,742 SF (18.101 ACRES)
TRACT C STORM DRAINAGE: 1,962 SF (0.045 ACRES)
TRACT D SEWER LIFT STATION: 5,049 SF (0.116 ACRES)
TRACT E WETLAND/SENSITIVE AREA: 134,788 SF (3.094 ACRES)
TRACT F STORM DRAINAGE: 17,789 SF (0.408 ACRES)
TRACT G PRIVATE ACCESS & UTILITIES: 3,746 SF (0.086 ACRES)
TRACT H STORM DRAINAGE: 16,991 SF (0.390 ACRES)
TRACT I PRIVATE ACCESS & UTILITIES: 4,282 SF (0.098 ACRES)
TRACT J STORM DRAINAGE: 10,407 SF (0.239 ACRES)
TRACT K STORM DRAINAGE: 37,294 SF (0.856 ACRES)
TRACT L WETLAND/SENSITIVE AREA: 191,184 SF (4.389 ACRES)
TRACT M STORM DRAINAGE: 10,284 SF (0.236 ACRES)
TRACT N PRIVATE ACCESS & UTILITIES: 2,688 SF (0.062 ACRES)

VERIFICATION NOTE

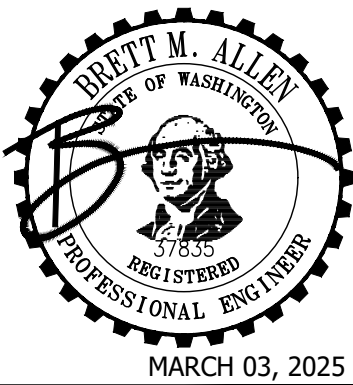
ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG

BY	DATE	DESCRIPTION	REVISION

CONTINENTAL
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-505-0044 ~ info@continentalc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



MARCH 03, 2025

SHEET TITLE: HORIZONTAL CONTROL

ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

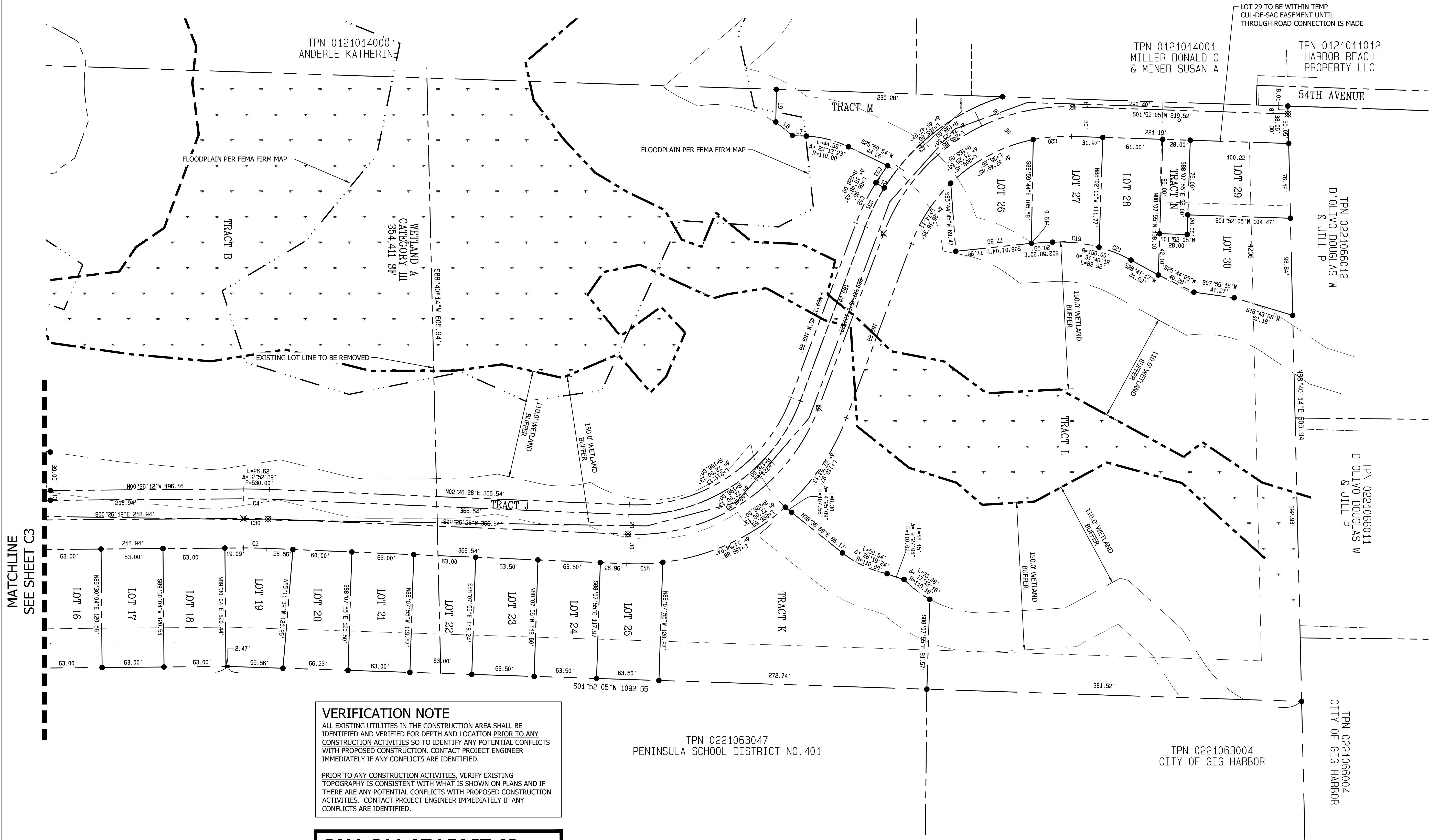
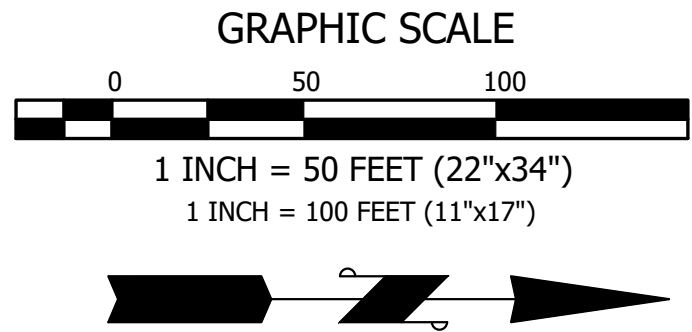
CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET	REV.
C3	
3 OF 19	

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



VERIFICATION NOTE

ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES, CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG**

BY	DATE	DESCRIPTION	REVISION

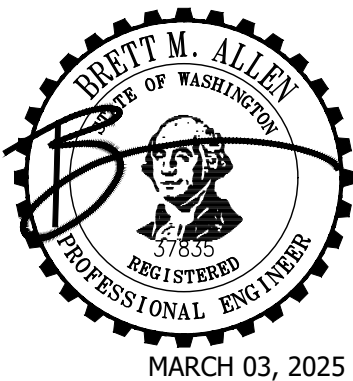
CONTION

ENGINEERING • LLC

CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS

Phone: 253-857-5454 ~ Fax: 253-505-0044 ~ info@contionllc.com

Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



SHEET TITLE: HORIZONTAL CONTROL

ROSEDALE PRELIMINARY PLAT

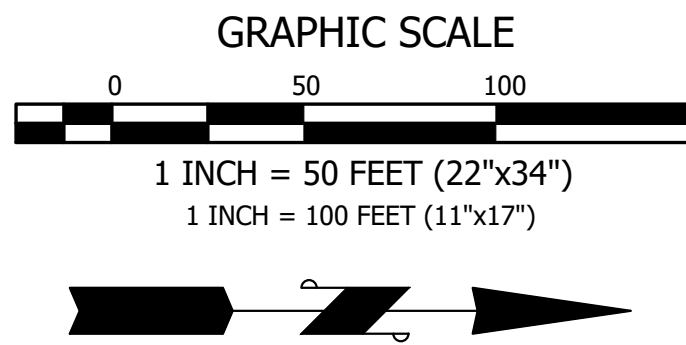
CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET	REV.
C4	2
4 OF 19	



ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON
LOT AREAS AND MAX IMPERVIOUS AREA

Lot #	Max Impervious		Lot #	Max Impervious	
	SQ. FT.	Coverage		SQ. FT.	Coverage
1	7990	3196	16	7599	3039.6
2	9779	3911.6	17	7594	3037.6
3	7704	3081.6	18	7590	3036
4	7587	3034.8	19	7707	3082.8
5	7573	3029.2	20	7625	3060
6	7566	3026.4	21	7571	3028.4
7	7530	3012	22	7532	3012.8
8	7537	3014.8	23	7551	3020.4
9	8328	3331.2	24	7511	3004.4
10	8215	3286	25	7506	3002.4
11	7836	3134.4	26	7510	3004
12	10114	4045.6	27	7541	3016.4
13	7861	3144.4	28	7545	3018
14	7605	3042	29	7778	3111.2
15	7586	3034.4	30	10514	4205.6

GRADING ACRONYMS

BC = BOTTOM OF CURB
TC = TOP OF CURB
EG = EXISTING GRADE
ME = MATCH EXISTING GRADE
BW = BOTTOM OF WALL
TW = TOP OF WALL
LP = LOW POINT
FF = FINISHED FLOOR
FL = FLOW LINE
HP = HIGH POINT
FG = FINISH GRADE

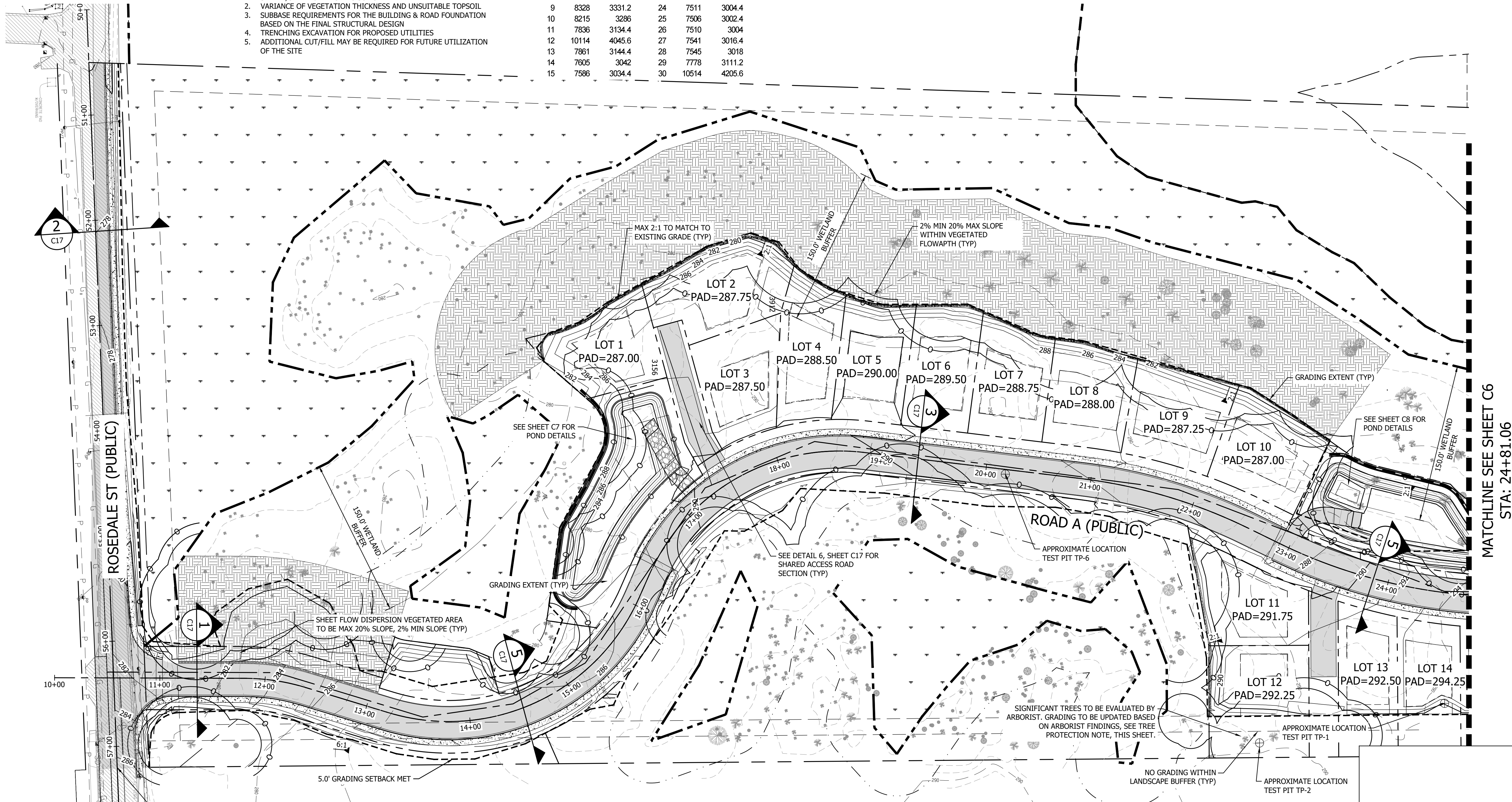
GRADING NOTES

- SPOT ELEVATIONS SHOWN ARE FOR FINISHED GRADE ELEVATIONS UNLESS OTHERWISE SPECIFIED.
- CONTOUR LINES ARE FOR VISUAL REFERENCE. GRADING SHALL BE PER SPOT ELEVATIONS.
- TOP OF CURB (TC) WILL BE 0.5' ABOVE BOTTOM OF CURB (BC) UNLESS OTHERWISE SPECIFIED.

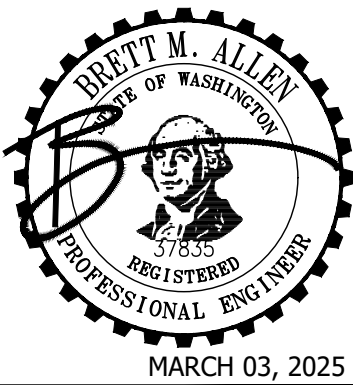
TREE PROTECTION NOTE

ALL SIGNIFICANT TREES LOCATED WITHIN 25' LANDSCAPE BUFFER AND 15' TRANSITION BUFFER (40' TOTAL) SHALL BE MAINTAINED UNLESS FOUND TO BE UNSAFE OR DEAD/DYING BY A QUALIFIED ARBORIST. NO GRADING SHALL BE ALLOWED WITHIN THE DRIP ZONE. DRIP ZONE MAY BE REDUCED BY A QUALIFIED ARBORIST.

BASED ON THE ARBORIST'S FINDINGS, GRADING MAY NEED TO BE REVISED IN ORDER TO MAINTAIN THE TREE PROTECTION ZONES. ADDITIONAL TREES MAY NEED TO BE REMOVED AND WILL BE COORDINATED THROUGH DESIGN REVIEW BOARD (DRB) ON THE LOCATION AND AMOUNT OF TREES TO BE REMOVED.



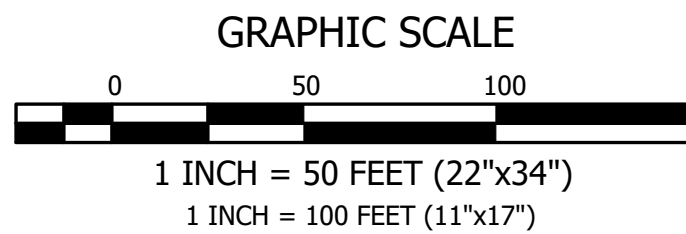
CONTYON
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-506-0044 ~ info@contyonic.com
Physical Address: P.O. Box 949, Gig Harbor, WA 98335
Mailing Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



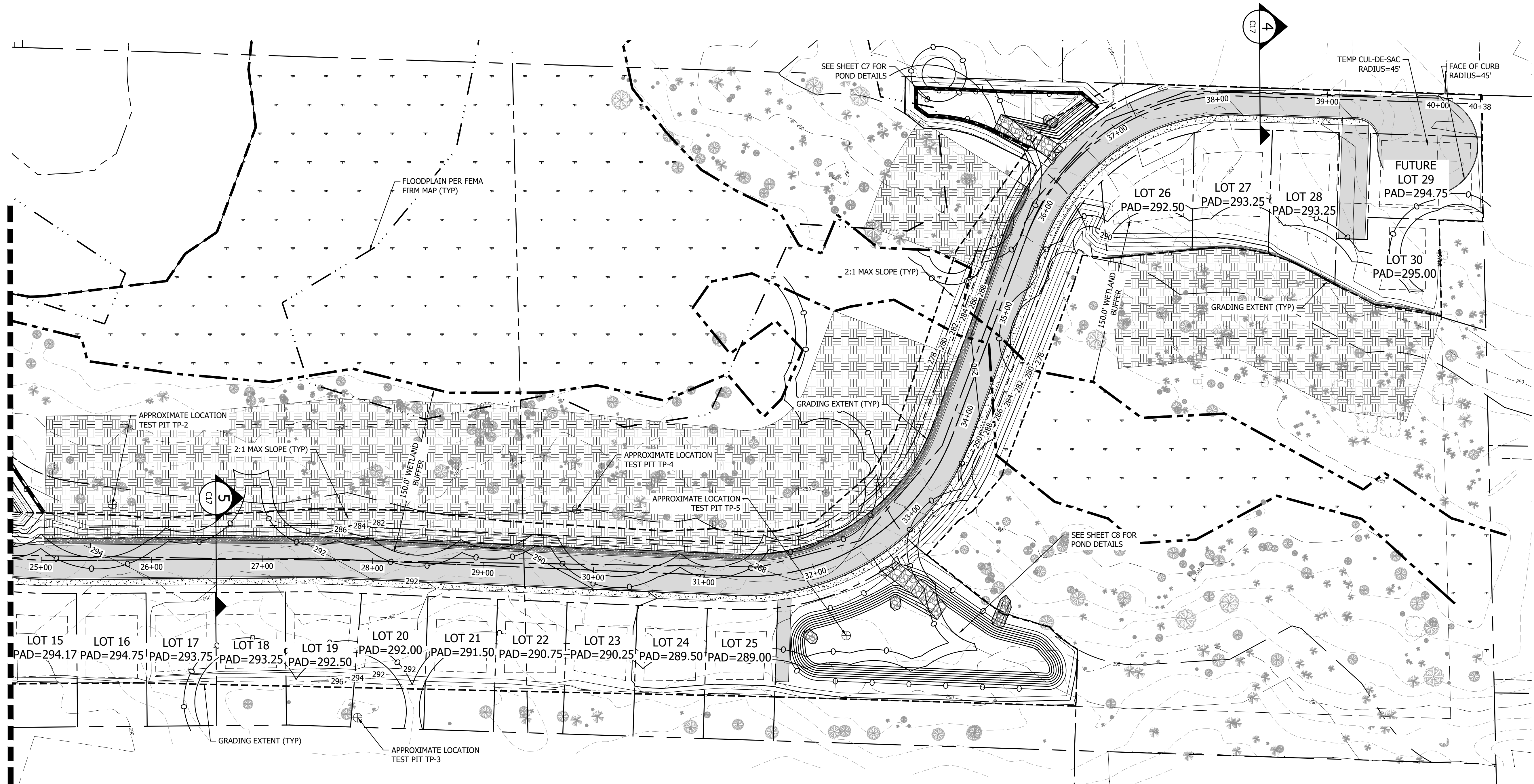
SHEET TITLE: OVERALL GRADING PLAN
ROSEDALE PRELIMINARY PLAT
CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056
CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03
PROJECT: 19-194
DWG NAME: 19-194-PRELIM
SHEET C5
5 OF 19
REV. 2

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



MATCHLINE SEE SHEET C5
STA: 24+81.06



BY	DATE	DESCRIPTION	REVISION

CONTINENTAL

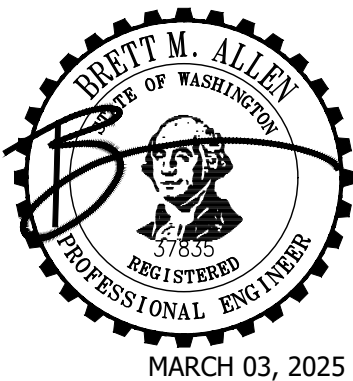
ENGINEERING • LLC

CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS

Phone: 253-857-5454 ~ Fax: 253-508-0044 ~ info@continentalc.com

Mailing Address: P.O. Box 949, Gig Harbor, WA 98335

Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



SHEET TITLE: OVERALL GRADING PLAN

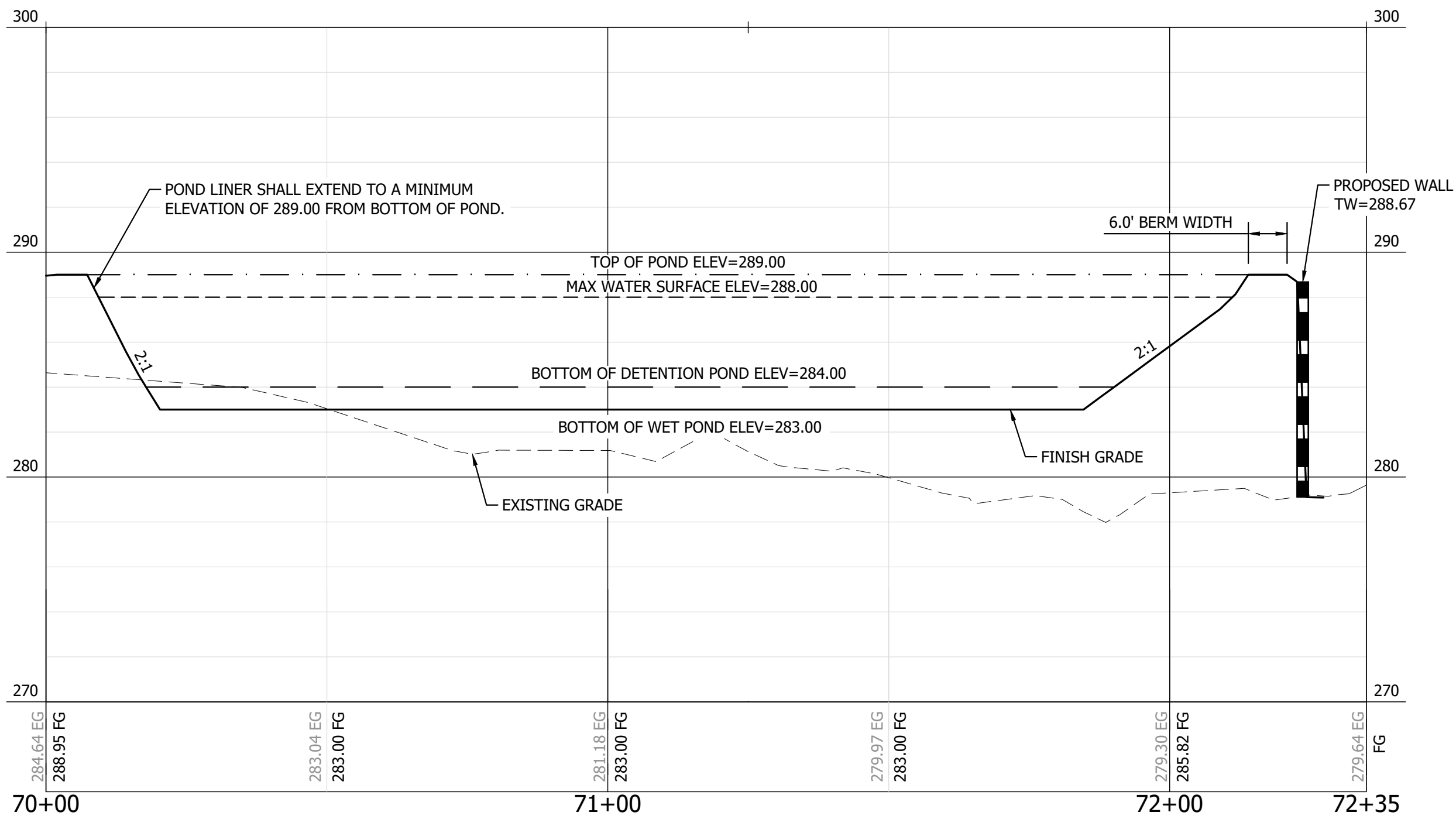
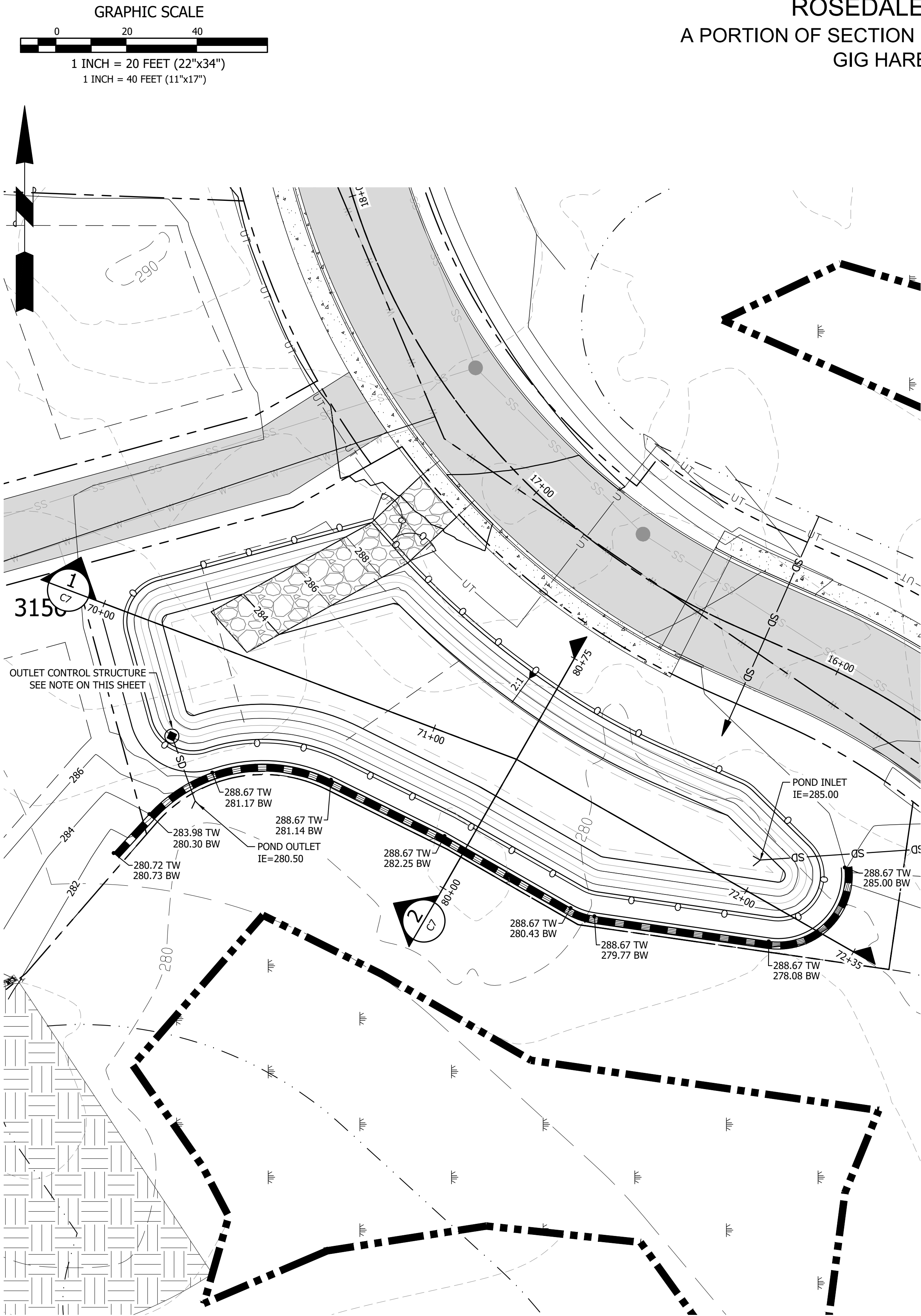
ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

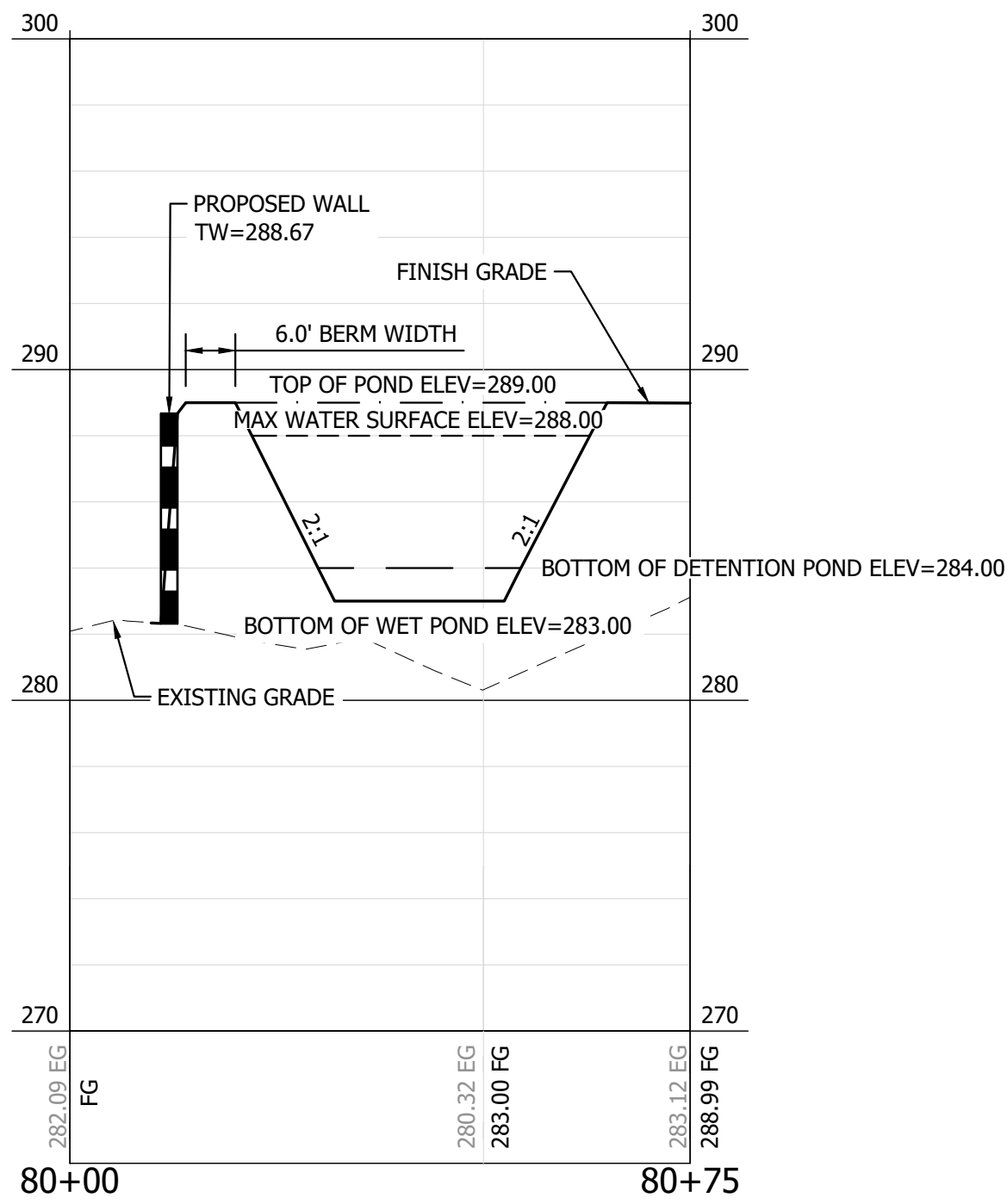
CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE	ENGINEER: B. ALLEN
DRAWN: K. ROSE	S06 T21 N R02E WM
DATE: 2023-01-23	REVISED: 2025-03-03
PROJECT: 19-194	DWG NAME: 19-194-PRELIM
SHEET	REV.
C6	2
6 OF 19	

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



1 POND WEST-EAST SECTION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



2 POND NORTH SOUTH SECTION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

OUTLET CONTROL STRUCTURE

RISER HEIGHT	= 4 FEET
RISER DIAMETER	= 12 INCHES
RISER TYPE	= 3 ORIFICE
ORIFICE 1 HEIGHT	= 0.00'
ORIFICE 1 DIAMETER	= 0.45"
ORIFICE 2 HEIGHT	= 2.35'
ORIFICE 2 DIAMETER	= 0.62"
ORIFICE 3 HEIGHT	= 3.15'
ORIFICE 3 DIAMETER	= 1.00"

POND NOTE

EACH POND IS REQUIRED TO HAVE A CREST GAGE.

COMPACTED TILL LINERS NOTE

- LINER THICKNESS SHALL BE 18 INCHES AFTER COMPACTION.
- SOIL SHALL BE COMPACTED TO 95 PERCENT MINIMUM DRY DENSITY, MODIFIED PROCTOR METHOD (ASTM D-1557).
- A DIFFERENT DEPTH AND DENSITY SUFFICIENT TO RETARD THE INFILTRATION RATE TO 2.4×10^{-3}
- SOIL SHOULD BE PLACED IN 6-INCH LIFTS.
- SOILS MAY BE USED THAT MEET THE GRADATION IN TABLE 4.3 BELOW:

Table 4.3. Compacted Till Liners.	
Sieve Size	Percent Passing
6-inch	100
4-inch	90
#4	70-100
#200	20



MARCH 03, 2025

SHEET TITLE: POND 1 DETAILS

ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

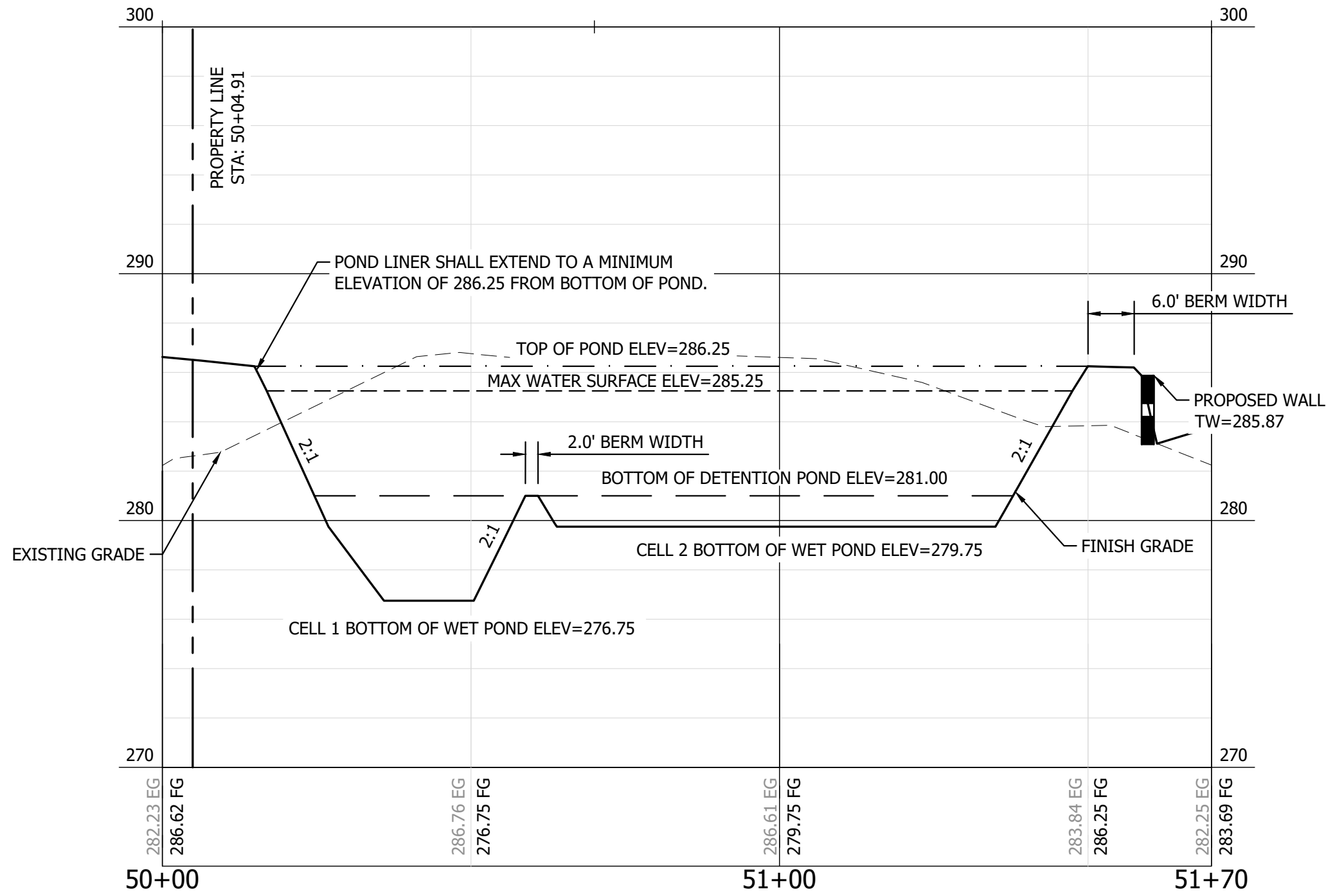
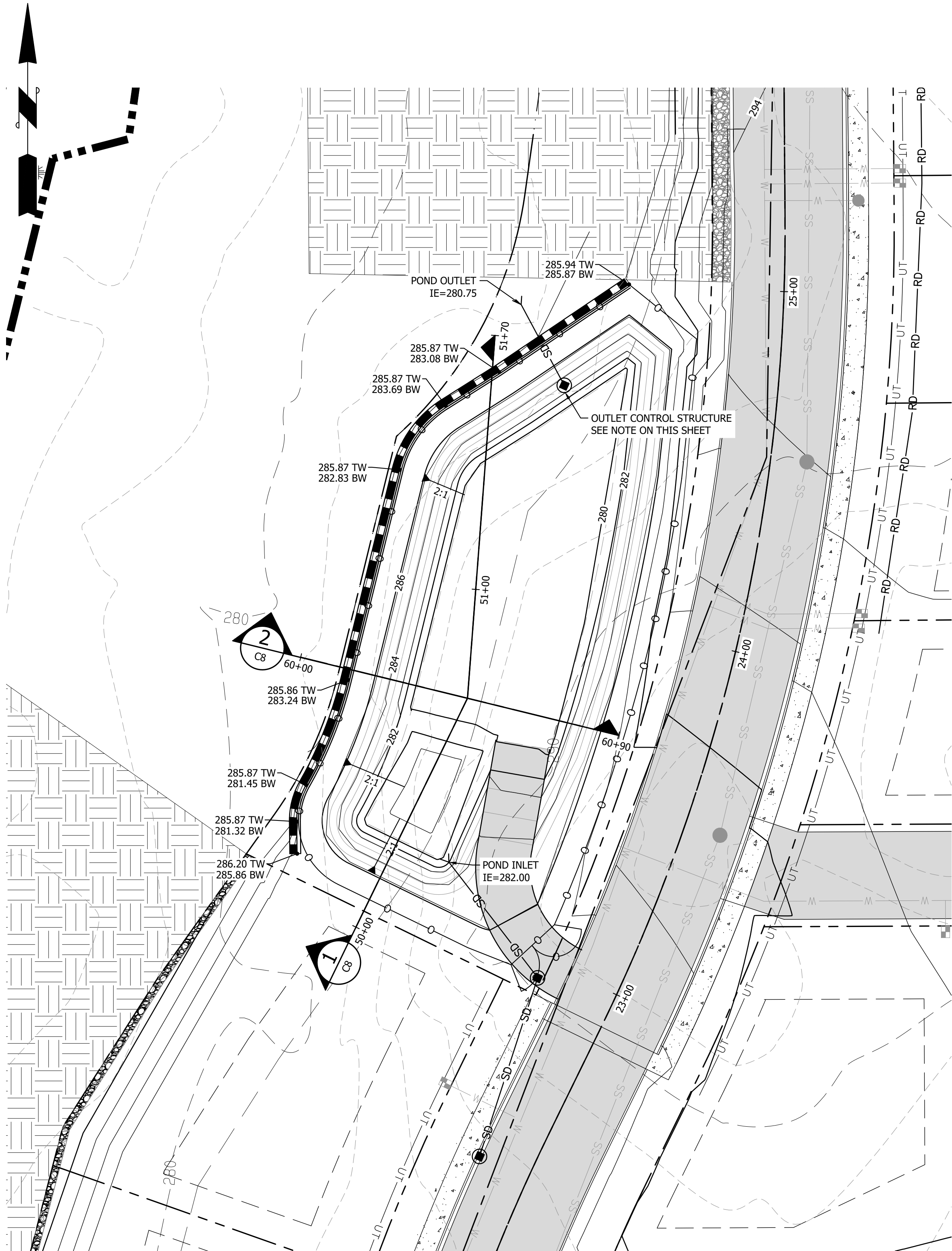
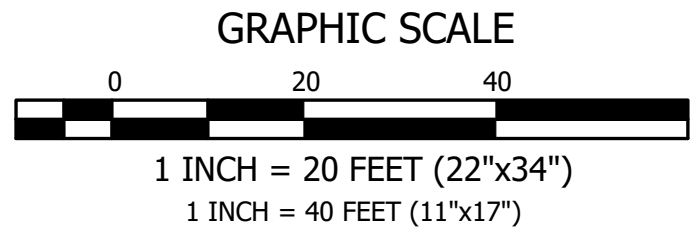
SHEET REV.

C7

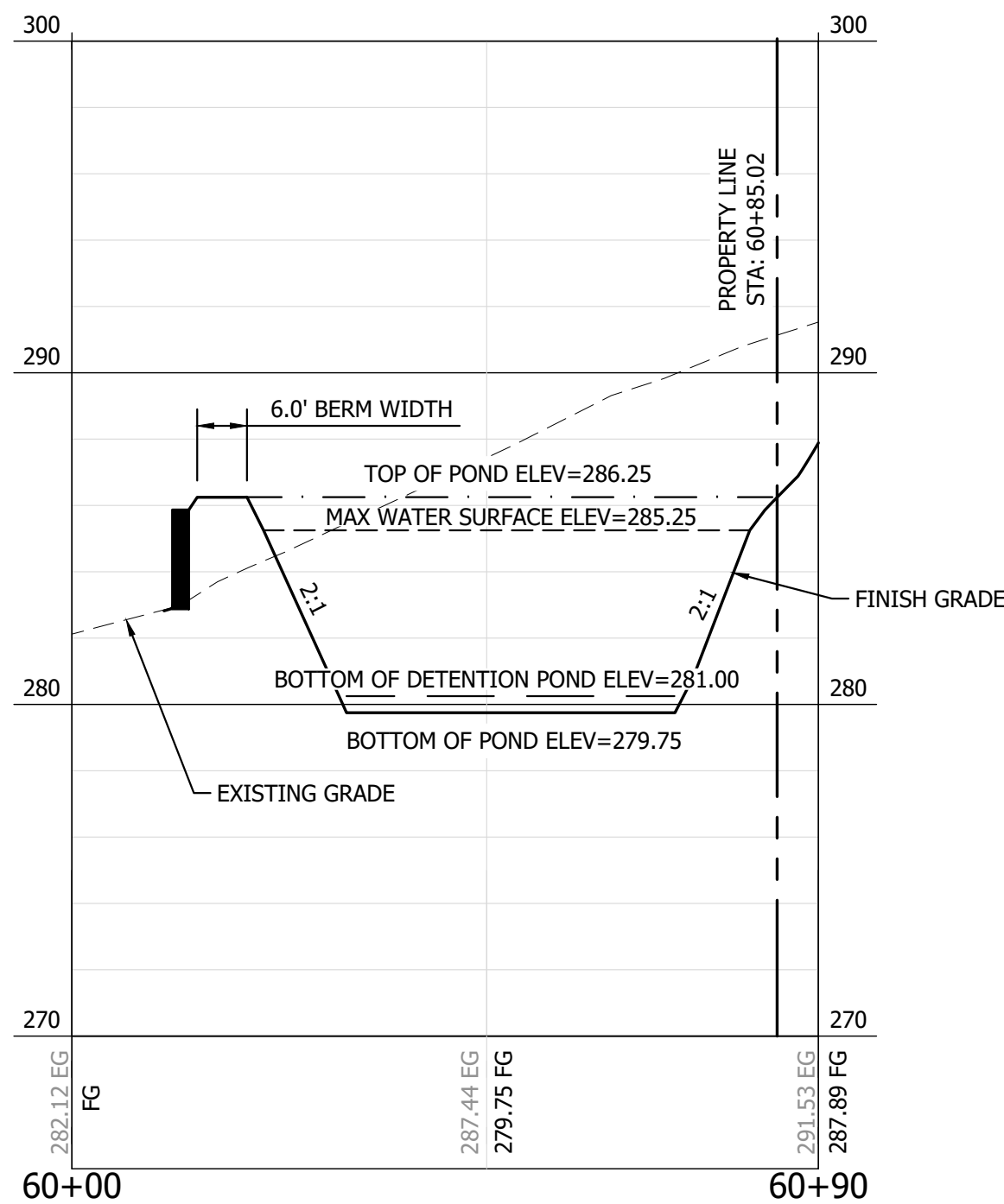
7 OF 19

2

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



1 POND NORTH SOUTH SECTION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



2 POND WEST-EAST SECTION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

OUTLET CONTROL STRUCTURE

RISER HEIGHT	= 3.75 FEET
RISER DIAMETER	= 12 INCHES
RISER TYPE	= 3 ORIFICE
ORIFICE 1 HEIGHT	= 0.00'
ORIFICE 1 DIAMETER	= 0.61"
ORIFICE 2 HEIGHT	= 2.10'
ORIFICE 2 DIAMETER	= 0.57"
ORIFICE 3 HEIGHT	= 2.80'
ORIFICE 3 DIAMETER	= 1.15"

POND NOTE

EACH POND IS REQUIRED TO HAVE CREST GAGE.

COMPACTED TILL LINERS NOTE

- LINER THICKNESS SHALL BE 18 INCHES AFTER COMPACTION.
- SOIL SHALL BE COMPACTED TO 95 PERCENT MINIMUM DRY DENSITY, MODIFIED PROCTOR METHOD (ASTM D-1557).
- A DIFFERENT DEPTH AND DENSITY SUFFICIENT TO RETARD THE INFILTRATION RATE TO 2.4×10^{-5}
- SOIL SHOULD BE PLACED IN 6-INCH LIFTS.
- SOILS MAY BE USED THAT MEET THE GRADATION IN TABLE 4.3 BELOW:

Table 4.3. Compacted Till Liners.

Sieve Size	Percent Passing
6-inch	100
4-inch	90
#4	70-100
#200	20



SHEET TITLE: POND DETAILS

ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET

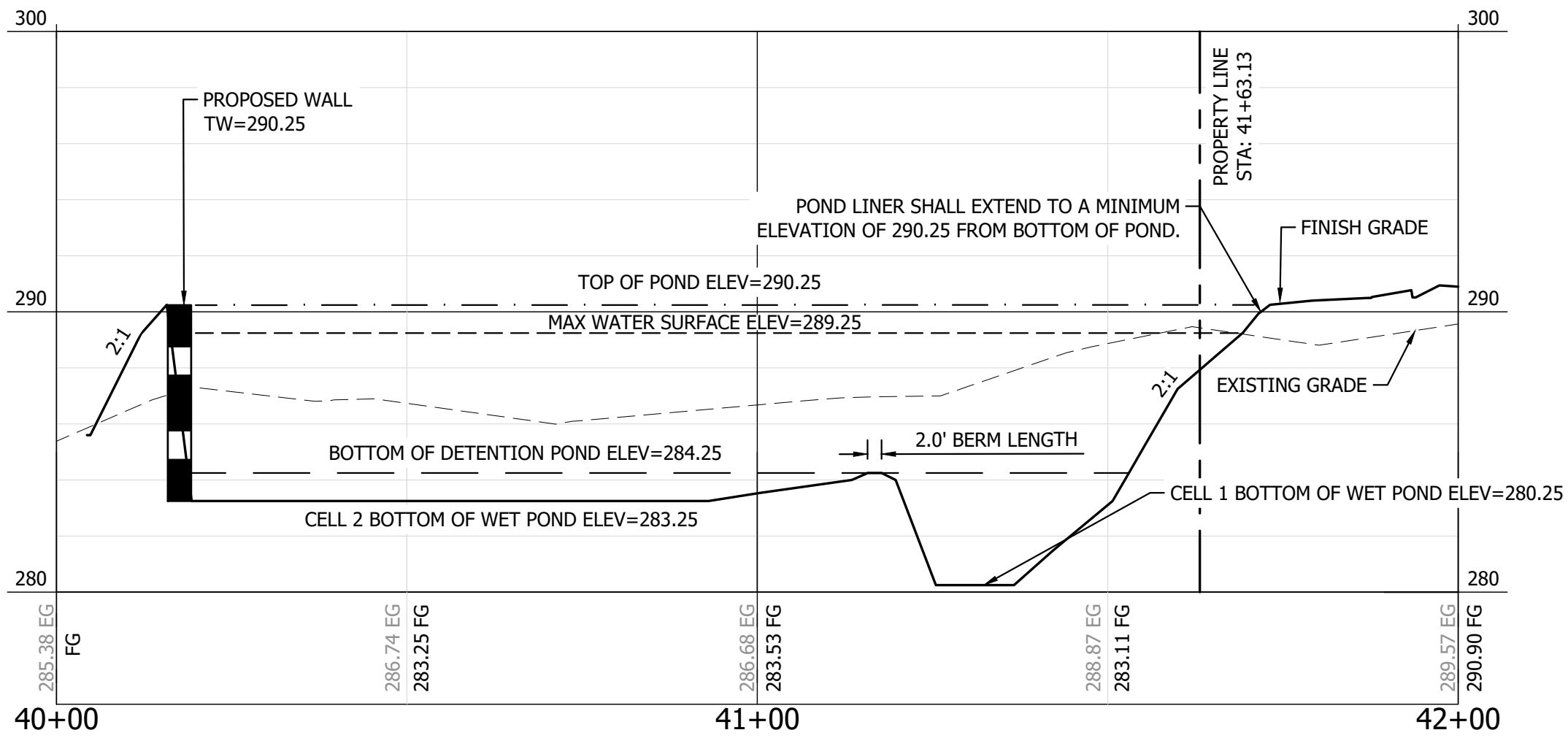
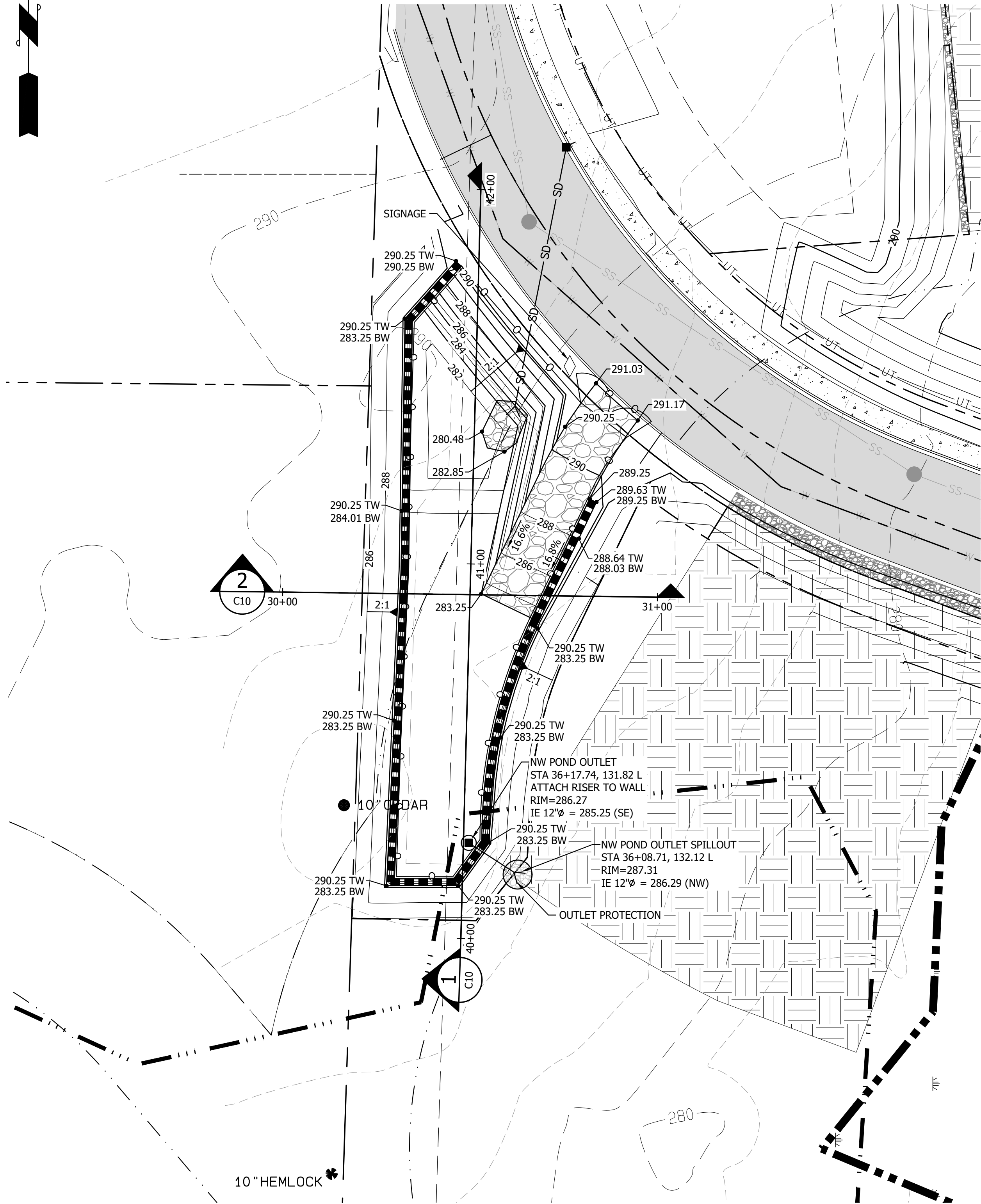
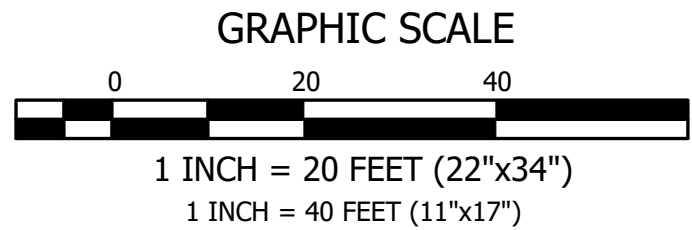
REV.

C8

8 OF 19

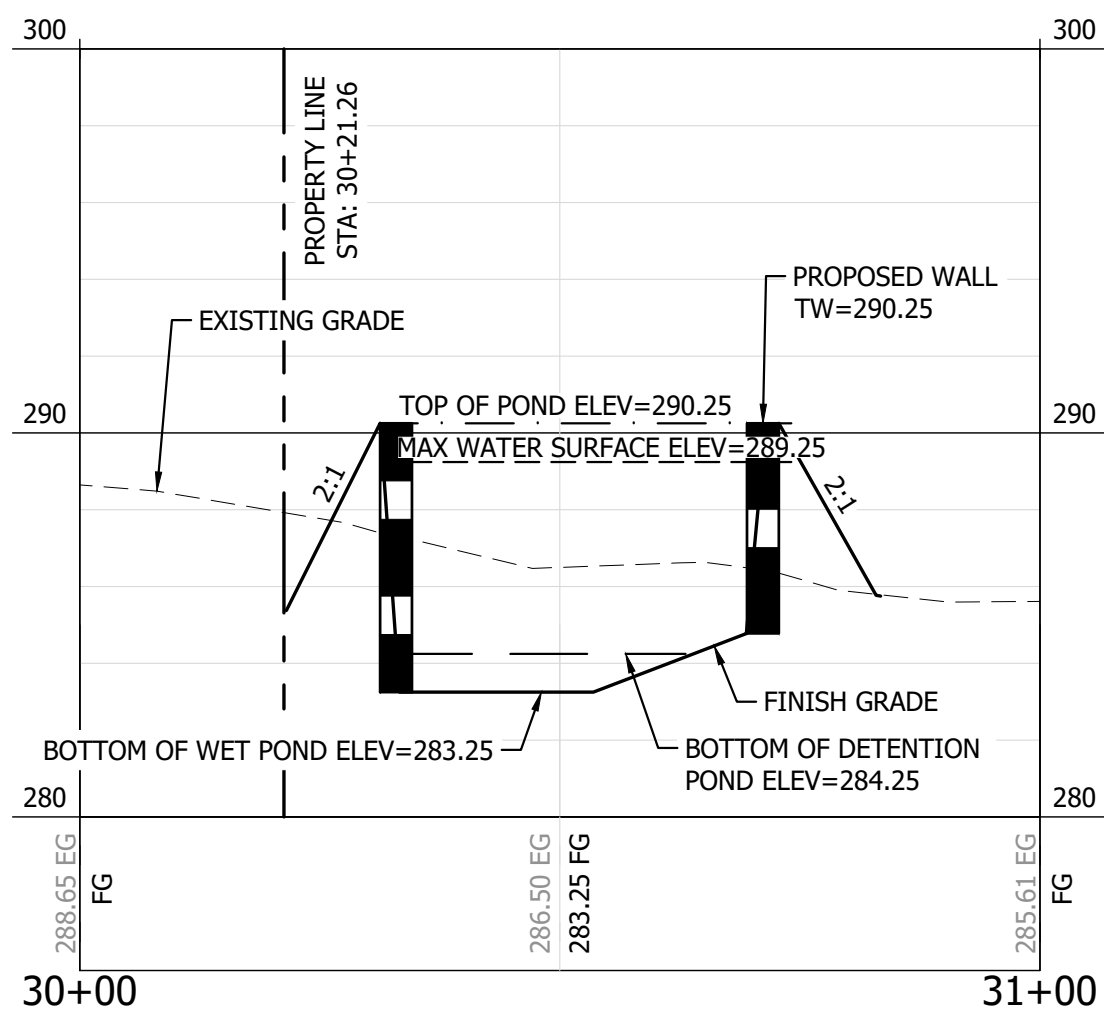
2

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



1 POND NORTH SOUTH SECTION

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



2 POND WEST-EAST SECTION

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

OUTLET CONTROL STRUCTURE

RISER HEIGHT = 4 FEET
RISER DIAMETER = 12 INCHES
RISER TYPE = 3 ORIFICE
ORIFICE 1 HEIGHT = 0.00'
ORIFICE 1 DIAMETER = 0.52"
ORIFICE 2 HEIGHT = 2.30'
ORIFICE 2 DIAMETER = 0.60"
ORIFICE 3 HEIGHT = 3.05'
ORIFICE 3 DIAMETER = 0.95"

POND NOTE

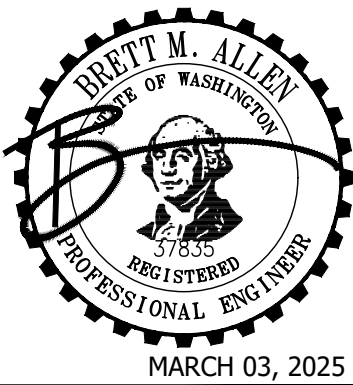
EACH POND IS REQUIRED TO HAVE CREST GAGE.
A WAIVER WILL BE REQUIRED TO ELIMINATE THE ACCESS
ROAD AROUND EACH POND.

COMPACTED TILL LINERS NOTE

- LINER THICKNESS SHALL BE 18 INCHES AFTER COMPACTION.
- SOIL SHALL BE COMPACTED TO 95 PERCENT MINIMUM DRY DENSITY, MODIFIED PROCTOR METHOD (ASTM D-1557).
- A DIFFERENT DEPTH AND DENSITY SUFFICIENT TO RETARD THE INFILTRATION RATE TO 2.4×10^{-5}
- SOIL SHOULD BE PLACED IN 6-INCH LIFTS.
- SOILS MAY BE USED THAT MEET THE GRADATION IN TABLE 4.3 BELOW:

Table 4.3. Compacted Till Liners.

Sieve Size	Percent Passing
6-inch	100
4-inch	90
#4	70-100
#200	20



SHEET TITLE: NORTHWEST POND DETAILS

ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
S06 T 21 N R 02E WM
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET

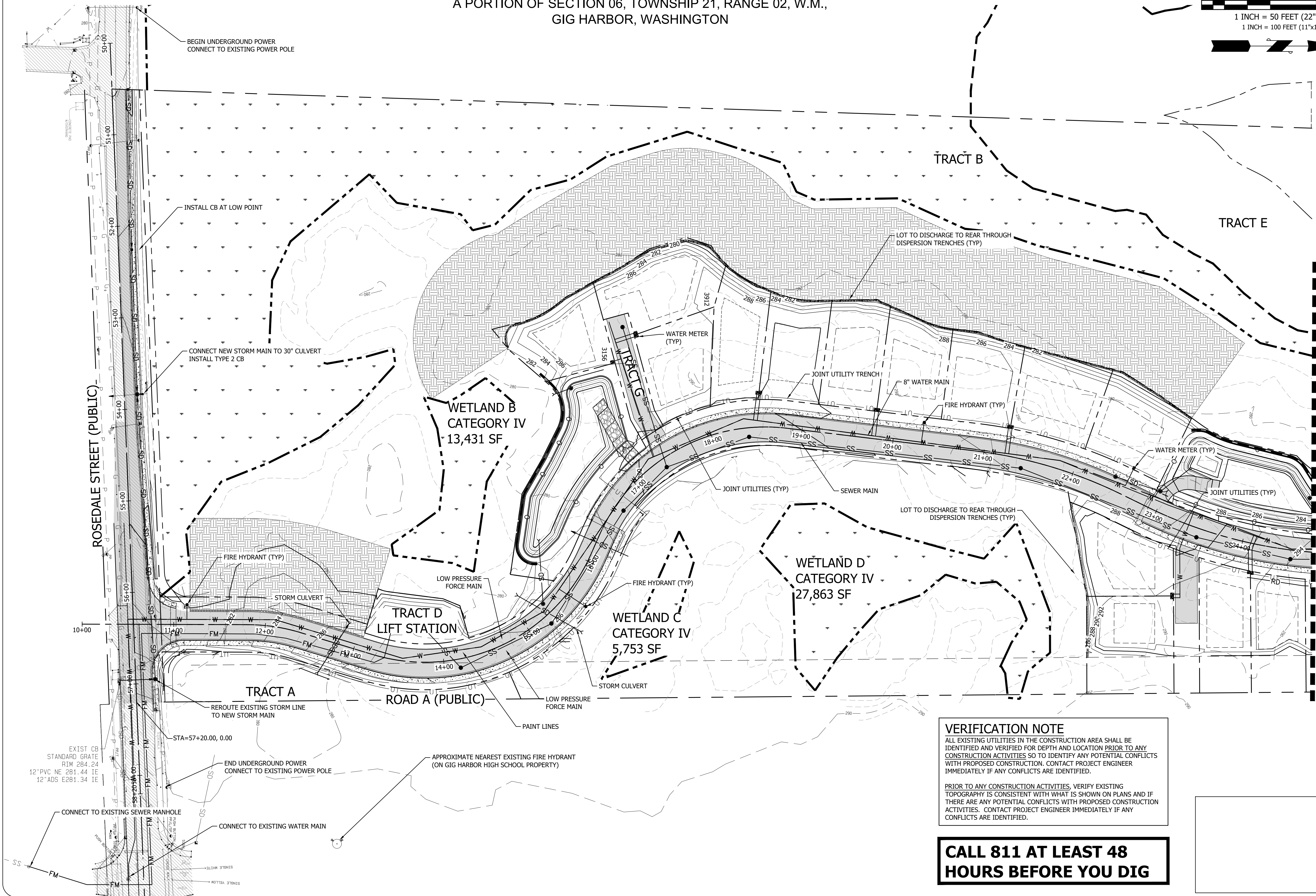
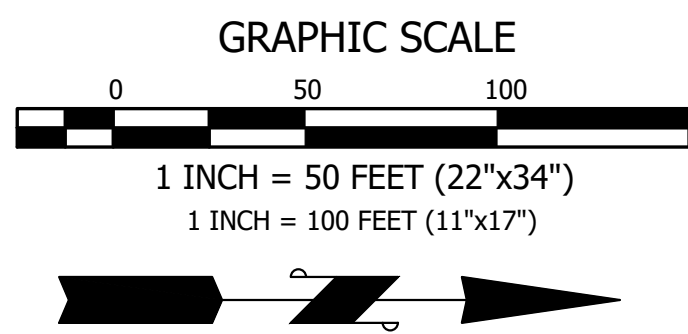
REV.

C10

10 OF 19

2

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



VERIFICATION NOTE

ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG**

BY	
DATE	
DESCRIPTION	
REVISION	

CONTOUR
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-505-0044 ~ info@contourplc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



SHEET TITLE: OVERALL UTILITY PLAN

ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

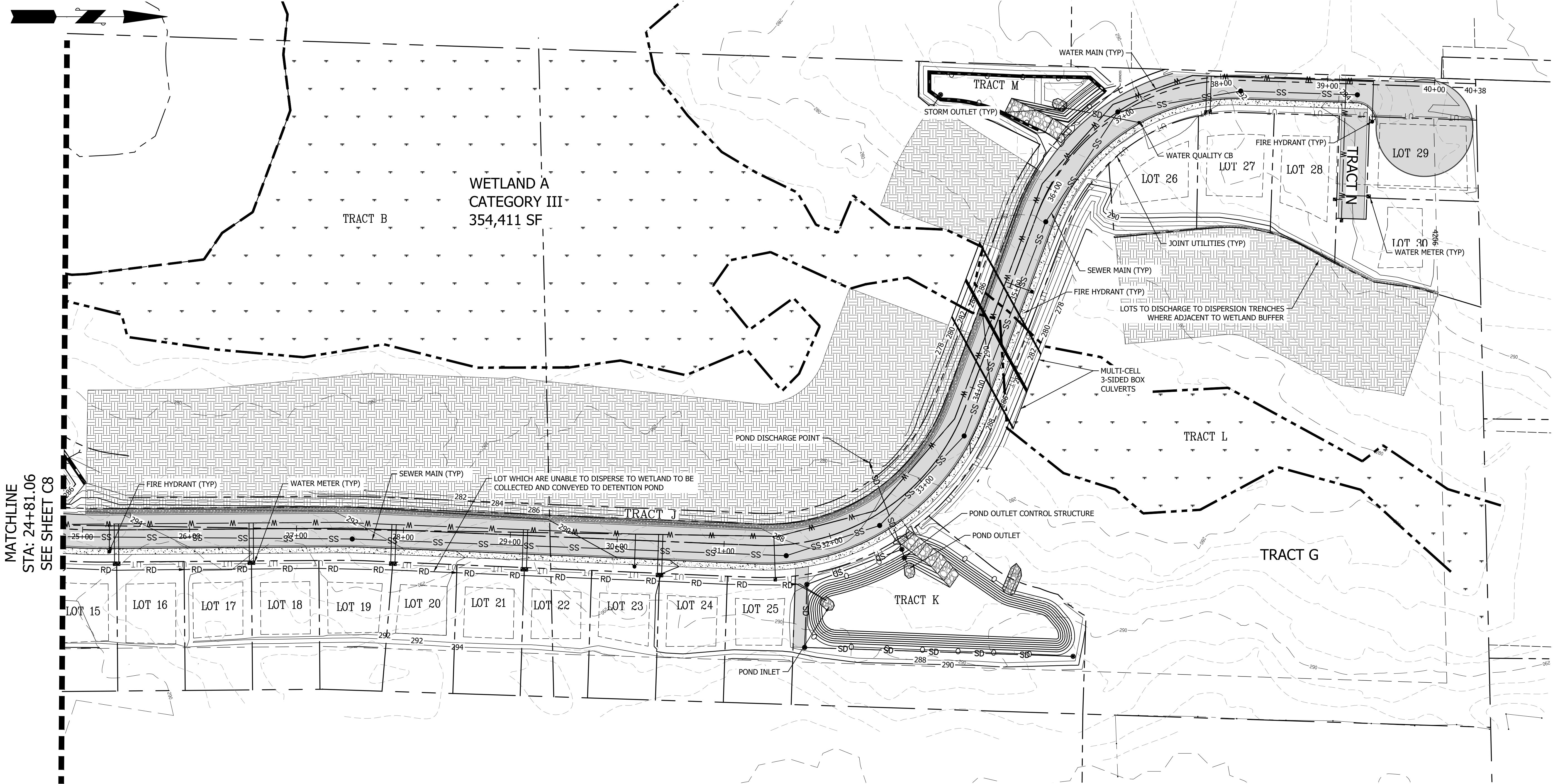
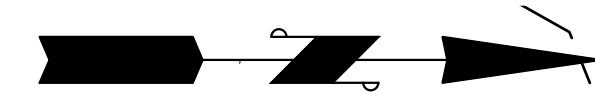
DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET	REV.
C11	2
11 OF 19	

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON

GRAPHIC SCALE
0 50 100
1 INCH = 50 FEET (22"x34")
1 INCH = 100 FEET (11"x17")



MATCHLINE
STA: 24+81.06
SEE SHEET C8

VERIFICATION NOTE

ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES, CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG**

BY	DATE	DESCRIPTION	REVISION

CONTINENTAL
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-505-0044 ~ info@continentalc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



MARCH 03, 2025

SHEET TITLE: OVERALL UTILITY PLAN

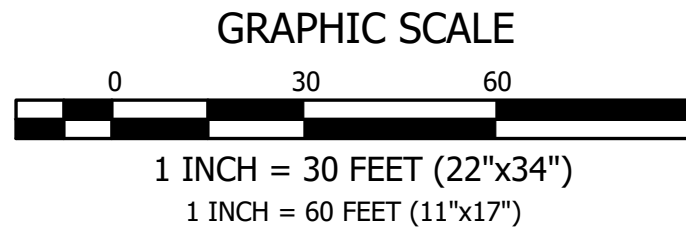
ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056
CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
S06 T21N R02E WM
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET	REV.
C12	2
12 OF 19	



CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON

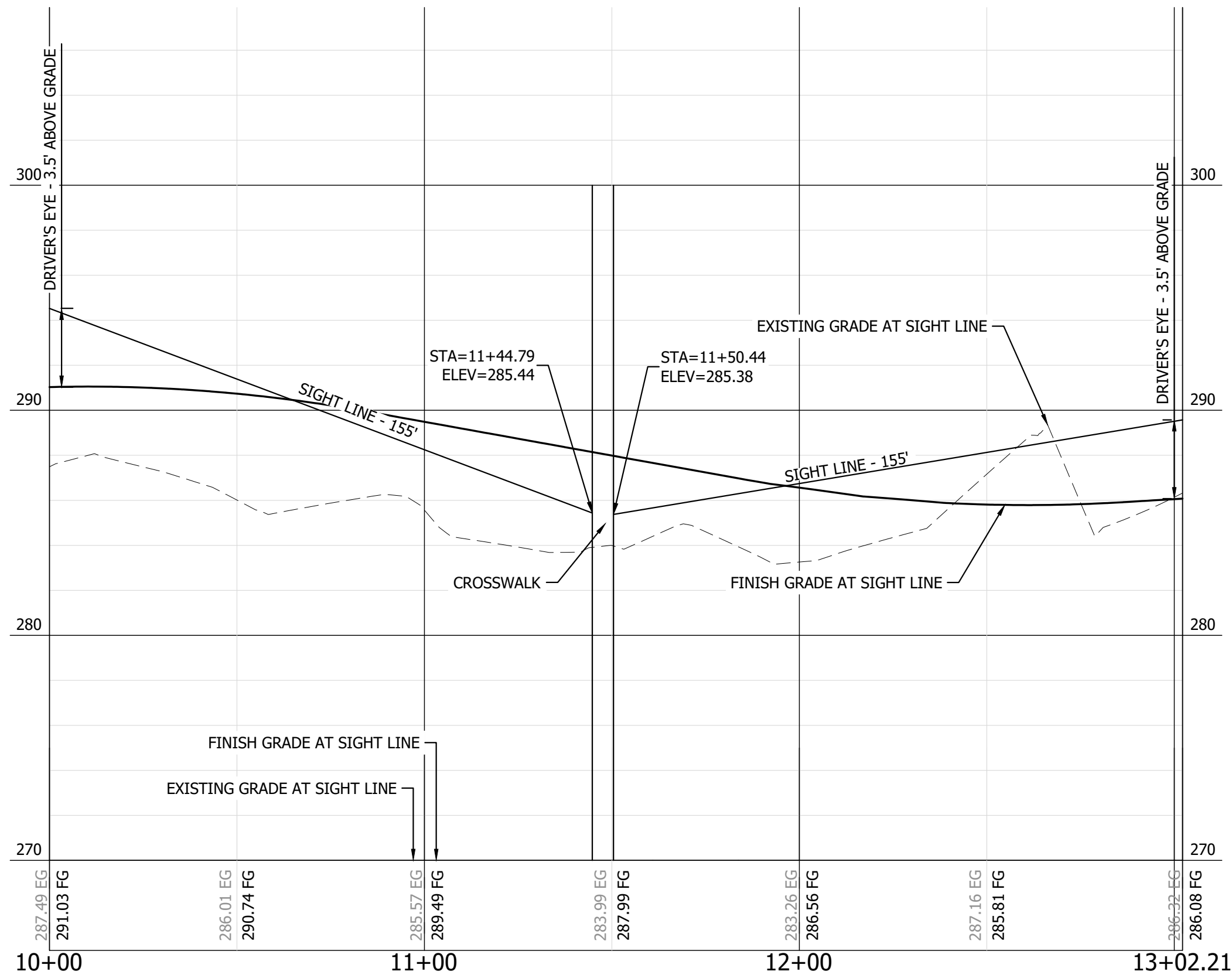
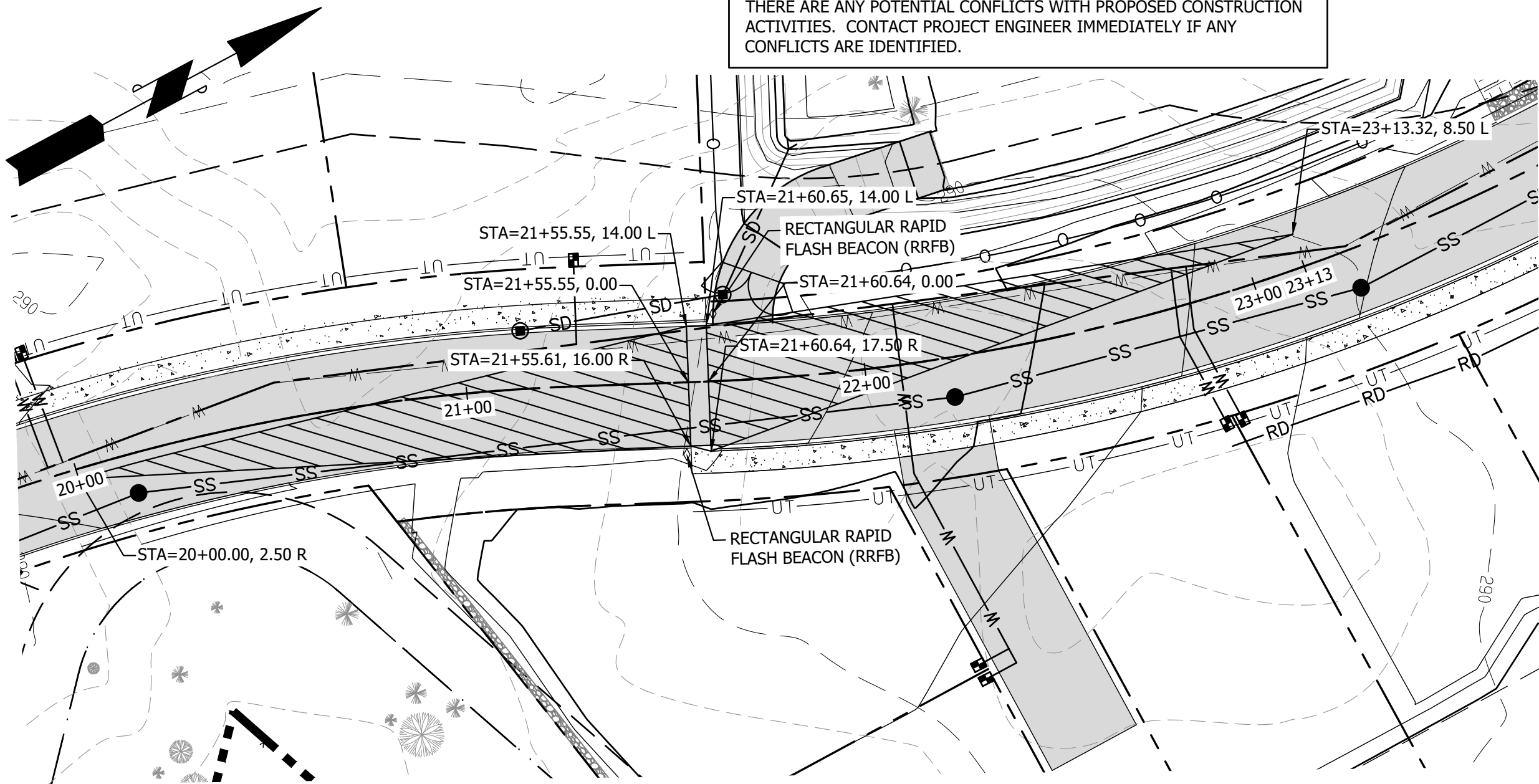
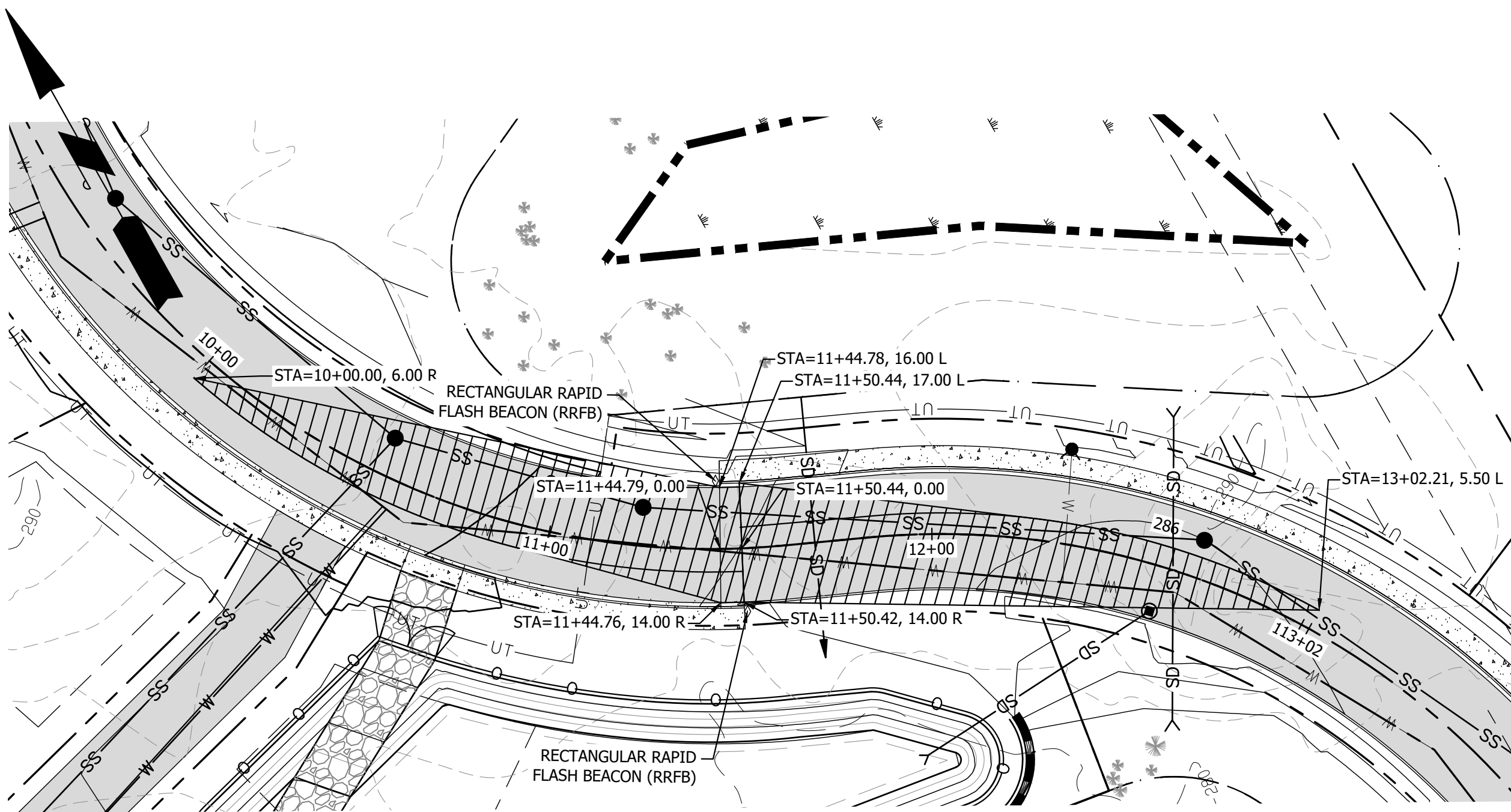
VERIFICATION NOTE

ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

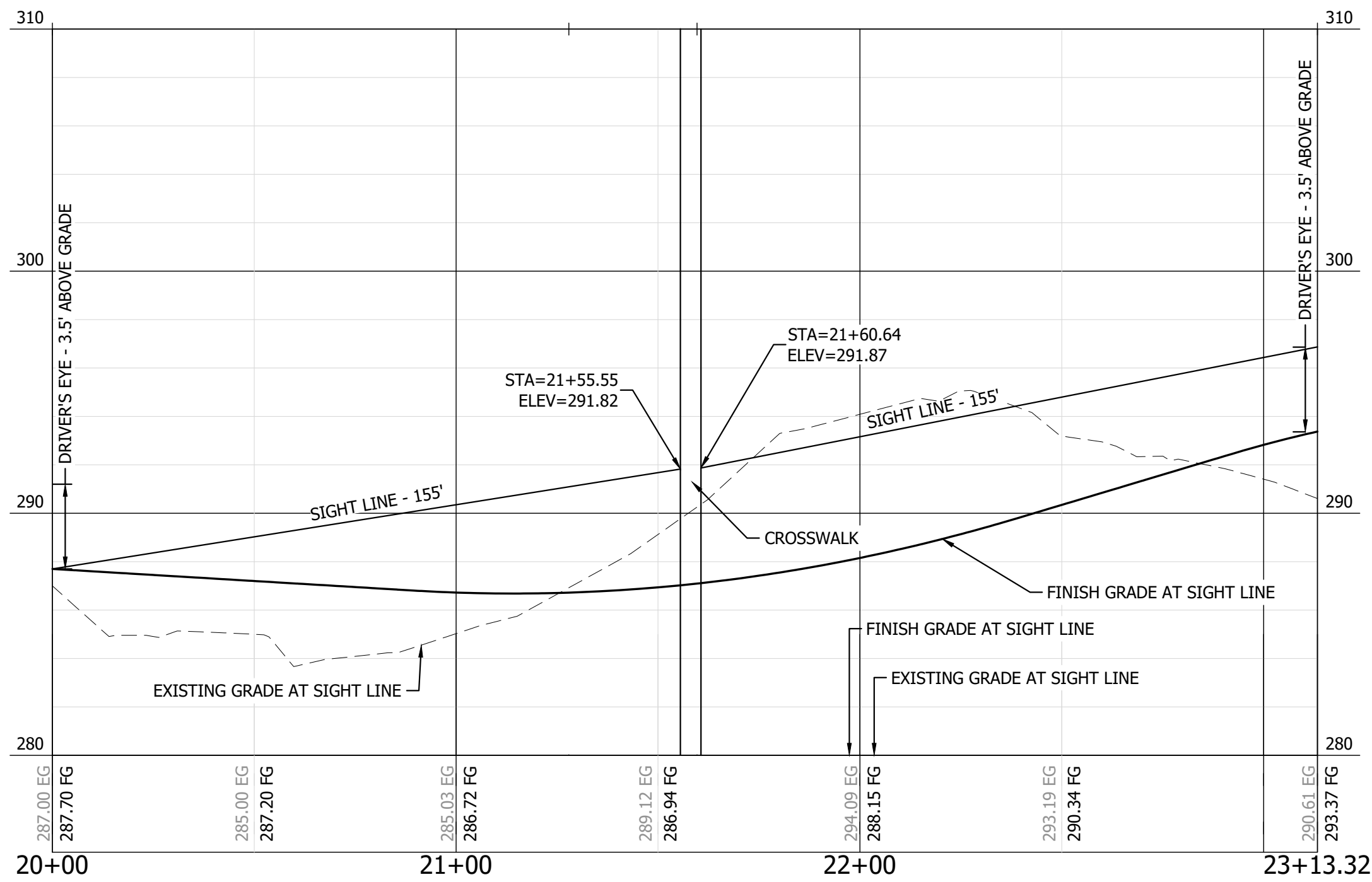
SIGHT DISTANCE NOTE

SIGHT DISTANCE DIAGRAM BASED ON STOPPING SIGHT DISTANCE WITH SPEED LIMIT OF 25 MPH WITH IN ACCORDANCE WITH AASHTO GREEN BOOK. NO OBSTRUCTIONS WERE FOUND IN THE SIGHT DISTANCE DIAGRAM. NO LANDSCAPING (EXCEPT GROUND COVER) SHALL BE PERMITTED WITHIN SIGHT DISTANCE CLEAR SPACE.



SIGHT DISTANCE PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=5'



SIGHT DISTANCE PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=5'

BY	DATE	DESCRIPTION	REVISION

CONTINENTAL ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-508-0044 ~ info@contenplc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



MARCH 03, 2025

SHEET TITLE: **SIGHT DISTANCE -**

CROSSWALKS

ROSEDALE PRELIMINARY PLAT

CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

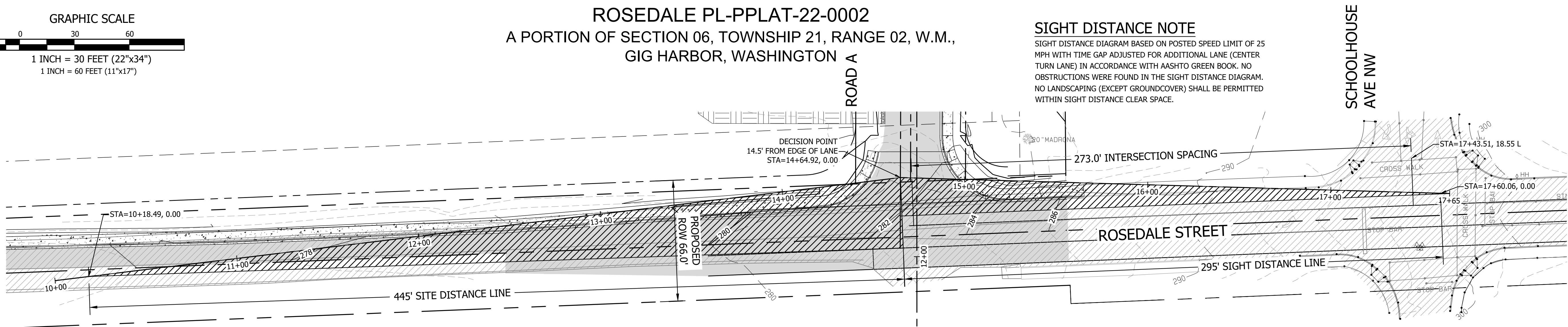
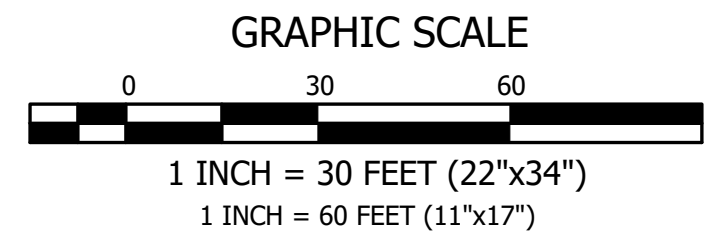
CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
DATE: 2023-01-23
REVISED: 2025-03-03

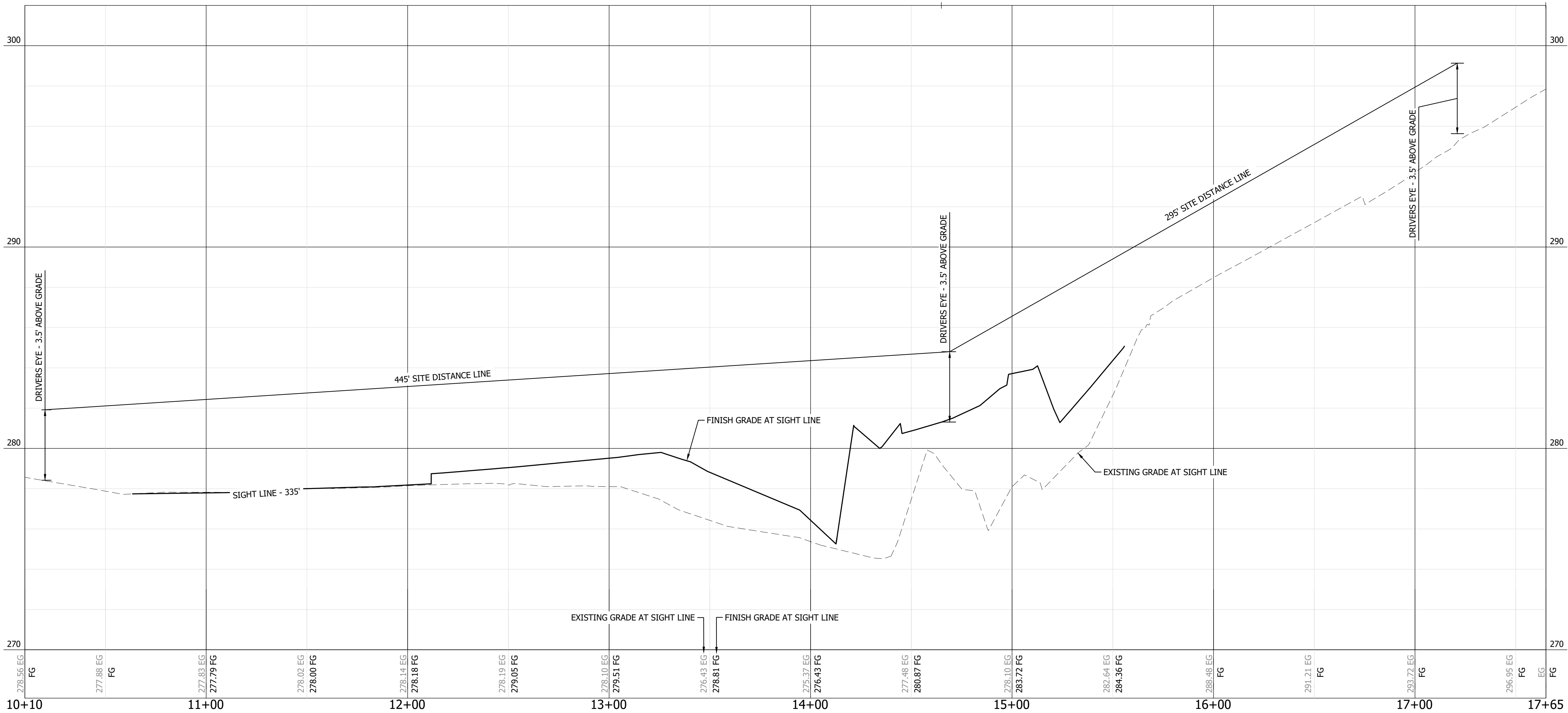
PROJECT: 19-194
DWG NAME: 19-194-PRELIM

SHEET	REV.
C13	
13 OF 19	2

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



SIGHT DISTANCE NOTE
SIGHT DISTANCE DIAGRAM BASED ON POSTED SPEED LIMIT OF 25 MPH WITH TIME GAP ADJUSTED FOR ADDITIONAL LANE (CENTER TURN LANE) IN ACCORDANCE WITH AASHTO GREEN BOOK. NO OBSTRUCTIONS WERE FOUND IN THE SIGHT DISTANCE DIAGRAM. NO LANDSCAPING (EXCEPT GROUND COVER) SHALL BE PERMITTED WITHIN SIGHT DISTANCE CLEAR SPACE.



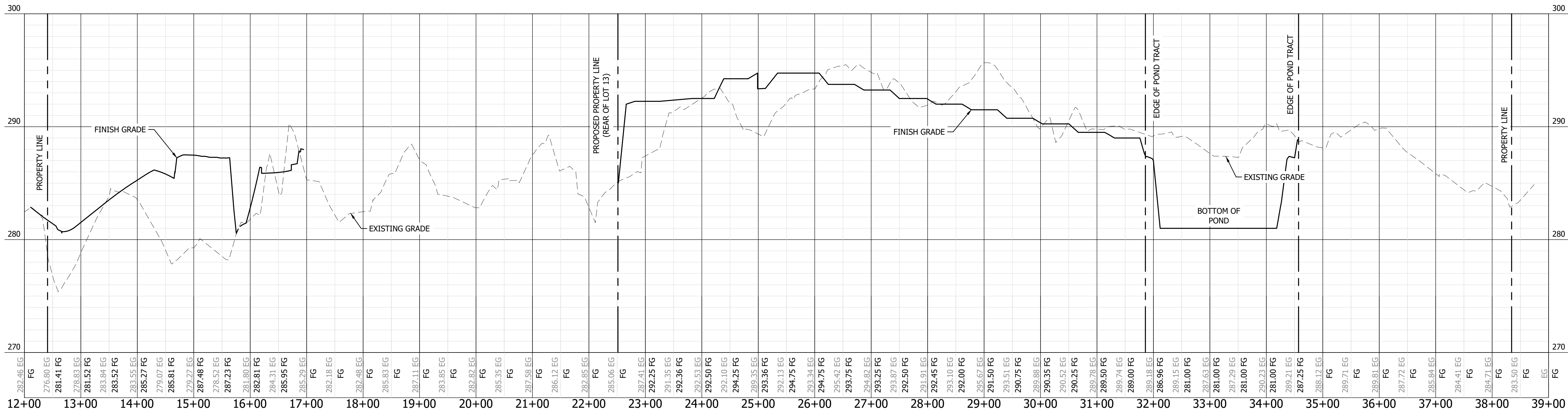
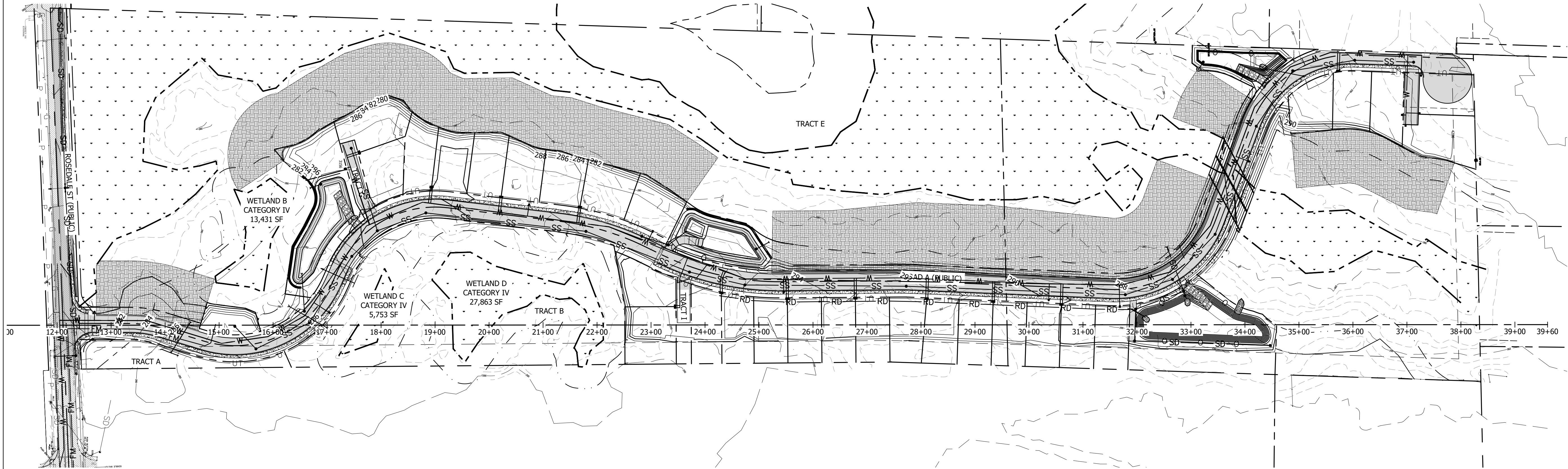
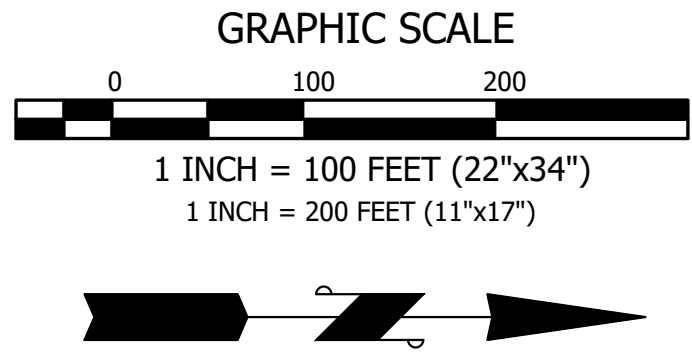
SIGHT DISTANCE PROFILE
HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=3'

BY	DATE	DESCRIPTION	REVISION

CONTOUR
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-508-0044 ~ info@contourplc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332

SHEET TITLE: SIGHT DISTANCE DIAGRAM	
ROSEDALE PRELIMINARY PLAT	
DESIGNER: K. ROSE	ENGINEER: B. ALLEN
DRAWN: K. ROSE	DATE: 2023-01-23
DATE: 2023-01-23	REVISED: 2025-03-03
PROJECT: 19-194	
DWG NAME: 19-194-PRELIM	
SHEET	REV.
C14	
14 OF 19	

ROSEDALE PL-PPLAT-22-0002
A PORTION OF SECTION 06, TOWNSHIP 21, RANGE 02, W.M.,
GIG HARBOR, WASHINGTON



SITE SECTION NORTH - SOUTH

HORIZONTAL SCALE: 1"=100'
VERTICAL SCALE: 1"=5'

REVISION	DESCRIPTION	DATE	BY

CONTINENTAL
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-508-0044 ~ info@continentalplanning.com
Physical Address: P.O. Box 949, Gig Harbor, WA 98335
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



MARCH 03, 2025

SHEET TITLE: SITE CROSS SECTION

ROSEDALE PRELIMINARY PLAT

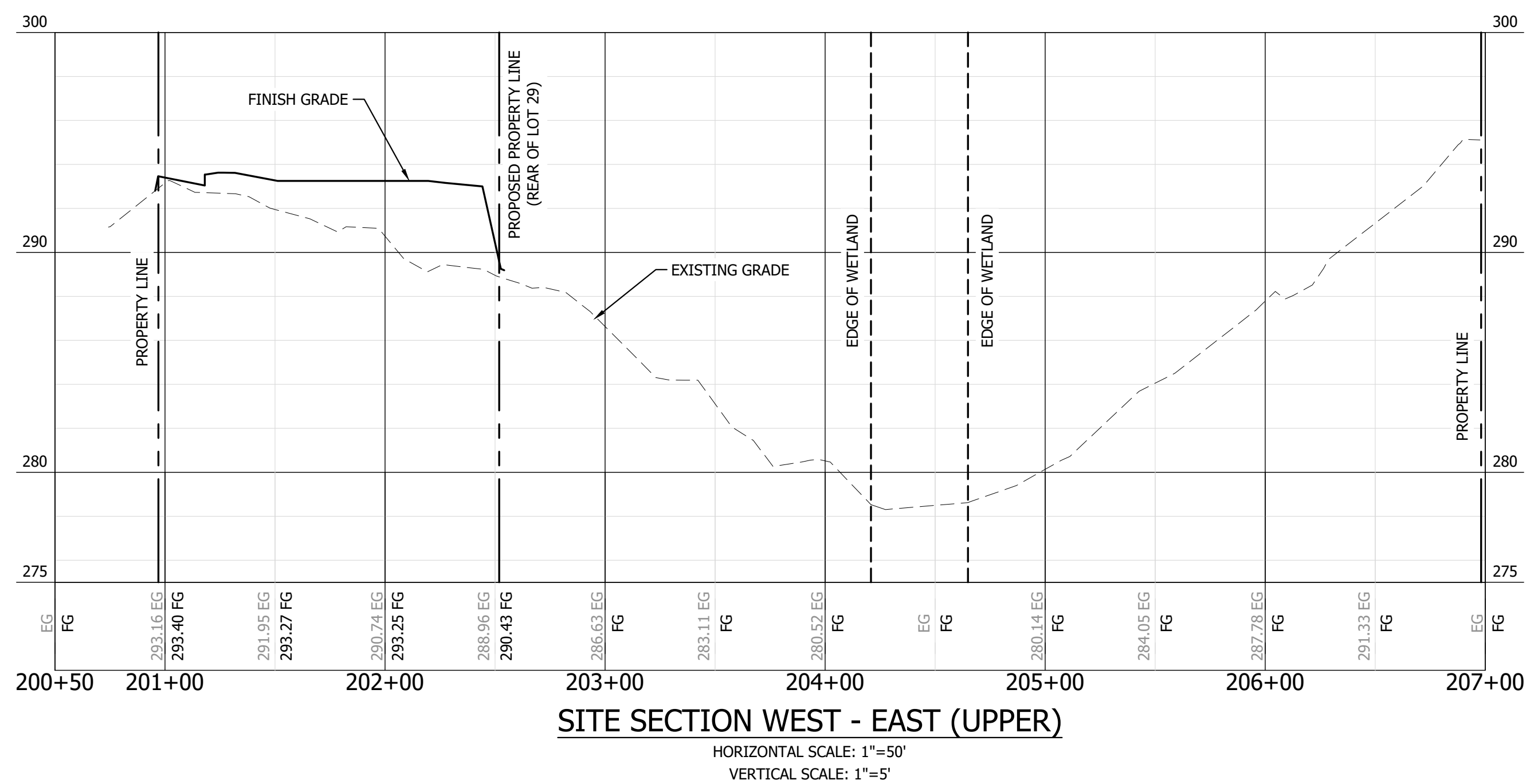
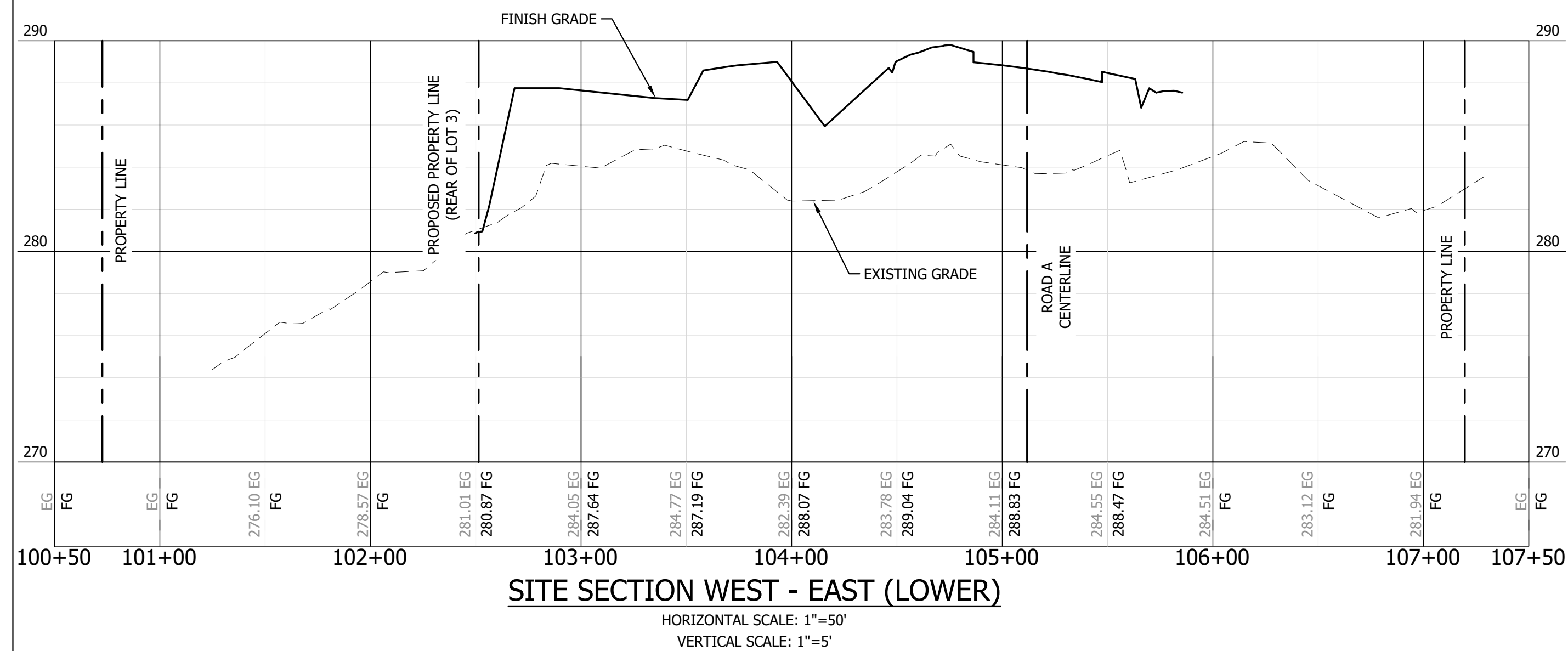
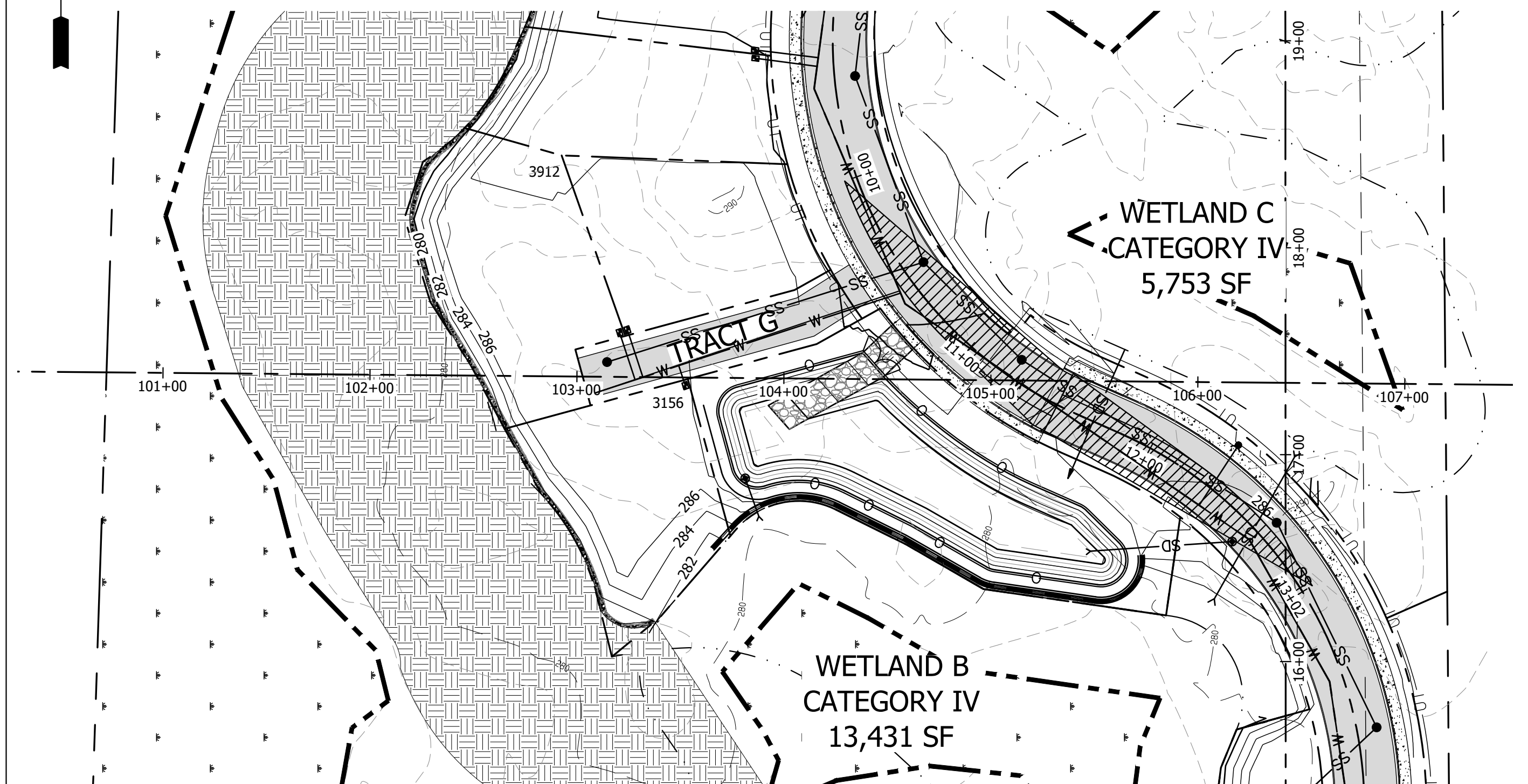
CLIENT: GIG HOLDING COMPANY LLC
1900 SAINT JAMES PL STE 300
AUSTIN, TX 77056

CONTACT: CHARLES DUFFLEY PHONE: 361-730-3630

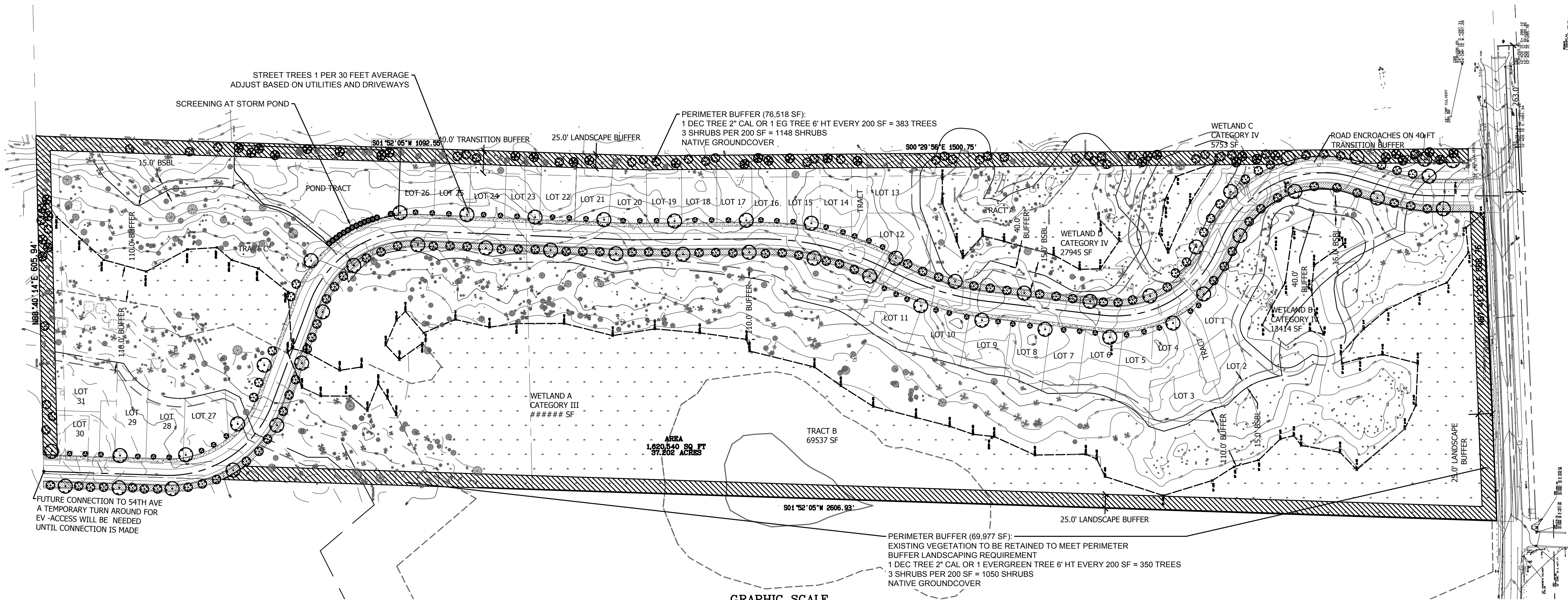
DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: K. ROSE
S06 T21N R02E WM
DATE: 2023-01-23
REVISED: 2025-03-03

PROJECT: 19-194
DWG NAME: 19-194-PRELIM

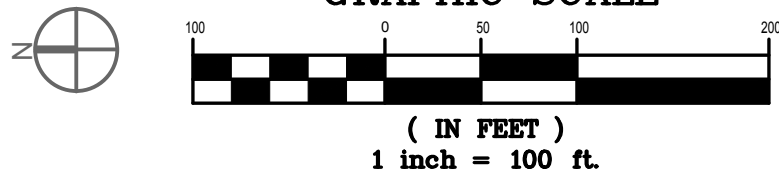
SHEET	REV.
C15	2
15 OF 19	



SHEET TITLE: SITE SECTION		ROSEDALE PRELIMINARY PLAT	
DESIGNER: K. ROSE		GIG HOLDING COMPANY LLC	
ENGINEER: B. ALLEN		1900 SAINT JAMES PL STE 300	
DRAWN: K. ROSE		AUSTIN, TX 77056	
DATE: 2023-01-23		CONTACT: CHARLES DUFFLEY	
REVISED: 2025-03-03		PHONE: 361-730-3630	
PROJECT: 19-194			
DWG NAME: 19-194-PRELIM			
SHEET		REV.	
C16		2	
16 OF 19			



LANDSCAPE PLAN



17.78.060.B.2 - PERIMETER BUFFER LANDSCAPING:
IF THE AREA DOES NOT CONTAIN SUBSTANTIAL EXISTING CANOPY, UNDERSTORY, AND GROUNDCOVER VEGETATION, IT SHALL BE ENHANCED OR PLANTED AS FOLLOWS:

- AT LEAST 80 PERCENT OF ALL TREES, SHRUBS, AND GROUNDCOVER SHALL BE FROM THE PREFERRED SPECIES LIST REFERENCED IN GHMC 17.78.050.
- PERIMETER LANDSCAPING MAY INCLUDE EXISTING LANDSCAPING, PLANTED OR A COMBINATION OF BOTH.
- AREAS TO BE LANDSCAPED SHALL BE COVERED WITH LIVE GROUNDCOVER VEGETATION WHICH WILL ULTIMATELY COVER AT LEAST 75 PERCENT OF THE GROUND AREA WITHIN THREE YEARS.
- ONE DECIDUOUS TREE A MINIMUM OF TWO-INCH CALIPER OR ONE SIX-FOOT EVERGREEN TREE SHALL BE PLANTED FOR EVERY 200 SQUARE FEET OF AREA TO BE ENHANCED OR PLANTED. THREE SHRUBS WHICH WILL ATTAIN A HEIGHT OF THREE AND ONE-HALF FEET WITHIN THREE YEARS SHALL BE PROVIDED FOR EVERY 200 SQUARE FEET OF THE AREA TO BE ENHANCED. THE PLANTINGS SHALL BE EVENLY DISTRIBUTED THROUGHOUT IN A NATURAL PLANTING PATTERN.
- A MINIMUM OF 40 PERCENT OF THE REQUIRED TREES SHALL BE EVERGREEN TREES A MINIMUM OF SIX FEET IN HEIGHT AT PLANTING.
- FOR PROPERTIES LOCATED WITHIN THE BOUNDARIES OF THE HEIGHT OVERLAY DISTRICT REFERENCED IN CHAPTER 17.62 GHMC, TREES SHALL BE OF A SPECIES WITH A MATURE HEIGHT NO TALLER THAN THE APPROVED BUILDING.

NATIVE SHRUBS (ONLY IF EXISTING VEGETATION DOES NOT MEET CODE)

SHRUBS	QTY	DESCRIPTION	SIZE	SHRUBS	QTY	DESCRIPTION	SIZE
		Acer circinatum	1 GAL.			Rubus spectabilis	1 GAL.
		Vine Maple	@ 5' O.C.			Salmonberry	@ 5' O.C.
		Mahonia aquifolium	1 GAL.			Salix sitchensis	1 GAL.
		Tall Oregon Grape	@ 5' O.C.			Sitka Willow	@ 5' O.C.
		Mahonia nervosa	1 GAL.			Symphoricarpos albus	1 GAL.
		Oregon Grape	@ 5' O.C.			Snowberry	@ 5' O.C.
		Corylus cornuta	1 GAL.			Vaccinium ovatum	
		Hazelnut	@ 5' O.C.			Evergreen Huckleberry	
		Cornus stolonifera	1 GAL.				
		Red Osier Dogwood	@ 5' O.C.				
		Gaucheria shallon	1 GAL.				
		Salal	@ 5' O.C.				
		Holodiscus discolor	1 GAL.				
		Oceanspray	@ 5' O.C.				
		Lonicera involucrata	1 GAL.				
		Black Twinberry	@ 5' O.C.				
		Physocarpus capitatus	1 GAL.				
		Ninebark	@ 5' O.C.				
		Ribes sanguineum	1 GAL.				
		Flowering Currant	@ 5' O.C.				
		Rosa gymnocarpa	1 GAL.				
		Wild Rose	@ 5' O.C.				
		Rosa nutkana	1 GAL.				
		Nootka rose	@ 5' O.C.				

LIST OF NATIVE SHRUBS FOR PERIMETER BUFFER PLANTINGS
WHERE EXISTING TREES, SHRUBS AND GROUNDCOVER ARE NOT
PRESENT TO MEET CODE. SUPPLEMENT AT TIME OF CLEARING TO
EVALUATE AREAS FOR ADDITIONAL PLANTING - CONTACT
LANDSCAPE ARCHITECT TO COMPLETE A FIELD INSPECTION.

UPLAND BUFFER AREA SOIL MOISTURE CONDITIONS

COMMON NAME	SCIENTIFIC NAME	PERCENT BY WEIGHT
COLONIAL BENTGRASS	Agrostis tenuis	15%
TALL FESCUE	Festuca arundinacea	40%
PERENNIAL RYEGRASS	Lolium perenne	30%
CREeping RED FESCUE	Festuca rubra	15%

APPLY AT THE RATE OF 120 LBS PER ACRE.
REFER TO THE KEY MAP FOR WETLAND AND UPLAND PLANTING AREAS.

PLANT LEGEND

TREES			
SYMBOL	QTY	DESCRIPTION	SIZE
	51	Cornus nuttallii Pacific Flowering Dogwood	2" Cal. Min Well Formed
	130	Thuja plicata Western Red Cedar	6' Ht. Min. Full / Compact
		Fraxinus latifolia Oregon Ash as needed in wetland areas of peimeter buffer	2" Cal. Min Well Formed
	52	Tsuga heterophylla Western Hemlock	6' Ht. Min. Full / Compact
	14	Thuja plicata 'Green Giant' Green Giant Cedar	6' Ht. Min. Full / Compact
	49	Chamaecyparis nootkatensis 'Pendula' Alaskan Weeping Cedar	6' Ht. Min. Full / Compact
SHRUBS & GROUND COVERS			
SYMBOL	QTY	DESCRIPTION	SIZE
		Arctostaphylos uva-ursi Kinnikinnick	1 Gal. @24"O.C. Triangular Spacing
		PERIMETER BUFFER - EXISTING NATIVE TREES SHRUBS AND GROUNDCOVER TO MEET SCREENING INTENT - SUPPLEMENT WHERE NEEDED WITH 1 TREE PER 200 SF AND 3 SHRUBS PER 200 SF	
		Hydroseeded for Typical Lawn Areas SUNMARK NATIVE ECOTURF- Sunmark Seeds www.sunmarkseeds.com Botanical Name Common Name % by Weight Festuca rubra Native Red Fescue 45% Bouteloua gracilis Blue Grama 25% Buchate dactyloides Buffalograss 20% Koeleria macrantha Prairie Junegrass 7% Trifolium fragiferum Strawberry Clover 3% 1 lbs. per 1,000 SF or 43.67 lbs per acre	



Know what's below.
Call before you dig.



KATRINA KNUTSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

DATE: _____

REVISIONS



NATURE BY DESIGN
LANDSCAPE ARCHITECTURE

1320 ALAMEDA AVE SUITE B
FIRCREST, WA 98466
253.460.6067
WWW.NATUREBYDESIGN.COM

DESIGNED BY: KLO
DRAWN BY: KLO
CHECKED BY: KLO
APPROVED BY: KLO
SCALE:
OTHER:

ROSEDALE PLAT
PARCEL # 0221063034, 0221063035
GIG HARBOR, WA

21137

LANDSCAPE PLANTING
PLAN

PERMIT NO. --

DRAWING NO. L1

SHEET OF
1 OF 2



RECEIVED

Design Review Board 03.27.2025

Exhibit C

By C. ANDREWS at 3:34 pm, Aug 30, 2023

WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT AND CONCEPTUAL MITIGATION PLAN

ROSEDALE STREET NORTHWEST

DECEMBER 2021



**Soundview
Consultants**

Environmental Assessment
Planning + Land Use Solutions

WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT AND CONCEPTUAL MITIGATION PLAN

ROSEDALE STREET NORTHWEST

DECEMBER 22, 2021

PROJECT LOCATION

ROSEDALE STREET NORTHWEST
GIG HARBOR, WASHINGTON 98335

PREPARED FOR

GIG HOLDING COMPANY LLC

1900 SAINT JAMES PL STE 300
HOUSTON, TEXAS 77056

PREPARED BY

SOUNDVIEW CONSULTANTS LLC

2907 HARBORVIEW DRIVE
GIG HARBOR, WASHINGTON 98335
(253) 514-8952



Executive Summary

Soundview Consultants LLC (SVC) has been assisting Gig Holding Company LLC (Applicant) with preparation of a wetland and fish and wildlife habitat assessment and conceptual mitigation plan in support of residential redevelopment of a 38.63-acre site located on Rosedale Street Northwest within the City of Gig Harbor, Washington. The subject property consists of two parcels situated west adjacent to Gig Harbor High School in the North ¼ of Section 06, Township 21, Range 02 East, W.M (Pierce County Tax Parcel Numbers 0221063034 and 0221063035).

SVC investigated, assessed, and/or delineated potentially regulated wetlands, streams, and other critical fish and wildlife habitat areas on or within 300 feet of the subject property in May 2019 and December 2021. Using current methodology, the site investigation identified four potentially regulated wetlands on the subject property (Wetlands A-D) and one wetland (Offsite Wetland E) offsite within 300 feet of the subject property. Wetland A and Offsite Wetland E are classified as Category III wetlands with moderate habitat scores and subject to standard 150-foot buffers per Gig Harbor Municipal Code (GHMC) 18.08.100.F; these buffers can be reduced in accordance with GHMC 18.08.110A.1 to reduce the buffer from 150 feet for high land use intensity to 110 feet for moderate land use intensity. Wetlands B, C, and D are classified as Category IV wetlands subject to standard 50-foot buffers per GHMC 18.08.100.G; these buffers can be reduced in accordance with GHMC 18.08.110A.1 to reduce the buffer from 50 feet for high land use intensity to 40 feet for moderate land use intensity. The buffer from Offsite Wetland E is not anticipated to project onsite as Rosedale Street Northwest constitutes a wetland buffer interruption per GHMC 18.08.100.I. No other potentially regulated wetlands, streams, or fish and wildlife habitat were identified within 300 feet of the subject property.

The Applicant proposes residential development of the property to include 31 lots with associated access roads, utilities, and stormwater infrastructure. The proposed project was carefully designed to avoid impacts to critically sensitive areas to the greatest extent feasible by utilizing the developable upland areas onsite. However, due to the exceptional encumbrance of the identified wetlands and associated buffers throughout the majority of the site, entire avoidance of impacts is not feasible. In order to meet the minimum project goals and development standards in Gig Harbor including a secondary access for public safety and frontage improvements, the project requires approximately 7,790 square feet (0.18 acre) of partial wetland fill within Wetland A as well as approximately 18,462 square feet (0.42 acre) of indirect impacts to Wetland A and to allow for installation of an access road to transect site from the southeast corner of the site along Rosedale Street to the northwest corner of the site. The access road will allow for access to the right of way to the north of the property, which is essential for public safety and emergency vehicle access. The access road must span Wetland A to reach this area of the property. GHMC 18.08.120.D will allow placement of access roads and utilities across Category II, III and IV wetland buffers, if the department determines that there is no reasonable alternative location for providing access and/or utilities to a site. A mitigation plan outlining these requirements is provided in Chapter 7 of this report. In addition, wetland buffer reduction will need to be utilized to allow site development and required stormwater infrastructure. In accordance with GHMC 18.08.110.A, The buffer widths required for uses of land with “high” impacts to wetlands can be reduced to those required for “moderate” impacts as long as they meet the conditions outlined in GHMC 18.08.110.A1. As such, the Applicant proposes to reduce the Wetland A buffer from 150 feet to 110 feet and reduce the buffer for Wetlands B, C, and D from 50 feet to 40 feet.

Mitigation for the wetland buffer reductions, direct and indirect impacts to Wetland A will be provided through onsite, in-kind compensatory actions via approximately 61,761 square feet (1.42 acres) wetland creation areas along Wetland A, 58,703 square feet (1.35 acres) of buffer creation areas along the onsite wetlands, and 14,687 square feet (0.34 acre) buffer enhancement to the buffer associated with Wetland A. Wetland creation areas and square footage is a conservative estimate; final wetland creation square footage will be determined during implementation based on project needs. Temporary impacts (53,878 square feet) along the proposed access road resulting from construction activities will be fully restored. Stormwater detention and treatment will be provided onsite. The stormwater pond has been designed to be entirely outside the wetland buffer; a storm drain line is proposed within the outer 25% of the Wetland A buffer in accordance with GHMC 18.08.120.C. The proposed stormwater improvements will provide an enhancement of water quality treatment over existing conditions, as no stormwater infrastructure currently exists onsite. The proposed project is anticipated to provide a net lift in ecological functions on a watershed scale when compared to the existing degraded conditions of the onsite wetland and buffers proposed to be impacted.

The table below summarizes the identified wetlands and summarizes the potential regulatory status by local, state, and federal agencies.

Feature Name	Size Onsite (sf)	Category ¹	Regulated Under GHMC Chapter 18.08	Regulated Under RCW 90.48	Regulated Under Clean Water Act
Wetland A	~350,778	III	Yes	Yes	Likely
Wetland B	~13,626	IV	Yes	Yes	Assumed
Wetland C	~7,465	IV	Yes	Yes	Assumed
Wetland D	~28,697	IV	Yes	Yes	Assumed
Offsite Wetland E	0.00 (offsite)	III	Yes	Yes	Likely

NOTE:

1. Wetlands classified according to Washington State Department of Ecology (WSDOE) wetland rating system (Hruby, 2014) and Gig Harbor Municipal Code 18.08.040.B.

Site Map

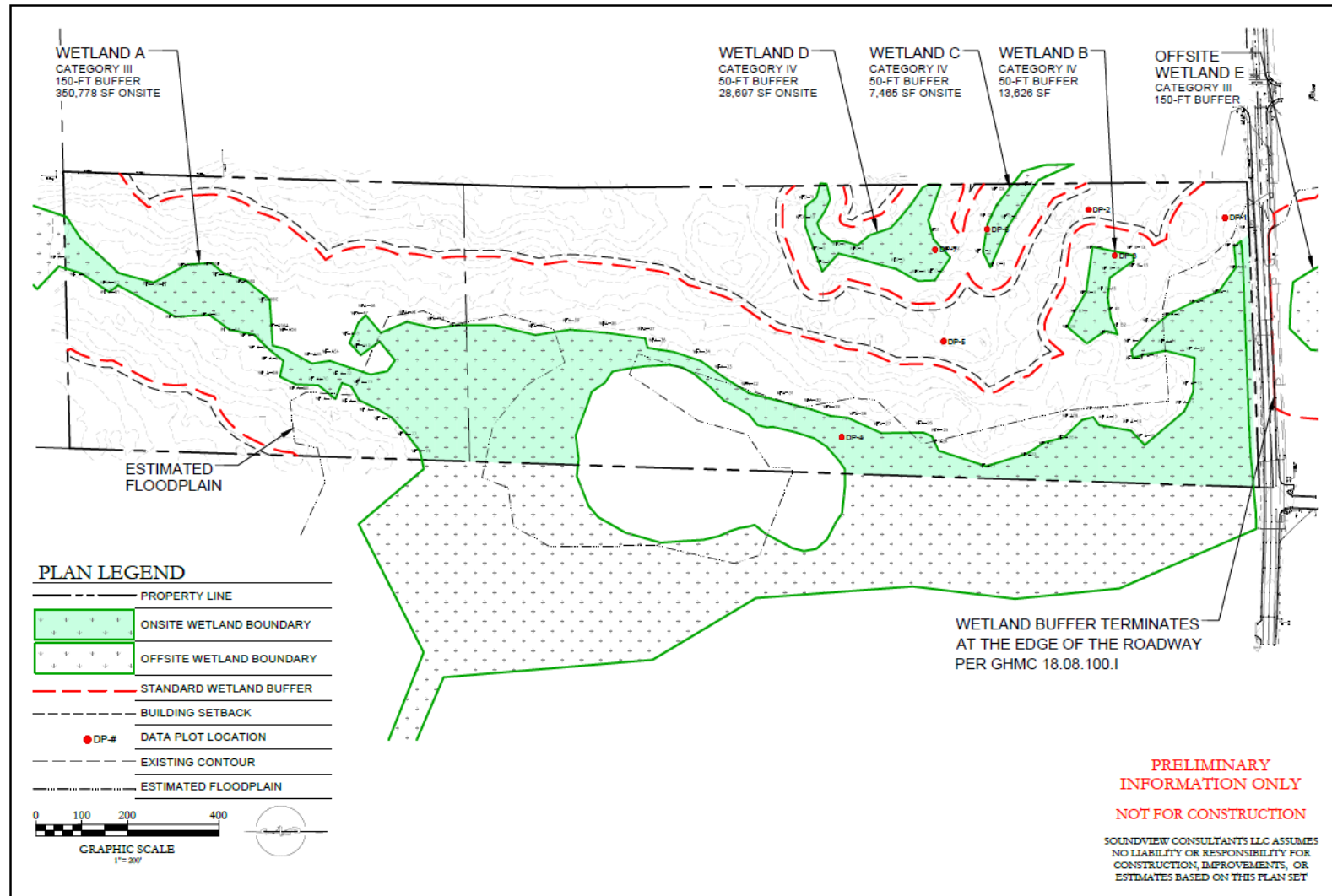


Table of Contents

Chapter 1. Introduction	1
Chapter 2. Property Location	2
Chapter 3. Methods	3
Chapter 4. Existing Conditions	4
4.1 Landscape Setting	4
4.2 Soils	4
4.3 Vegetation	5
4.4 Wetland and Stream Inventories	5
4.5 Priority Habitats and Species	6
4.6 Precipitation	6
Chapter 5. Results	7
5.1 Wetlands	7
Chapter 6. Regulatory Considerations	13
6.1 Local Critical Areas Requirements	13
6.2 State and Federal Considerations	17
Chapter 7. Conceptual Mitigation Plan	18
7.1 Purpose and Need	18
7.2 Description of Impacts	18
7.3 Mitigation Strategy	19
7.4 Approach and Best Management Practices	21
7.5 Mitigation Goals, Objectives, and Performance Standards	22
7.6 Plant Materials and Installation	24
7.7 Maintenance & Monitoring Plan	26
7.8 Reporting	26
7.9 Contingency Plan	27
7.10 Financial Assurances	27
Chapter 8. Closure	28
Chapter 9. References	29

Figures

Figure 1. Vicinity Map	2
Figure 2. Aerial View of the Subject Property	4

Tables

Table 1. Precipitation Summary ¹	6
Table 2. Wetland Summary	7
Table 3. Wetland A Summary	9
Table 4. Wetland B Summary	10
Table 5. Wetland C Summary	11
Table 6. Wetland D Summary	12

Appendices

- Appendix A — Methods and Tools
- Appendix B — Background Information
- Appendix C — Site Plan
- Appendix D — Data Forms
- Appendix E — Wetland Rating Forms
- Appendix F — Wetland Rating Figures
- Appendix G — Qualifications

Chapter 1. Introduction

Soundview Consultants LLC (SVC) has been assisting Gig Holding Company LLC (Applicant) with preparation of a wetland and fish and wildlife habitat assessment and conceptual mitigation plan in support of residential redevelopment of a 38.63-acre site located on Rosedale Street Northwest within the City of Gig Harbor, Washington. The subject property consists of two parcels situated west adjacent to Gig Harbor High School in the North ¼ of Section 06, Township 21, Range 02 East, W.M (Pierce County Tax Parcel Numbers 0221063034 and 0221063035).

The purpose of this wetland and fish and wildlife habitat assessment and conceptual mitigation plan is to document the presence of potentially-regulated wetlands, fish and wildlife habitat, and/or priority species on or near the subject property; assess potential impacts to any such critical areas and/or species from the proposed project; and provide conceptual mitigation plan recommendations.

This report provides conclusions and recommendations regarding:

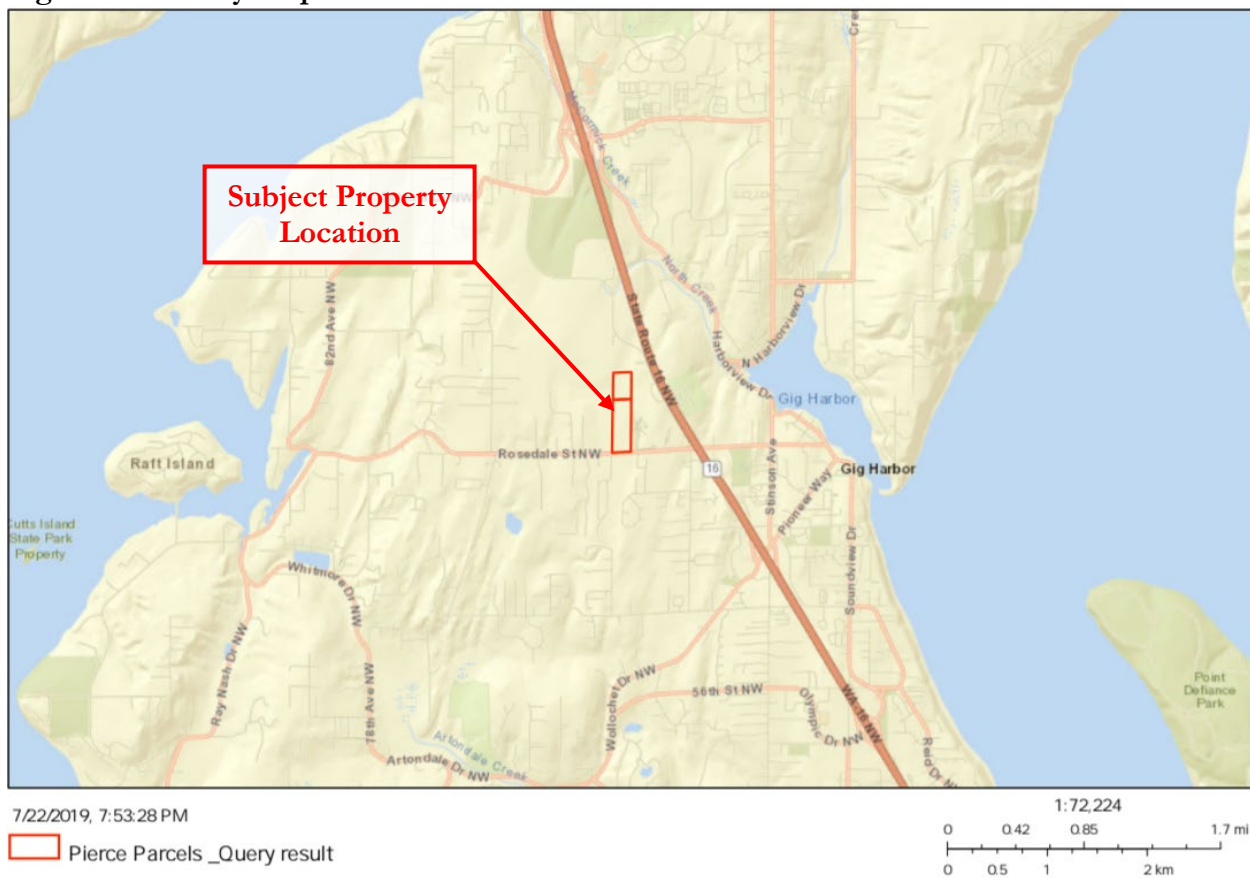
- Site description, project description, and area of assessment;
- Background research of potential critical areas within the vicinity of the proposed project;
- Identification, assessment, and/or delineation of potentially regulated wetlands;
- Identification and assessment of potentially regulated critical fish and wildlife habitat areas;
- Existing site map detailing identified wetlands and standard buffer and building setback requirements;
- Proposed site plan with proposed project details;
- Conceptual mitigation plan;
- Documentation of impact avoidance, minimization, and mitigation measures; and
- Supplemental information necessary for local regulatory review.

Chapter 2. Property Location

The subject property is located at XXX Rosedale Street Northwest, directly west of Gig Harbor High School, within the City of Gig Harbor, Washington (Figure 1). The subject property consists of two parcels situated in the North $\frac{1}{4}$ of Section 06, Township 21, Range 02 East, W.M. (Pierce County Tax Parcel Numbers 0221063034 and 0221063035).

To access the subject property from the Tacoma area, take WA-16 West. From the WA-16 West and I-5 junction, continue on WA-16 West for approximately 9 miles. Take the exit for Wollochet Drive Northwest toward City Center and proceed straight onto Stinson Avenue. After 0.6 mile, turn left onto Rosedale Street Northwest. Continue for 0.7 mile, where the subject property will be on the right directly after Gig Harbor High School.

Figure 1. Vicinity Map.



Chapter 3. Methods

SVC investigated, assessed, and/or delineated potentially regulated wetlands, streams, and other fish and wildlife habitat on or within 300 feet of the subject property in May 2019 with a follow up investigation in October 2021. All determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, National Resource Conservation Service (NRCS) soil survey, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington State Department of Natural Resources (DNR) water typing system, Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) and SalmonScape mapping tools, Pierce County Geographic Information Systems (GIS) data, and various orthophotographic resources. Appendix A contains further details for the methods and tools used to prepare this report.

Wetland boundaries were determined using the routine approach described in the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and modified according to the guidelines established in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (USACE, 2010) and *Field Indicators of Hydric Soils in the United States* (USDA, 2018). Qualified wetland scientists marked boundaries of onsite wetlands with orange surveyor's flagging labeled alpha-numerically and tied to 3-foot lath or vegetation along the wetland boundaries. Pink surveyor's flagging was labeled alpha-numerically and tied to 3-foot lath or vegetation at formal sampling locations to mark the points where detailed data was collected (DP-1 to DP-10). Additional test pits were excavated at regular intervals inside and outside of the wetland boundaries to further confirm each delineation.

Wetlands were classified using both the hydrogeomorphic (Brinson, 1993) and Cowardin (Cowardin, 1979; Federal Geographic Data Committee, 2013) classification systems. Following classification and assessment, all wetlands were rated and categorized using the updated *Washington State Wetlands Rating System for Western Washington – Washington State Department of Ecology Publication No. 14-06-029, published October 2014* (Hruby, 2014) as required by Gig Harbor Municipal Code (GHMC) 18.08.040.B.

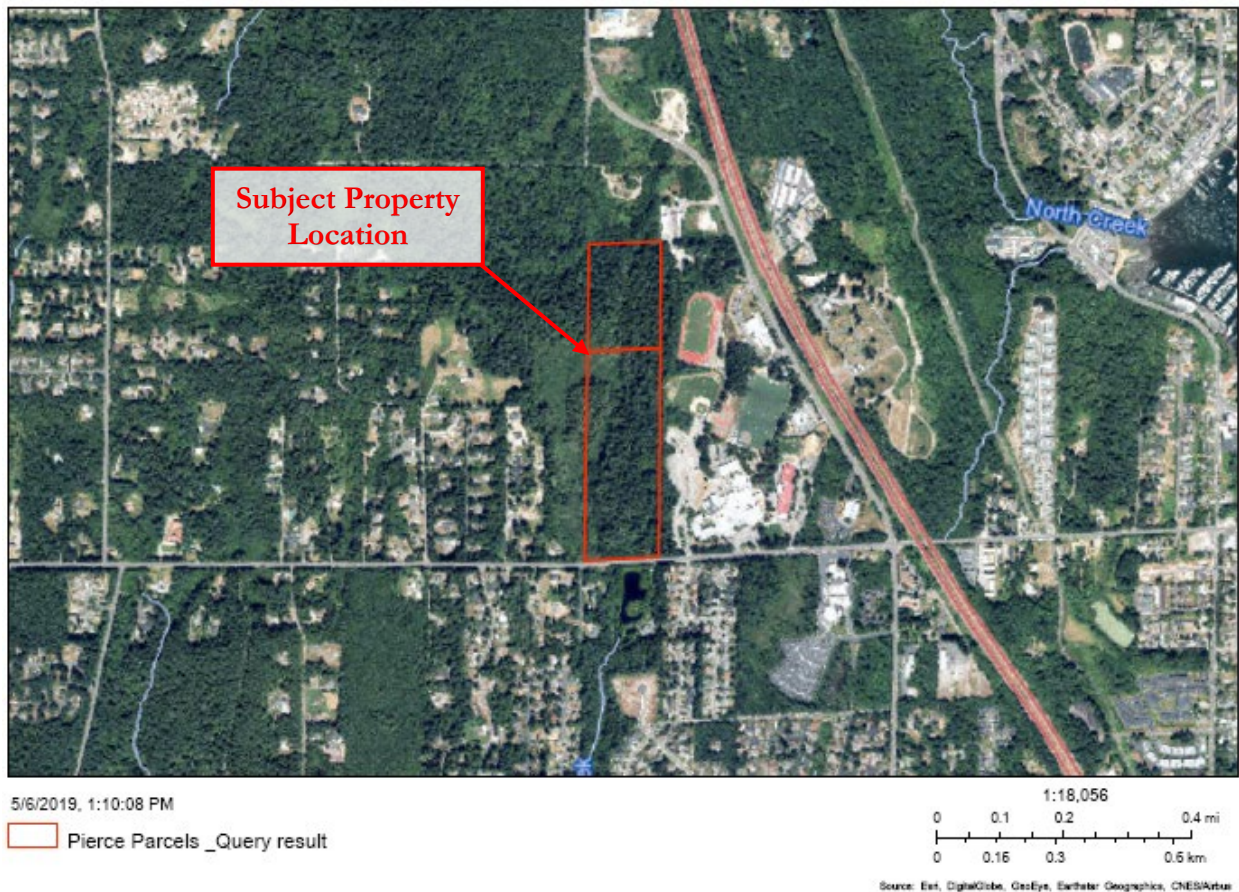
The fish and wildlife habitat assessment was conducted during the same site visit by qualified fish and wildlife biologists. The experienced biologists made visual observations using stationary and walking survey methods for both aquatic and upland habitats noting any special habitat features or signs of fish and wildlife activity.

Chapter 4. Existing Conditions

4.1 Landscape Setting

The subject property is located in an urban residential setting in the City of Gig Harbor, Washington (Figure 2) and zoned R-1 (Single-Family Residential). The site is currently undeveloped forest. The site is bounded by undeveloped forested areas and a commercial storage facility to the north; single-family residences and undeveloped forested areas to the west; Rosedale Street Northwest to the south with residential properties beyond; and Gig Harbor High School to the east. Topography onsite slopes gradually from east to west, with elevations ranging between approximately 280 feet to 300 feet above mean sea level. A topographic map is provided in Appendix B1. The subject property is located within Water Resource Inventory Area (WRIA) 15 – Kitsap.

Figure 2. Aerial View of the Subject Property



4.2 Soils

The NRCS Soil Survey of Pierce County, Washington identifies three soil series on the subject property: Dupont muck (12A), Harstine gravelly ashy sandy loam, 0 to 6 percent slopes (16B), and Harstine gravelly ashy sandy loam, 6 to 15 percent slopes (16C). A soil map is provided in Appendix B2. Below is a detailed description of each soil series.

Dupont Muck (12A)

According to the survey, Dupont Muck is a very poorly drained soil that is formed in flat areas on glacial till from decomposing detritus. In a typical soil profile, the first 13 inches consists of black muck, followed by 3 inches of volcanic ash, and another 52 inches of black muck. Surface water typically ponds as there is slow permeability. Dupont muck is listed as hydric on the Pierce County Hydric Soils List (NRCS, 2001).

Harstine Gravelly Sandy Ashy Loam, 0 to 6 percent slopes (16B)

According to the survey, Harstine gravelly sandy loam, 0 to 6 percent slopes, is nearly level to undulating. It is a moderately well drained soil formed in sandy glacial till on broad uplands. In a typical profile, the surface layer is a dark yellowish-brown gravelly sandy loam to a depth of 5 inches. The subsoil is a variable dark brown, brown or yellowish-brown gravelly sandy loam to a depth of 31 inches. The substratum is compacted glacial till weakly cemented in places to a depth of greater than 60 inches. This soil series is also documented to have a perched water table during winter months at a moderate depth that persists for only short durations. Harstine gravelly sandy loam, 0 to 6 percent slopes is listed as non-hydric on the Pierce County Hydric Soils List (NRCS, 2001).

Harstine Gravelly Ashy Sandy Loam, 6 to 15 percent slopes (16C)

According to the survey, Harstine gravelly sandy loam, 6 to 15 percent slopes, is a moderately well drained soil formed in sandy glacial till on broad uplands. In a typical profile, the surface layer is a dark greyish-brown gravelly sandy loam to a depth of a ½ inch. The subsoil is a variable brown to dark yellowish-brown gravelly sandy loam to a depth of 32 inches. The substratum is a dark greyish-brown, weakly-silica-cemented gravelly loamy sand about 5 inches thick over compact glacial till to a depth of 57 to 70 inches below ground surface. This soil series is also documented to have a perched water table during periods of heavy rainfall that only persists short durations. Harstine gravelly sandy loam, 6 to 15 percent slopes is listed as non-hydric on the Pierce County Hydric Soils List (NRCS, 2001).

4.3 Vegetation

Upland vegetation on the subject property consists of undeveloped forest dominated by a canopy of Douglas fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), and red alder (*Alnus rubra*). The understory consists of salmonberry (*Rubus spectabilis*), salal (*Gaultheria shallon*), evergreen huckleberry (*Vaccinium ovatum*), hairy brackenfern (*Pteridium aquilinum*), western swordfern (*Polystichum munitum*), and non-native invasives cutleaf blackberry (*Rubus laciniatus*), Himalayan blackberry (*Rubus armeniacus*), and English ivy (*Hedera helix*).

4.4 Wetland and Stream Inventories

The USFWS NWI map (Appendix B3) and Pierce County stream and wetland inventory (Appendix B4) identify potential wetlands generally throughout the western half of the subject property and extending offsite primarily to the west, with additional potential wetland areas offsite to the south and northwest. The DNR stream typing map (Appendix B5) identifies the headwaters of a Type F (fish-bearing) stream (Wolloch Creek) offsite to the south across Rosedale Street Northwest, greater than 650 feet away from the southern property boundary of the site. No other potential wetlands or streams were identified on or within 300 feet of the subject property.

4.5 Priority Habitats and Species

The WDFW SalmonScape map (Appendix B6) does not identify any documented fish species on or within 300 feet of the subject property or within the upper reach of Wollochet Creek, which is mapped greater than 650 feet south of the subject property. The WDFW PHS map (Appendix B7) identifies potential wetlands generally in the southwestern portion the subject property and offsite to the south of the site across Rosedale Street Northwest that are consistent with the USFWS NWI map. No additional priority habitats or species are identified on or within 300 feet of the subject property.

4.6 Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) weather station at Seattle-Tacoma Airport in order to acquire percent of normal precipitation during and preceding the investigations. A summary of data collected is provided in Table 1.

Table 1. Precipitation Summary¹.

Date	Day Of	Day Before	1 Week Prior	2 Weeks Prior	Last 30 days (Observed/Normal)	Year to Date (Observed/Normal) ²	Percent of Normal ³
5/28/2019	0.00	0.00	0.21	0.62	0.62/1.96	29.28/32.65	32/90
5/31/2019	0.00	0.00	0.19	0.31	0.62/1.94	29.28/32.84	32/89
10/28/2021	1.99	0.12	3.72	4.13	5.84/3.62	28.42/26.80	161/106

1. Precipitation levels provided in inches. Data obtained from NOAA (<http://w2.weather.gov/climate/xmacis.php?wfo=sew>) for Sea-Tac airport.
2. Year-to-Date precipitation is for the 2018/2019 water year from October 1 to the onsite dates for the May 2019 site visits, and for the 2021 calendar from January 1 to the onsite date for the October 2021 site visits.
3. Percent of normal is shown for the 30 days prior and the 2018/2019 water year for the May 2019 site visits and the 2021 calendar year for the October 2021 visit.

Precipitation levels during the site investigations on May 28 and 31, 2019 were within the statistical normal range for the 2018/2019 water year (89 and 90 percent of normal). However, precipitation levels were well below normal (32 percent of normal) for the prior 30 days. These data suggest that hydrologic conditions during the site investigations may have been slightly drier than normal. Precipitation levels during the October 2021 site visit were within the statistical normal range for the 2021 calendar year (106 percent of normal), but above normal (161 percent of normal) for the prior 30 days. Additionally, the day of the October 2021 site visit there was 1.99 inches of precipitation recorded. This indicates that conditions were likely drier than normal during this investigation, and areas that may normally be dry may have been inundated. Such conditions were considered in making professional wetland boundary determinations.

Chapter 5. Results

The site investigations identified and delineated four potentially regulated wetlands (Wetlands A-D) on the subject property and one offsite wetland (Offsite Wetland E) within 300 feet of the subject property. No other wetlands, streams, fish and wildlife habitat, or priority species were identified on or within 300 feet of the subject property during the site investigations.

5.1 Wetlands

Five depressional wetlands (Wetlands A-E) were identified on or within 300 feet of the subject property. The identified wetlands contained indicators of wetland hydrology, hydric soils (assumed for Offsite Wetland E), and hydrophytic vegetation according to current wetland delineation methodology. The wetland data forms, wetland rating forms, and wetland rating figures are provided in Appendices D, E, and F, respectively (onsite wetlands only). Table 2 summarizes the wetlands identified during the site investigations.

Table 2. Wetland Summary

Wetland	Predominant Wetland Classification / Rating				Wetland Size Onsite (sf)	Buffer Width (feet) ⁵
	Cowardin ¹	HGM ²	WSDOE ³	City of Gig Harbor ⁴		
A	PFO/SSC	Depressional	III	III	~350,778	110
B	PSS/EMC	Depressional	IV	IV	~13,626	40
C	PSSCH	Depressional	IV	IV	~7,465	40
D	PFO/SSCH	Depressional	IV	IV	~28,697	40
Offsite E	PUBH	Depressional	III	III	0.00 (offsite)	110

Notes:

1. Cowardin et al. (1979); Federal Geographic Data Committee (2013); class based on vegetation: PFO = Palustrine Forested, PSS = Palustrine Scrub-Shrub, PEM = Palustrine Emergent, PUB = Palustrine Unconsolidated Bottom. Modifiers for Water Regime: C = Seasonally Flooded, H = Permanently Flooded
2. Brinson, M. M. (1993).
3. Current WSDOE rating system for Western Washington (Hruby, 2014).
4. Current WSDOE rating system (Hruby, 2014) per GHMC 18.08.040.B.
5. Buffer widths based on GHMC 18.08.100 assuming reduced buffers for moderate intensity land use.

Wetland A

Wetland A is approximately 350,778 square feet (8.05 acres) in size onsite (approximately 644,000 square feet in total) and located on the western portion of the subject property, extending offsite to the north and west. Hydrology for Wetland A is provided by direct precipitation, surface runoff, and a seasonally high groundwater table. Wetland vegetation is dominated by a canopy of western red cedar, red alder, and Scouler's willow (*Salix scouleriana*) with an understory of salmonberry, cascara buckthorn (*Frangula purshiana*), Pacific crabapple (*Malus fusca*), water parsley (*Oenanthe sarmentosa*), false lily-of-the-valley (*Maianthemum dilatatum*), common lady fern (*Athyrium cyclosorum*), and skunk cabbage (*Lysichiton americanus*). Wetland A is a Palustrine Forested/Scrub-shrub, Seasonally Flooded (PFO/SSC) wetland. Under GHMC 18.08.040, Wetland A is a Category III depressional wetland with a moderate habitat score of 6 points. Table 3 provides a detailed summary of Wetland A.

Wetland B

Wetland B is approximately 13,626 square feet (0.31 acre) in size and is located on the southeast portion of the subject property. Hydrology for Wetland B is provided by direct precipitation, surface runoff, and a seasonally high groundwater table. Wetland vegetation consists of a limited overstory of Scouler's willow with an understory of Scouler's willow saplings, hardhack (*Spiraea douglasii*), twinberry (*Lonicera involucrata*), and slough sledge (*Carex obnupta*). Wetland B is classified as a Palustrine Scrub-shrub / Emergent, Seasonally Flooded (PFO/EMC) wetland. Under GHMC 18.08.040, Wetland B is a Category IV depressional wetland with a low habitat score of 5 points. Table 4 provides a detailed summary of Wetland B.

Wetland C

Wetland C is approximately 7,465 square feet (0.17 acre) in size onsite (approximately 8,640 square feet in total) and is located on the southeast corner of the subject property adjacent to Gig Harbor High School, extending offsite to the east. Hydrology for Wetland C is provided by direct precipitation, surface runoff, and a seasonally high groundwater table. Wetland vegetation consists of a minimal canopy of western red cedar with an understory of hardhack, twinberry, lady fern, and slough sedge. Wetland C is classified as a Palustrine Scrub-shrub, Seasonally Flooded and Permanently Flooded (PSSCH) wetland. Under GHMC 18.08.040, Wetland C is a Category IV depressional wetland with a low habitat score of 5 points. Table 5 provides a detailed summary of Wetland C.

Wetland D

Wetland D is approximately 28,697 square feet (0.66 acre) in size onsite (approximately 33,930 square feet in total) and is located on the eastern portion of the subject property adjacent to Gig Harbor High School, extending minimally offsite to the east. Hydrology for Wetland D is provided by direct precipitation, surface runoff, and a seasonally high groundwater table. Wetland vegetation consists of a canopy of western red cedar and red alder with an understory of hardhack, twinberry, cascara, slough sledge, and water parsley. Wetland D is classified as a Palustrine Forested / Scrub-shrub, Seasonally Flooded (PFO/SSC) wetland. Under GHMC 18.08.040, Wetland D is a Category IV depressional wetland with a low habitat score of 5 points. Table 6 provides a detailed summary of Wetland D.

Offsite Wetland E

Offsite Wetland E is approximately 66,500 square feet (1.95 acre) in size, and is located on private property south of the subject property and south of Rosedale Street within the Pierce County Tax Parcel 0221072058. Based on visual assessment from the road corridor, Offsite Wetland E is an unvegetated pond within a forested setting. Hydrology for Offsite Wetland E is likely provided by direct precipitation, surface runoff, a seasonally high groundwater table, and constricted surface flows via a culvert extending from the southern portion of Wetland A beneath Rosedale Street Northwest. According to the DNR water typing map, a potential Type F stream (Wollochet Creek) appears to begin to the south of Offsite Wetland E, approximately 650 offsite to the south of the subject property. Offsite Wetland E is classified as a Palustrine Unconsolidated Bottom, Permanently Flooded (PUBH) wetland. Under GHMC 18.08.040, the Offsite Wetland E is likely a Category III depressional wetland with a moderate habitat score of 7 points. As this wetland is located offsite and is interrupted by Rosedale Street Northwest, no detailed summary table or wetland rating form are provided.

Table 3. Wetland A Summary

WETLAND A – INFORMATION SUMMARY			
Location:	Located on the western portion of the subject property, extending offsite to the north and west.		
	Local Jurisdiction	City of Gig Harbor	
	WRIA	15 – Kitsap	
	WSDOE Rating (Hruby, 2014)	III	
	The City of Gig Harbor Rating	III	
	The City of Gig Harbor Buffer Width	110 feet	
	Wetland Size	~350,778 sf (onsite)	
	Cowardin Classification	PFO/SSC	
	HGM Classification	Depressional	
	Wetland Data Sheet(s)	DP-4	
	Upland Data Sheet(s)	DP-1, DP-5	
	Boundary Flag color	Orange	
Dominant Vegetation	Wetland vegetation is dominated by a canopy of western red cedar, red alder, and Scouler's willow with an understory of salmonberry, cascara buckthorn, Pacific crabapple, water parsley, false lily-of-the-valley, common lady fern, and skunk cabbage.		
Soils	Hydric soil indicator A4 (Hydrogen Sulfide) was observed.		
Hydrology	Hydrology for Wetland A is provided by direct precipitation, a seasonally high groundwater table, and surface runoff.		
Rationale for Delineation	Wetland boundaries were determined by topographic drop and a transition to a hydrophytic plant community.		
Rationale for Local Rating	Wetland rating based on the current WSDOE wetland rating system for Western Washington (Hruby, 2014) per GHMC 18.08.040.B.		
Wetland Functions Summary			
Water Quality	Wetland A has moderate potential to improve water quality due to an intermittently flowing outlet, persistent vegetation that makes up greater than 95 percent of the wetland, and large percentage of seasonal ponding. The landscape supports water quality improvement functions due to the adjacent residential areas that generate pollutants and likely presence of septic systems within 250 feet of the wetland. Water quality improvement functions are not considered valuable to society due to a lack of connections to impaired waters within the sub-basin. Wetland A has a moderate score for improving water quality (5).		
Hydrologic	Wetland A has a moderate potential to reduce flooding due to the intermittently flowing outlet, moderate depth of storage, and size of the wetland compared to the contributing basin. The surrounding landscape provides hydrologic input due to the presence of residential land uses that generate runoff and presence of intensive human land uses. However, the hydrologic functions provided by the wetland are limited as the adjacent road, Rosedale Street Northwest, acts as a levee protecting downstream properties. Wetland A has a moderate score for hydrologic functions (5).		
Habitat	Wildlife habitat functions provided by the wetland may include small mammal, amphibian, and bird forage and cover. Wetland A contains diversity with multiple Cowardin classes, a single hydroperiod, moderate species richness, low habitat interspersion, and several special habitat features including large, downed woody debris and standing snags. The surrounding landscape has a moderate potential to support habitat connectivity and complexity between the wetland and other potential habitat due to nearby forested areas that contain snags and logs. Wetland A has a moderate habitat score (6).		
Buffer Condition	The onsite buffer for Wetland A consists of intact native forested areas.		

Table 4. Wetland B Summary

Table W - Wetland B Summary

WETLAND B – INFORMATION SUMMARY			
Location:	Located on the southeast portion of the subject property.		
	Local Jurisdiction	City of Gig Harbor	
	WRIA	15 – Kitsap	
	WSDOE Rating (Hruby, 2014)	IV	
	The City of Gig Harbor	IV	
	City of Gig Harbor Buffer Width	40 feet	
	Wetland Size	~13,626 sf	
	Cowardin Classification	PSS/EMC	
	HGM Classification	Depressional	
	Wetland Data Sheet(s)	DP-3	
	Upland Data Sheet(s)	DP-2	
Boundary Flag color	Orange		
Dominant Vegetation	Wetland vegetation consists of a limited overstory of Scouler’s willow with an understory of Scouler’s willow saplings, hardhack, twinberry, and slough sledge.		
Soils	Hydric soil indicator F1 (Loamy Mucky Mineral) was observed.		
Hydrology	Hydrology for Wetland B is provided by direct precipitation, a seasonally high groundwater table, and surface runoff.		
Rationale for Delineation	Wetland boundaries were determined by topographic drop and a transition to a hydrophytic plant community.		
Rationale for Local Rating	Wetland rating based on the current WSDOE wetland rating system for Western Washington (Hruby, 2014) per GHMC 18.08.040.B.		
Wetland Functions Summary			
Water Quality	Wetland B has moderate potential to improve water quality due to an unconstricted outlet, persistent vegetation that makes up greater than 50 percent of the wetland, and large percentage of seasonal ponding. The landscape does not support water quality improvement functions due to a lack of stormwater input, pollutants, and septic systems in the immediate vicinity of the wetland. Water quality improvement functions are not considered valuable to society due to a lack of connections to impaired waters within the sub-basin. Wetland B has a low score for improving water quality (4).		
Hydrologic	Wetland B has a low potential to reduce flooding due to an unconstricted outlet, moderate depth of storage, and small size of the wetland compared to the contributing basin. The surrounding landscape provides increased hydrologic input due to the presence of intensive human land uses. However, the hydrologic functions provided by the wetland are limited as the nearby road, Rosedale Street Northwest, acts as a levee protecting downstream properties. Wetland B has a low score for hydrologic functions (4).		
Habitat	Wildlife habitat functions provided by the wetland may include small mammal, amphibian, and bird forage and cover. Wetland B contains diversity with two Cowardin classes, moderate species richness, and special habitat features including large, downed, woody debris. The surrounding landscape has a moderate potential to support habitat connectivity and complexity between the wetland and other potential habitat due to nearby forested areas that contain snags and logs. Wetland B has a low score for habitat functions (5).		
Buffer Condition	The onsite buffer for Wetland B consists primarily of intact native forested areas with minimal presence of non-native invasive species such as Himalayan blackberry and cutleaf blackberry.		

Table 5. Wetland C Summary

WETLAND C – INFORMATION SUMMARY			
Location:		Located on the southeast corner of the subject property adjacent to Gig Harbor High School, extending offsite to the east.	
	Local Jurisdiction		City of Gig Harbor
	WRIA		15 – Kitsap
	WSDOE Rating (Hruby, 2014)		IV
	City of Gig Harbor Rating		IV
	City of Gig Harbor Buffer Width		40 feet
	Wetland Size		~7,465 sf
	Cowardin Classification		PSSCH
	HGM Classification		Depressional
	Wetland Data Sheet(s)		DP-6
	Upland Data Sheet(s)		DP-5
Boundary Flag color		Orange	
Dominant Vegetation	Wetland C vegetation consists of a minimal canopy of western red cedar with an understory of hardhack, twinberry, common lady fern, and slough sedge.		
Soils	Hydric soil indicator F3 (Depleted Matrix) was observed.		
Hydrology	Hydrology for Wetland C is provided by direct precipitation, a seasonally high groundwater table, and surface runoff.		
Rationale for Delineation	Wetland boundaries were determined by topographic drop and a transition to a hydrophytic plant community.		
Rationale for Local Rating	Wetland rating based on the current WSDOE wetland rating system for Western Washington (Hruby, 2014) per GHMC 18.08.040.B.		
Wetland Functions Summary			
Water Quality	Wetland C has a low potential to improve water quality due to an intermittently flowing outlet, lack of persistent vegetation, and limited amount of seasonal ponding. The landscape has a low ability to support water quality improvement functions due to limited pollutants entering the wetland and a lack of stormwater input and septic systems in the immediate vicinity of the wetland. Water quality improvement functions are not considered valuable to society due to a lack of connections to impaired waters within the sub-basin. Wetland C has a low score for improving water quality (4).		
Hydrologic	Wetland C has a low potential to reduce flooding due to an intermittently flowing outlet, moderate depth of storage, and small size compared to the contributing basin. The surrounding landscape provides increased hydrologic input due to the presence of intensive human land uses. However, the hydrologic functions provided by the wetland are limited as the nearby road, Rosedale Street Northwest, acts as a levee protecting downstream properties. Wetland C has a low score for hydrologic functions (4).		
Habitat	Wildlife habitat functions provided by the wetland may include small mammal, amphibian, and bird forage and cover. Wetland C contains limited diversity with only one Cowardin class, low species richness, and no habitat interspersion, but does contain special habitat features such as large, downed, woody debris. The surrounding landscape has a moderate potential to support habitat connectivity and complexity between the wetland and other potential habitat due to nearby forested areas that contain snags and logs. Wetland C habitat score is low (5).		
Buffer Condition	The onsite buffer for Wetland C consists primarily of intact native forested areas with minimal presence of non-native invasive species such as Himalayan blackberry and cutleaf blackberry.		

Table 6. Wetland D Summary

WETLAND D – INFORMATION SUMMARY		
Location:	Located on the southeast corner of the subject property adjacent to Gig Harbor High School, extending minimally offsite to the east.	
	Local Jurisdiction	City of Gig Harbor
	WRIA	15 – Kitsap
	WSDOE Rating (Hruby, 2014)	IV
	City of Gig Harbor Rating	IV
	City of Gig Harbor Buffer Width	40 feet
	Wetland Size	~28,697 sf
	Cowardin Classification	PFO/SSC
	HGM Classification	Depressional
	Wetland Data Sheet(s)	DP-7
	Upland Data Sheet(s)	DP-5
	Boundary Flag color	Orange
Dominant Vegetation	Wetland vegetation consists of a canopy of western red cedar and red alder with an understory of hardhack, twinberry, cascara, slough sledge, and water parsley.	
Soils	Hydric soil indicator A4 (Hydrogen Sulfide) was observed.	
Hydrology	Hydrology for Wetland D is provided by direct precipitation, a seasonally high groundwater table, and surface runoff.	
Rationale for Delineation	Wetland boundaries were determined by topographic drop and a transition to a hydrophytic plant community.	
Rationale for Local Rating	Wetland rating based on the current WSDOE wetland rating system for Western Washington (Hruby, 2014) per GHMC 18.08.040.B.	
Wetland Functions Summary		
Water Quality	Wetland D has a moderate potential to improve water quality due to an intermittently flowing outlet, persistent vegetation that makes up greater than 50 percent of the wetland, and high percentage of seasonal ponding. The landscape has a low ability to support water quality improvement functions due to limited pollutants entering the wetland and a lack of stormwater input and septic systems in the immediate vicinity of the wetland. Water quality improvement functions are not considered valuable to society due to a lack of connections to impaired waters within the sub-basin. Wetland D has a moderate score for improving water quality (5).	
Hydrologic	Wetland D has a low potential to reduce flooding due to an intermittently flowing outlet, moderate depth of storage, and small size compared to the contributing basin. The surrounding landscape provides increased hydrologic input due to the presence of intensive human land uses. However, the hydrologic functions provided by the wetland are limited as the nearby road, Rosedale Street Northwest, acts as a levee protecting downstream properties. Wetland D has a low score for hydrologic functions (4).	
Habitat	Wildlife habitat functions provided by the wetland may include small mammal, amphibian, and bird forage and cover. Wetland D contains limited diversity with two Cowardin classes, moderate species richness, and low habitat interspersion, but does contain special habitat features such as large, downed woody debris. The surrounding landscape has a moderate potential to support habitat connectivity and complexity between the wetland and other potential habitat due to nearby forested areas that contain snags and logs. Wetland D habitat score is low (5).	
Buffer Condition	The onsite buffer for Wetland D consists primarily of intact native forested areas with minimal presence of non-native invasive species such as Himalayan blackberry and cutleaf blackberry.	

Chapter 6. Regulatory Considerations

The results of the site investigations identified five potentially regulated wetlands (Wetlands A-E) on and within 300 feet of the subject property. No other potentially regulated wetlands, waterbodies, or fish and wildlife habitat were identified on or within 300 feet of the subject property.

6.1 Local Critical Areas Requirements

6.1.1 Wetland Buffers

GHMC 18.08.040.B has adopted the current wetland rating system used by WSDOE. Category III wetlands score between 16 and 19 points generally provide a moderate level of function, have usually been disturbed in some way, and are often less diverse and/or more isolated in the landscape than Category II wetlands. Category IV wetlands generally provide low levels of function; they are typically more disturbed, smaller, and/or more isolated in the landscape than Category I, II, or III wetlands. Category IV wetlands provide low levels of functions and score less than 16 out of 27 points on the *Revised Washington State Wetland Rating System for Western Washington* (Hruby, 2014).

Wetlands A and E are classified as Category III wetlands with moderate habitat scores and subject to standard 150-foot buffers assuming high land use intensity per GHMC 18.08.100.F. Wetlands B, C, and D are classified as Category IV wetlands subject to standard 50-foot buffers per GHMC 18.08.100.G. Buildings and other structures require an additional 15-foot setback from the regulated wetland buffer edge per GHMC 18.08.100.H. The buffer from Offsite Wetland E is not anticipated to project onsite as Rosedale Street Northwest likely constitutes a wetland buffer interruption per GHMC 18.08.100.I.

The Applicant proposes development of the site to include a 31-lot residential development and associated infrastructure. Through careful planning efforts, the proposed project minimizes impacts to the identified critical areas to the extent possible. However, as several of the identified critical areas and associated buffers encumber a large area of the site, avoidance of all impacts are unavoidable. Wetland buffer reduction will need to be utilized to allow site development and required stormwater infrastructure. As such, the Applicant proposes to reduce the Wetland A buffer from 150 feet to 110 feet and reduce the buffer from Wetlands B, C, and D from 50 feet to 40 feet. A discussion of adherence to mitigation sequencing, buffer reduction criteria, and other requirements is provided in the following sections.

6.1.2 Mitigation Sequencing

Alteration of Category II, III and IV wetlands may be allowed when all adverse impacts to wetland functions and values can be shown to be fully mitigated. The following criteria has been considered by the applicant in accordance with GHMC 18.08.140.B:

1. *Avoiding the impact altogether by not taking a certain action or parts of actions;*

The proposed project was carefully designed to avoid impacts to critically sensitive areas to the greatest extent feasible by utilizing the developable upland areas onsite. However, due to the exceptional encumbrance of the identified wetlands and associated buffers throughout the majority of the site, entire avoidance of impacts is not feasible. In order to meet the minimum

project goals and development standards in Gig Harbor including a secondary access for public safety and frontage improvements, the project requires 7,790 square feet of partial wetland fill within Wetland A as well as 18,462 square feet of indirect impacts to Wetland A and to allow for installation of an access road to transect site from the southeast corner of the site along Rosedale Street to the northwest corner of the site. The access road will allow for access to the right of way to the north of the property, which is essential for public safety and emergency vehicle access. The access road must span Wetland A to reach this area of the property. GHMC 18.08.120.D will allow placement of access roads and utilities across Category II, III and IV wetland buffers, if the department determines that there is no reasonable alternative location for providing access and/or utilities to a site. A mitigation plan outlining these requirements is provided in Chapter 7 of this report. In addition, wetland buffer reduction will need to be utilized to allow site development and required stormwater infrastructure. In accordance with GHMC 18.08.110.A, The buffer widths required for uses of land with “high” impacts to wetlands can be reduced to those required for “moderate” impacts as long as they meet the conditions outlined in GHMC 18.08.110.A1. As such, the Applicant proposes to reduce the Wetland A buffer from 150 feet to 110 feet and reduce the buffer for Wetlands B, C, and D from 50 feet to 40 feet.

2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

In order to accommodate the residential redevelopment, the proposed impacts are the minimum necessary in order to reasonably develop the site. As direct wetland impacts to the Category III wetland are unavoidable for utilization of a secondary access point, the proposed lots were shifted to the north to the extent feasible to avoid further impacts to Wetland A, and placed within the upland area along the east portion of the site. The stormwater infrastructure has been designed to be located entirely outside the wetland buffer, or within the outer 25% in accordance with GHMC 18.08.120.C. In addition, all appropriate BMPs and TESC measures will be implemented throughout the duration of the project to protect.

3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment; and

The project will enhance the buffer around Wetland A, as well as 58,703 square feet of buffer creation areas, which will provide increased species diversity, wetland protection and pollutant filtration. The project proposes compensatory wetland creation, which will serve as a higher functioning wetland than the low-quality wetland required to be impacted. The onsite wetland creation and non-compensatory wetland buffer creation and enhancement actions are proposed to fully compensate for the direct and indirect impacts, and buffer reduction, associated with the proposed project. In addition, the proposed stormwater improvements will provide an enhancement of water quality treatment and detention over existing conditions, as no stormwater infrastructure currently exists onsite. Temporary impacts will also be fully restored.

4. Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation for the wetland buffer reductions, direct and indirect impacts to Wetland A will be provided through onsite, in-kind compensatory actions via 61,761 square feet wetland creation areas along Wetland A, 58,703 square feet of buffer creation areas along the onsite wetlands, and 14,687 square feet buffer enhancement to the buffer associated with Wetland A. Wetland creation areas and square footage is a conservative estimate; final wetland creation square footage will be

determined during implementation based on project needs. Temporary impacts (53,878 square feet) along the proposed access road resulting from construction activities will be fully restored. Stormwater detention and treatment will be provided onsite. The stormwater pond has been designed to be entirely outside the wetland buffer; a storm drain line is proposed within the outer 25% of the Wetland A buffer in accordance with GHMC 18.08.120.C. The proposed stormwater improvements will provide an enhancement of water quality treatment over existing conditions, as no stormwater infrastructure currently exists onsite. The proposed project is anticipated to provide a net lift in ecological functions on a watershed scale when compared to the existing degraded conditions of the onsite wetland and buffers proposed to be impacted.

6.1.3 Wetland Buffer Reduction

The applicant must demonstrate that by enhancing the wetland buffer and use of applicable avoidance measures listed in Table 6 below, the reduced wetland buffer will function at a level equivalent to or greater than the level of the standard buffer. Prior to approval of a reduced buffer, a critical areas application shall meet all of the following criteria listed in GHMC 18.08.110.A.2:

1. *It will provide an overall improvement in water quality protection for the wetland; and*

Stormwater runoff from impervious surfaces of the proposed project will be conveyed to water quality treatment infrastructure. As the existing site currently does not have stormwater detention and treatment facilities, it is anticipated the proposed project will improve water quality functions by increasing runoff storage and conveyance capacity, retention of sediments, and pollution assimilation. As such, the proposed project will not adversely affect water quality.

2. *It will not adversely affect fish or wildlife species and will provide an overall enhancement to fish and wildlife habitat; and*

The proposed mitigation actions will plant a variety of native plants which will provide improved habitat conditions and function through establishing diverse vertical and horizontal vegetation strata beneficial to wildlife, resulting in a net gain in ecological function and protection.

3. *It will provide a net improvement in drainage and/or storm water detention capabilities; and*

No stormwater treatment or detention facilities currently exist onsite. Stormwater runoff from impervious surfaces of the proposed project will be conveyed to water quality treatment infrastructure. As the existing site currently does not have stormwater detention and treatment facilities, it is anticipated the proposed project will benefit water quality, drainage and stormwater retention capabilities with the proposed stormwater treatment and buffer enhancement actions through native plantings.

4. *All exposed areas are stabilized with native vegetation, as appropriate; and*

The reduced buffers will be enhanced through invasive removal and native plantings which will provide a net increase in ecological functions onsite compared to the existing degraded conditions. Further, any remaining disturbed areas will be seeded with a native seed mix. Please refer to Chapter 7 for more details regarding the mitigation plan.

5. *It will not lead to unstable earth conditions or create an erosion hazard; and*

The proposed project has been designed with specific erosion prevention and stabilization elements to avoid the creation of unstable earth conditions and erosion hazards. All appropriate erosion control and BMP's will be used to prevent unstable conditions. Runoff will be collected and detained to minimize any potential erosion hazards. This proposal has utilized, to the maximum extent possible, the best available construction, design, and development techniques to ensure the least amount of impact on the critical areas and associated buffer areas on the subject property. BMP's will be implemented that consist of high-visibility fencing (HVF) installed around native vegetation along the reduced perimeter of the buffers, silt fencing between the graded areas and undisturbed buffers, plastic sheeting on stockpiled materials, and seeding of disturbed soils. These BMP's should be installed prior to the start of development and enhancement actions and actively managed for the duration of the project.

The developed site will stabilize once all proposed landscaping matures are completed. Prior to final site stabilization, erosion control measures will prevent erosion hazards. The temporarily impacted wetland buffer areas will be stabilized and replanted.

6. *It will not be materially detrimental to any other property or the city as a whole.*

The proposed mitigation actions will not be materially detrimental to other properties or the City; rather, it will provide an improvement in the quality of ecological functions onsite which will benefit the City and local watershed.

Table 6. Buffer Reduction Measures

Examples of Disturbance	Activities That Cause Disturbances	Examples of Measures to Minimize Impacts
Lights	Parking lots, warehouses, manufacturing, residential	Direct lights away from wetland.
Noise	Manufacturing, residential	Locate activity that generates noise away from wetland.
Toxic runoff ¹	Parking lots, roads, manufacturing, residential areas, application of agricultural pesticides, landscaping	Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered.
		Establish covenants limiting use of pesticides within 150 ft. of wetland.
		Apply integrated pest management.
Stormwater runoff	Parking lots, roads, manufacturing, residential areas, commercial, landscaping	Retrofit storm water detention and treatment for roads and existing adjacent development.
		Prevent channelized flow from lawns that directly enters the buffer.

Examples of Disturbance	Activities That Cause Disturbances	Examples of Measures to Minimize Impacts
Change in water regime	Impermeable surfaces, lawns, tilling	Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns.
Pets and human disturbance	Residential areas	Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; place wetland and its buffer in a separate tract.
Dust	Tilled fields	Use best management practices to control dust.
This is not a complete list of mitigation measures. Additional mitigation measures that minimize impacts may be proposed.		

A buffer enhancement plan will be provided in Chapter 7 to meet guidelines in accordance with GHMC 18.08.110.A.3.

6.2 State and Federal Considerations

The onsite wetlands likely have surface and/or subsurface connections to Waters of the United States and therefore may be regulated under Section 404 of the Clean Water Act (CWA). The WSDOE also regulates wetlands and natural surface waters under RCW 90.48. As the project will require direct impacts to the identified critical areas, state and federal authorizations will be required.

Chapter 7. Conceptual Mitigation Plan

The proposed compensatory and non-compensatory mitigation actions for the project attempt to strike a balance between achieving project goals as well as a positive result for the watershed and the wetland and habitat functions within the confines of the site. In general, compensatory wetland mitigation should be located within the same watershed as the impact site and should be located where it is most likely to successfully replace lost functions and values that best benefit the impacted watershed. Potential compensatory wetland mitigation actions were examined in the context of both onsite and watershed processes to determine the most suitable wetland mitigation strategy.

The proposed wetland impacts and associated mitigation actions attempt to closely adhere to local critical areas regulations specified in GHMC 18.08 while also utilizing the best available science (Granger et al., 2005; Hruby et al., 2009; Sheldon et al., 2005; and WSDOE, USACE, & EPA, 2006). This chapter presents the mitigation details for the proposed Rosedale Street NW residential development project. Project site plans are included in Appendix C.

7.1 Purpose and Need

The purpose of the project is to provide a residential development within the City of Gig Harbor consistent with zoning and to meet the growing needs for such 55+ communities in the Gig Harbor area. The proposed project includes construction of 31 single-family lots and associated infrastructure including access roads, utilities and stormwater infrastructure.

7.2 Description of Impacts

The proposed project was carefully designed to avoid impacts to critically sensitive areas to the greatest extent feasible by utilizing the developable upland areas onsite. However, due to the exceptional encumbrance of the identified wetlands and associated buffers throughout the majority of the site, entire avoidance of impacts is not feasible. In order to meet the minimum project goals and development standards in Gig Harbor including a secondary access for public safety and frontage improvements, the project requires 7,790 square feet of partial wetland fill within Wetland A as well as 18,462 square feet of indirect impacts to Wetland A and to allow for installation of an access road to transect site from the southeast corner of the site along Rosedale Street to the northwest corner of the site. The access road will allow for access to the right of way to the north of the property, which is essential for public safety and emergency vehicle access. The access road must span Wetland A to reach this area of the property. GHMC 18.08.120.D will allow placement of access roads and utilities across Category II, III and IV wetland buffers, if the department determines that there is no reasonable alternative location for providing access and/or utilities to a site. A mitigation plan outlining these requirements is provided in Chapter 7 of this report. In addition, wetland buffer reduction will need to be utilized to allow site development and required stormwater infrastructure. In accordance with GHMC 18.08.110.A, The buffer widths required for uses of land with “high” impacts to wetlands can be reduced to those required for “moderate” impacts as long as they meet the conditions outlined in GHMC 18.08.110.A1. As such, the Applicant proposes to reduce the Wetland A buffer from 150 feet to 110 feet and reduce the buffer for Wetlands B, C, and D from 50 feet to 40 feet.

Mitigation for the wetland buffer reductions, direct and indirect impacts to Wetland A will be provided through onsite, in-kind compensatory actions via 61,761 square feet wetland creation areas along

Wetland A, 58,703 square feet of buffer creation areas along the onsite wetlands, and 14,687 square feet buffer enhancement to the buffer associated with Wetland A. Wetland creation areas and square footage is a conservative estimate; final wetland creation square footage will be determined during implementation based on project needs. Temporary impacts (53,878 square feet) along the proposed access road resulting from construction activities will be fully restored. Stormwater detention and treatment will be provided onsite. The stormwater pond has been designed to be entirely outside the wetland buffer; a storm drain line is proposed within the outer 25% of the Wetland A buffer in accordance with GHMC 18.08.120.C. The proposed stormwater improvements will provide an enhancement of water quality treatment over existing conditions, as no stormwater infrastructure currently exists onsite. The proposed project is anticipated to provide a net lift in ecological functions on a watershed scale when compared to the existing degraded conditions of the onsite wetland and buffers proposed to be impacted.

A wetland function impact analysis for the direct wetland impact to Wetland A is provided below.

- **Water Quality:** While Wetland A is in close proximity to land uses that generate pollutants, it has lower potential to filter sediments and pollutants from surface runoff due to the lack of stormwater and other pollutants entering the wetland. This function is further limited by the relatively small size of the unit. Little to no water quality functions will be lost due to wetland fill as onsite stormwater infrastructure is proposed, and no stormwater treatment or detention currently exists onsite. This water quality treatment and detention will be a much improvement over existing conditions. Wetland functions will be improved and replaced via the mitigation provided through compensatory and non-compensatory mitigation actions.
- **Hydrologic:** Hydrology for Wetland A is provided by direct precipitation, surface sheet flow, and a seasonally high groundwater table. This wetland does not have the potential to reduce flooding within the landscape due to the roadway and ineffective culverts causing hydrologic impairments that delay storm flows. However, some hydrologic function is provided onsite due to the proximity of intensive land uses in the contributing basin and excess surface runoff from the onsite land uses. Therefore, the proposed wetland fill will not significantly limit hydrologic functions onsite, especially since greater wetland functions will be replaced via the mitigation provided through compensatory wetland creation and non-compensatory wetland buffer creation and enhancement. The project will provide onsite stormwater treatment which will provide an increase in hydrological function over existing baseline conditions.
- **Habitat:** Wetland A provides moderate habitat functions; even though multiple Cowardin classes exist, the wetland has a single hydroperiod, low habitat interspersion, a relatively small size of the unit, and located in a generally urbanized location. Little onsite habitat function will be lost by the proposed wetland fill; the mitigation provided through compensatory wetland creation and non-compensatory wetland buffer creation and enhancement will be able to provide more diverse habitat functions than what currently exists onsite.

7.3 Mitigation Strategy

The proposed compensatory mitigation actions are intended to compensate for lost wetland functions and values by providing an overall improvement in the quality of water quality, hydrologic, and habitat functions according to the needs of the site, local sub-basin, and overall Burley Creek – Frontal Carr Inlet watershed. To achieve this, the project proposes a mitigation strategy incorporating onsite, in-

kind compensatory wetland creation. Onsite non-compensatory wetland buffer creation and enhancement will also be provided for the proposed buffer reduction for the onsite wetlands.

The proposed onsite mitigation actions are intended to compensate for mitigation requirements for the partial fill of the onsite regulated wetland, indirect impacts, and reduced wetland buffer areas. In the case of this project, mitigation onsite is possible and will provide effective compensation for the proposed impacts. As the impacted wetland is a relatively low-functioning Category III wetland, loss of wetland functions will be improved by restoring and creating missing water quality function, hydrological function and habitat. In accordance with GHMC 18.08.150.A, the overall goal of the compensatory mitigation plan is no net loss of wetland function or acreage and a net resource gain in wetlands over present conditions. Overall, onsite mitigation actions will consist of 61,761 square feet (1.42 acres) of compensatory wetland creation area adjacent to Wetland A; 58,703 square feet (1.35 acres) of buffer creation area; and 14,687 square feet (0.34 acre) of buffer enhancement within the project facing buffer areas. Proposed wetland creation is intended to mimic the existing Category III wetland rating and function of Wetland A. Wetland creation areas and square footage is a conservative estimate; final wetland creation square footage will be determined during implementation based on project needs. The approximate 53,878 square feet (1.24 acres) of temporary impacts related to construction activities will be fully restored.

The wetland creation area will be excavated approximately 12 to 18 inches to provide necessary depressions to hold sufficient hydrology to generate wetland conditions and will be excavated to the existing groundwater table. In addition, clean roof runoff can be directed to the wetland creation area to provide additional hydrology to the newly created wetland areas. Organic topsoil, likely from an offsite supplier but potentially sourced onsite, will then be placed to provide a suitable substrate for the proposed native plantings. Through careful design and utilization of best available science, the proposed mitigation plan has a high probability of success and persistence. The newly created wetland areas will be installed in the same environment that provides adequate conditions for the existing Wetland A. By following site preparation specifications (e.g., excavation, topsoil installation, and plantings) which will be detailed further in a final mitigation plan, the wetland creation areas will be able to maintain wetland hydrology during the growing season in most years to match the existing, functional, seasonally flooded wetland.

The buffer restoration and enhancement plan being proposed for this project includes enhancement and restoration of the outer perimeter of the wetland buffers facing the proposed development, as needed based on existing vegetation conditions. A selection of native plants will be installed along the outer perimeter of the wetland buffers to reduce the opportunity for physical intrusion into the buffers and to increase plant density and diversity. Proposed buffer enhancement and restoration measures include removing trash and non-native invasive plant species from the wetland buffers as necessary. Any areas disturbed by invasive plant or trash removal should be replanted with native trees and shrubs. All areas temporarily impacted by construction activities will be fully restored. No activities are proposed that will directly impact the onsite wetlands.

The proposed onsite mitigation actions will improve ecological functions and value by providing additional functions according to the needs of the site and watershed and providing an overall improvement to wetland and buffer functions. Removing wetland and buffer degradations such as non-native, invasive vegetation and replacing with native plantings will restore the habitat functions and critical area protection provided by the site and improve hydrology and quality of water leaving the project site. A diverse assortment of trees, shrubs, and groundcover will be established to provide

browse, cover, and nesting for small mammals, which in turn provide prey for raptors and other mammals. The proposed onsite mitigation actions will provide a net gain in function and improved protection to Wetland A from the proposed development. Cowardin classes targeted for the wetland creation and buffer creation and enhancement are scrub shrub and forested plant communities. The proposed native species have been carefully selected to ensure the plants take root and thrive in the newly created wetland environments.

The wetland creation and additional buffer creation and enhancement areas proposed will include, but may not be limited to, the following recommendations:

- Pre-treat invasive plants with a Washington Department of Agriculture approved herbicide. After pre-treatment, grub to remove the invasive plants and replant all cleared areas with native trees, shrubs, and ground covers listed in Appendix C; Pre-treatment of the invasive plants should occur a minimum of two weeks prior to removal;
- Excavate an area continuous with Wetland A for wetland creation that will hold sufficient wetland hydrology;
- Replant all mitigation areas with native trees, shrubs, and groundcovers listed in Appendix C, or substitutes approved by the responsible Project Scientist, to help retain soils, filter stormwater, and increase biodiversity;
- An approved native seed mix will be used to seed the disturbed areas after planting;
- Maintain and control invasive plants annually, at a minimum, or more frequently if necessary. Maintenance to reduce the growth and spread of invasive plants is not restricted to chemical applications but may include hand removal, if warranted;
- Provide dry-season irrigation as necessary to ensure native plant survival;
- Direct exterior lights away from the wetlands wherever possible; and
- Place all activities that generate excessive noise (e.g., generators and air conditioning equipment) away from the remaining wetlands and reduced buffer where feasible.

7.4 Approach and Best Management Practices

The proposed conceptual mitigation plan includes the use of onsite, in-kind wetland creation and buffer creation and enhancement measures to provide increased wetland protections by maintenance or improvement of wetland and buffer functions both onsite and in the greater Burley Creek – Frontal Carr Inlet watershed. Impacts to the remaining wetland areas and associated buffer are being minimized through careful planning efforts and project design. Enhancement of the reduced, disturbed buffer should occur immediately after grading is complete. TESC measures will be implemented that consists of high-visibility fencing (HVF) installed around native vegetation along the modified perimeter of the remaining buffer, silt fencing between the graded areas and remaining buffer, plastic sheeting on stockpiled materials, and seeding of disturbed soils. These TESC measures should be installed prior to the start of development or mitigation actions and actively managed for the duration of the project.

All equipment staging and materials stockpiles will be kept out of the remaining wetland and modified buffer, and the area will need to be kept free of spills and/or hazardous materials. All fill material and road surfacing will be sourced from upland areas onsite or from approved suppliers and will need to be free of pollutants and hazardous materials. Construction materials along with all construction waste

and debris will be effectively managed and stockpiled on paved surfaces and kept free of the remaining wetland and buffer areas. Following completion of the development, the entire site will be cleaned and detail graded using hand tools wherever necessary, and TESC measures will be removed. A post-construction split-rail fence will be installed between the final post-construction wetland buffers and the proposed development to shield the onsite critical areas from intrusion, while still allowing for wildlife movement.

7.5 Mitigation Goals, Objectives, and Performance Standards

The goals and objectives of the proposed mitigation actions are as follows:

Goal 1 – Compensate for the approximately 7,790 square feet of direct wetland impacts to Wetland A with wetland creation areas.

Objective 1.1 – Establish wetland hydrology in the wetland creation areas associated with Wetland A by excavating depressional areas (approximately 12 to 18 inches of material) to tie into the existing groundwater elevation.

Performance Standard 1.1.1 – The wetland creation areas will have seasonally-saturated soils (or greater hydroperiod) within 12 inches of the surface over for a minimum of 14 consecutive days during the growing season in years with normal precipitation levels over the monitoring period.

Performance Standard 1.1.2 – The compensatory wetland creation areas are estimated to measure at least 61,761-square feet in size (final square footage to be determined upon implementation) as demonstrated by wetland delineations during the Year 10 monitoring event of the 10-year monitoring period required by the USACE. *The wetland area will be delineated using the 1987 Army Corps of Engineers Delineation Manual and the Western Mountains, Valleys, and Coast Regional Supplement, Version 2 (May 2010).*

Objective 1.2 – Establish wetland habitat with diverse horizontal and vertical vegetation structure and species richness to provide habitat for wetland-associated wildlife over the compensatory wetland creation areas.

Performance Standard 1.2.1 – By the end of Year 10, the compensatory wetland creation areas will have at least 2 native tree species and 3 native shrubs species; native volunteer species will be included in the count. To be considered, the native species must make up at least 5 percent of the vegetation class.

Performance Standard 1.2.2 – Non-native invasive plants will not make up more than 20 percent areal cover within the wetland creation areas in any growing season during the monitoring period following Year 1.

Performance Standard 1.2.3 - Minimum plant survivorship within the wetland creation areas will be at 90 percent of installed trees and shrubs at the end of Year 1 (utilization of native recruits and replacement of lost plants allowed), 85 percent at the end of Year 2, and 80 percent at the end of Year 3.

Performance Standard 1.2.4 – Minimum native woody species total areal cover within the wetland creation areas will be at 20 percent total cover at the end of Year 2, 25 percent at the end of Year 3, 40 percent at the end of Year 5, 60 percent at the end of Year 7, and 65 percent at the end of Year 10.

Goal 2 – Create approximately 58,703 square feet of the buffer areas facing the proposed development.

Objective 2.1 – Restore native plant cover and biodiversity within the buffer creation areas.

Performance Standard 2.1.1 – Minimum plant survivorship within the creation areas will be 80 percent of installed trees and shrubs at the end of Year 1.

Performance Standard 2.1.2 – Native understory plant species (including existing vegetation, planted trees/shrubs, and volunteer species) will cover at least 20 percent total cover at the end of Year 2, 25 percent at the end of Year 3, 40 percent at the end of Year 5, 60 percent at the end of Year 7, and 65 percent at the end of Year 10.

Performance Standard 2.1.3 – At least 3 native shrub and/or tree species will be present in the creation areas in all monitoring years, including volunteer species.

Objective 2.2 – Effectively control and/or eliminate non-native invasive species from the restoration/enhancement areas.

Performance Standard 2.2.1 – Non-native invasive plants will not make up more than 20 percent total areal cover in any growing season following Year 1.

Goal 3 – Enhance approximately 14,687 square feet of the outer perimeter of the Wetland A buffer facing the proposed development.

Objective 3.1 – Enhance native plant cover and biodiversity within the enhancement areas.

Performance Standard 3.1.1 – Minimum plant survivorship within the enhancement areas will be 80 percent of installed trees and shrubs at the end of Year 1.

Performance Standard 3.1.2 – Native understory plant species (including existing vegetation, planted trees/shrubs, and volunteer species) will cover at least 20 percent total cover at the end of Year 2, 25 percent at the end of Year 3, 40 percent at the end of Year 5, 60 percent at the end of Year 7, and 65 percent at the end of Year 10.

Performance Standard 3.1.3 – At least 3 native shrub and/or tree species will be present in the enhancement areas in all monitoring years, including volunteer species.

Objective 3.2 – Effectively control and/or eliminate non-native invasive species from the restoration/enhancement areas.

Performance Standard 2.2.1 – Non-native invasive plants will not make up more than 20 percent total areal cover in any growing season following Year 1.

7.6 Plant Materials and Installation

7.6.1 Plant Materials

All plant materials to be used for creation and enhancement actions will be nursery grown stock from a reputable, local source. Proof of purchase from an appropriate licensed regional nursery will be provided to the town in the As-Built Report that will follow the construction of the proposed development and associate compensatory mitigation. Only native species are to be used; no hybrids or cultivars will be allowed. Plant material provided will be typical of their species or variety; if not cuttings they will exhibit normal, densely-developed branches and vigorous, fibrous root systems. Plants will be sound, healthy, vigorous plants free from defects, and all forms of disease and infestation.

Container stock shall have been grown in its delivery container for not less than six months but not more than two years. Plants shall not exhibit rootbound conditions. Under no circumstances shall container stock be handled by their trunks, stems, or tops. Seed mixture used for hand or hydroseeding shall contain fresh, clean, and new crop seed mixed by an approved method.

All plant material shall be inspected by a qualified Wetland Scientist upon delivery. Plant material not conforming to the specifications below will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site.

Fertilizer will be in the form of Agroform plant tabs or an approved like form. Mulch will consist of sterile wheat straw or clean recycled wood chips approximately 1/2 inch to 1 inch in size and 1/2 inch thick. If free of invasive plant species, the mulch material may be sourced from woody materials salvaged from the land clearing activities.

No fill or topsoil materials will be imported to the site; native onsite soils may be reused as needed for grading or topsoil purposes within the buffer mitigation area. Mulch may be used to top dress the plantings and aid in moisture retention.

7.6.2 Plant Scheduling, Species, Size, and Spacing

Plant installation should occur as close to conclusion of clearing and grading activities as possible to limit erosion and limit the temporal loss of function provided by the wetland and buffer. All planting should occur between September 1 and May 1 to ensure plants do not dry out after installation, or temporary irrigation measures may be necessary.

7.6.3 Quality Control for Planting Plan

All plant material shall be inspected by a qualified Wetland Scientist upon delivery. Plant material not conforming to the specifications above will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site. Under no circumstances shall container stock be handled by their trunks, stems, or tops.

The landscape contractor shall provide the responsible Wetland Scientist with documentation of plant material that includes the supplying nursery contact information, plant species, plant quantities, and plant sizes.

7.6.4 Product Handling, Delivery, and Storage

All seed and fertilizer should be delivered in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. This material should be stored in a manner to prevent wetting and deterioration. All precautions customary in good trade practice shall be taken in preparing plants for moving. Workmanship that fails to meet industry standards will be rejected. Plants will be packed, transported, and handled with care to ensure protection against injury and from drying out. If plants cannot be planted immediately upon delivery they should be protected with soil, wet peat moss, or in a manner acceptable to the responsible Wetland Scientist. Plants, fertilizer, and mulch not installed immediately upon delivery shall be secured on the site to prevent theft or tampering. No plant shall be bound with rope or wire in a manner that could damage or break the branches. Plants transported on open vehicles should be secured with a protective covering to prevent windburn.

7.6.5 Preparation and Installation of Plant Materials

The planting contractor shall verify the location of all elements of the creation and enhancement plan with the responsible Wetland Scientist prior to installation. The responsible Wetland Scientist reserves the right to adjust the locations of landscape elements during the installation period as appropriate. If obstructions are encountered that are not shown on the drawings, planting operations will cease until alternate plant locations have been selected by and/or approved by the Wetland Scientist.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least 12 inches in diameter, and the depth of the pit should accommodate the entire root system. The bottom of each pit will be scarified to a depth of 4 inches.

Broken roots should be pruned with a sharp instrument and rootballs should be thoroughly soaked prior to installation. Set plant material upright in the planting pit to proper grade and alignment. Water plants thoroughly midway through backfilling and add Agroform tablets. Water pits again upon completion of backfilling. No filling should occur around trunks or stems. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water, and install a 4 to 6 inch layer of mulch around the base of each container plant.

7.6.6 Temporary Irrigation Specifications

While the native species selected for creation and enhancement actions are hardy and typically thrive in northwest conditions and the proposed actions are planned in areas with sufficient hydroperiods for the species selected, some individual plants might perish due to dry conditions. Therefore, irrigation or regular watering may be provided as necessary for the duration of the first 2 growing seasons while the native plantings become established. If used, irrigation will be discontinued after 2 growing seasons.

7.6.7 Invasive Plant Control and Removal

Invasive species to be removed include Himalayan blackberry, English ivy, and any listed noxious weeds. These species can also be found nearby; therefore, to ensure these species do not expand following the creation and enhancement actions, invasive shrubs within the enhancement area will be pretreated with a root-killing herbicide approved for use in aquatic sites (e.g., Rodeo) a minimum of two weeks prior to being removed from the wetland buffer. The pre-treatment with herbicide should occur prior to all planned creation and enhancement actions, and spot treatment of any surviving other invasive vegetation should be performed again each fall prior to leaf senescence for a minimum of 3 years.

7.7 Maintenance & Monitoring Plan

Maintenance and Monitoring Plans are described below in accordance with GHMC 18.08.180 and have been coordinated and approved by a qualified wetland specialist. The Applicant is committed to compliance with the mitigation plan and overall success of the project. As such, the Applicant will continue to maintain the project, keeping the site free of non-native invasive vegetation, trash, and yard waste.

The wetland mitigation actions will require continued monitoring and maintenance to ensure the mitigation actions are successful. Therefore, the wetland creation and buffer creation and enhancement areas will be monitored for a period of 10 years, with formal inspections by a qualified Project Scientist. Monitoring events will be scheduled at the time of construction, 30 days after planting, and minimally on an annual basis during Years 1, 2, 3, 5, 7, and 10. Closeout assessment will also be conducted in Year 10 for the wetland creation and enhancement areas and Year 5 for the buffer enhancement area to ensure the success of the mitigation actions.

Monitoring will consist of percent cover measurements at permanent monitoring stations, walk-through surveys to identify invasive species presence and dead or dying mitigation plantings, photographs taken at fixed photo points, wildlife observations, and general qualitative habitat and wetland function observations.

To determine percent cover, observed vegetation will be identified and recorded by species and an estimate of areal cover of dominant species within each sampling plots. Circular sample plots, approximately 30 feet in diameter (706 square feet), are centered at each monitoring station. The sample plots encompass the specified wetland areas and terminate at the observed wetland boundary. Trees and shrubs within each 30-foot diameter monitoring plot are then recorded to species and areal cover. Herbaceous vegetation is sampled from a 10-foot diameter (78.5 square feet) within each monitoring plot, established at the same location as the center of each tree and shrub sample plot. Herbaceous vegetation within each monitoring plot is then recorded to species and includes an estimate of percent areal cover. A list of observed tree, shrub, and herbaceous species including percent areal cover of each species and wetland status is included within the monitoring report.

7.8 Reporting

Following each monitoring event, a brief monitoring report detailing the current ecological status of the mitigation actions, measurement of performance standards, and management recommendations will be prepared and submitted to the City of Gig Harbor within 90 days of each monitoring event to

ensure full compliance with the mitigation plan, performance standards, and regulatory conditions of approval.

7.9 Contingency Plan

If monitoring results indicate that performance standards are not being met, it may be necessary to implement all or part of the contingency plan. Careful attention to maintenance is essential in ensuring that problems do not arise. Should any portion of the site fail to meet the success criteria, a contingency plan will be developed and implemented with regulatory approval. Such plans are adaptive and should be prepared on a case-by-case basis to reflect any failed restoration characteristics. Contingency plans can include additional plant installation, erosion control, and/or plant substitutions including type, size, and location.

Contingency/maintenance activities may include, but are not limited to:

1. Replacing plants lost to vandalism, drought, or disease, as necessary;
2. Replacing any plant species with a 20 percent or greater mortality rate after 2 growing seasons with the same species or native species of similar form and function;
3. Irrigating the restoration areas as necessary during dry weather if plants appear to be too dry, with a minimal quantity of water;
4. Reseeding and/or repair of action areas as necessary if erosion or sedimentation occurs;
5. Spot treat non-native invasive plant species; and
6. Removing all trash or undesirable debris from the buffer areas as necessary.

7.10 Financial Assurances

Per GHMC 18.08.208, performance security is required to assure that all actions approved under this mitigation plan are satisfactorily completed in accordance with the mitigation plan, performance standards, and regulatory conditions of approval. Consistent with the City of Gig Harbor's requirement, the Applicant will provide a performance bond (prior to the issuance of any building permits) in an amount equal to 125 percent of the total estimated fair market cost of labor, materials, and irrigation, as applicable. An estimated bond quantity calculation worksheet will be provided with a final mitigation plan, upon preliminary approvals.

Chapter 8. Closure

The findings and conclusions documented in this report have been prepared for specific application to this project. They have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work was also performed in accordance with the terms and conditions set forth in our proposal. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this project may need to be revised wholly or in part.

All wetlands delineated by SVC are based on conditions present at the time of the site inspection and considered preliminary until the flagged wetland boundaries are validated by the jurisdictional agencies. Validation of the wetland boundaries by the regulating agency provides a certification, usually written, that the wetland boundaries verified are the boundaries that will be regulated by the agencies until a specific date or until the regulations are modified. Only the regulating agencies can provide this certification.

As wetlands are dynamic communities affected by both natural and human activities, changes in wetland boundaries may be expected; therefore, wetland delineations cannot remain valid for an indefinite period of time. Local agencies typically recognize the validity of wetland delineations for a period of five years after completion of a critical areas report. Development activities on a site five years after the completion of this wetland delineation report may require revision of the wetland delineations. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

Chapter 9. References

- Brinson, M. M. 1993. *A hydrogeomorphic classification for wetlands*, Technical Report WRP-DE-4. U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.
- Cowardin, L.M. V. Carter, F. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service. Washington D.C.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Federal Geographic Data Committee. 2013. *Classification of wetlands and deepwater habitats of the United States*. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.
- Gig Harbor Municipal Code (GHMC). 2019. Title 18 – *Environment – Critical Areas*. Website: <https://www.codepublishing.com/WA/GigHarbor>. Current through May 28, 2019.
- Granger, T., T. Hruby, A. McMillan, D. Peters, J. Rubey, D. Sheldon, S. Stanley, and E. Stockdale. 2005. *Wetlands in Washington State - Volume 2: Guidance for Protecting and Managing Wetlands*. Washington State Department of Ecology. Publication #05-06-008. Olympia, Washington. April 2005.
- Hitchcock, C.L. & A. Cronquist, Ed. by D. Giblin, B. Ledger, P. Zika, and R. Olmstead. 2018. *Flora of the Pacific Northwest, 2nd Edition*. U.W. Press and Burke Museum. Seattle, Washington.
- Hruby, T. 2014. *Washington State Wetland Rating System for Western Washington – Revised*. Washington State Department of Ecology Publication #04-06-029.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
- Munsell® Color, 2000. *Munsell® Soil Color Charts*. New Windsor, New York.
- Natural Resources Conservation Service (NRCS). 2001. *Hydric Soils List: Pierce County Area, Washington*. U.S. Department of Agriculture. Washington D.C.
- Sheldon, D., T. Hruby, P. Johnson, K. Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale. 2005. *Wetlands in Washington State - Volume 1: A Synthesis of the Science*. Washington State Department of Ecology. Publication #05-06-006. Olympia, Washington. March 2005.
- U.S. Army Corps of Engineers (USACE). 2008. *Revised Mem. from Envtl. Prot. Agency & Dep't of the Army on Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* (December 2, 2008).
- U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA). 2008. *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule*. Federal Register. Volume 73, Number 70 (33 CFR Parts 325 & 332, 40 CFR Part 230)

- USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center. Vicksburg, Mississippi.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States, Version 8.2*. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- Washington State Department of Ecology (WSDOE), USACE, and EPA. 2006. *Wetland Mitigation in Washington State Part 2: Developing Mitigation Plans (Version 1.0, March 2006, WSDOE publication # 06-06-11b)*. WSDOE Shorelands and Environmental Assistance Program. Olympia, Washington.
- Zulauf, Allen S. 1980. *Soil Survey of Pierce County Area, Washington*. United States Department of Agriculture, Soil Conservation Service in Cooperation with Washington State Department of Natural Resources and Washington State University, Agricultural Research Center. Natural Resource Conservation Service.

Appendix A — Methods and Tools

Table A1. Methods and tools used to prepare the report.

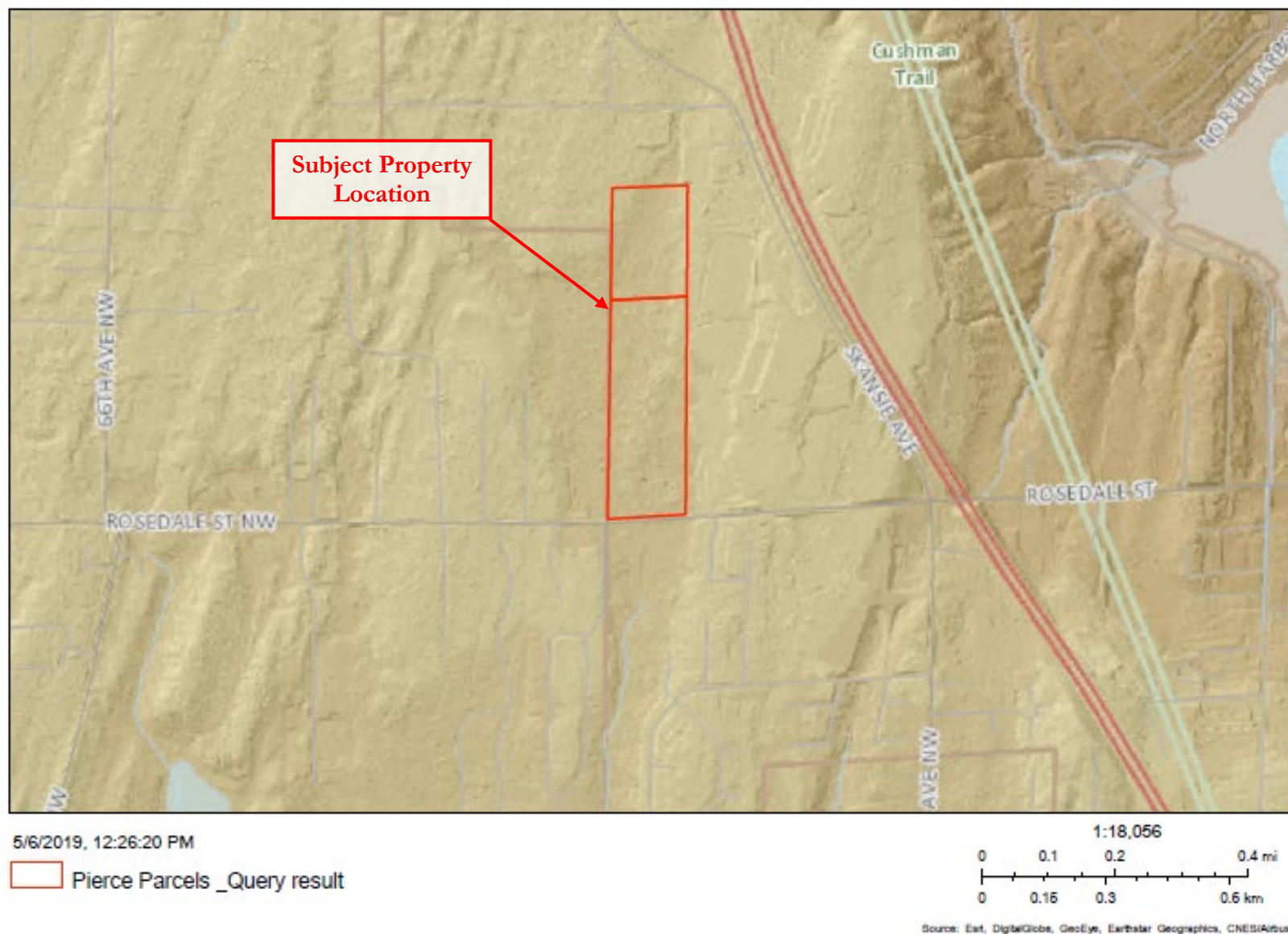
Parameter	Method or Tool	Website	Reference
Wetland Delineation	USACE 1987 Wetland Delineation Manual	http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf	Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
	Western Mountains, Valleys, and Coast Region Regional Supplement	http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finalsupp.pdf	U.S. Army Corps of Engineers. 2010. <i>Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)</i> , ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS / Cowardin Classification System	http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf https://www.fgdc.gov/standards/projects/wetlands/nvcs-2013	Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. Government Printing Office, Washington, D.C. Federal Geographic Data Committee. 2013. Classification of Wetlands and Deepwater Habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.
	Hydrogeomorphic Classification (HGM) System	http://el.erdc.usace.army.mil/wetlands/pdfs/wrpde4.pdf	Brinson, M. M. (1993). "A hydrogeomorphic classification for wetlands," Technical Report WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
Wetland Rating	2014 Washington State Wetland Rating System	http://www.ecy.wa.gov/biblio/0406025.html	Hruby, T. 2014. Washington State wetland rating system for western Washington –Revised. Publication # 04-06-025.
Wetland Indicator Status	2016 National Wetland Plant List	https://www.fws.gov/wetlands/documents/National-Wetland-Plant-List-2016-Wetland-Ratings.pdf	Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. <i>The National Wetland Plant List: 2016 wetland ratings</i> . Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
Plant Identification	USDA Plant Database	http://plants.usda.gov/	Website.
	Flora of the Pacific Northwest	http://www.pnwherbaria.org/florapnw.php	Hitchcock, C.L. & A. Cronquist, Ed. by D. Giblin, B. Ledger, P. Zika, and R. Olmstead. 2018. Flora of the Pacific Northwest, 2nd Edition. U.W. Press and Burke Museum. Seattle, Washington.
Soils Data	NRCS Soil Survey	http://websoilsurvey.nrcs.usda.gov/app/	Website GIS data based upon: Zulauf, Allen S. 1980. 1980. Soil Survey of Pierce County Area, Washington. United States Department of Agriculture, Soil Conservation Service, in cooperation with the Washington Agricultural Experiment Station.

Parameter	Method or Tool	Website	Reference
	Pierce County Hydric Soils List	http://www.wa.nrcs.usda.gov/technical/soils/hydric_lists/hysoil-wa-653.pdf	Natural Resources Conservation Service. 2001. <i>Hydric Soils List: Pierce County Area, Washington</i> . U.S. Department of Agriculture. Washington D.C.
Threatened and Endangered Species	Washington Natural Heritage Program	http://data-wadnr.opendata.arcgis.com/datasets/wnhp-current-element-occurrences	Washington Natural Heritage Program (Data published 07/19/17). Endangered, threatened, and sensitive plants of Washington. Washington State Department of Natural Resources, Washington Natural Heritage Program, Olympia, WA
	Washington Priority Habitats and Species	http://wdfw.wa.gov/hab/whspage.htm	Priority Habitats and Species (PHS) Program Map of priority habitats and species in project vicinity. Washington Department of Fish and Wildlife.
Species of Local Importance	WDFW GIS Data	http://wdfw.wa.gov/mapping/salmonscape/	Website
Report Preparation	Gig Harbor Municipal Code (GHMC)	https://www.codepublishing.com/WA/GigHarbor/	GHMC Chapter 18.08 – Critical Areas.

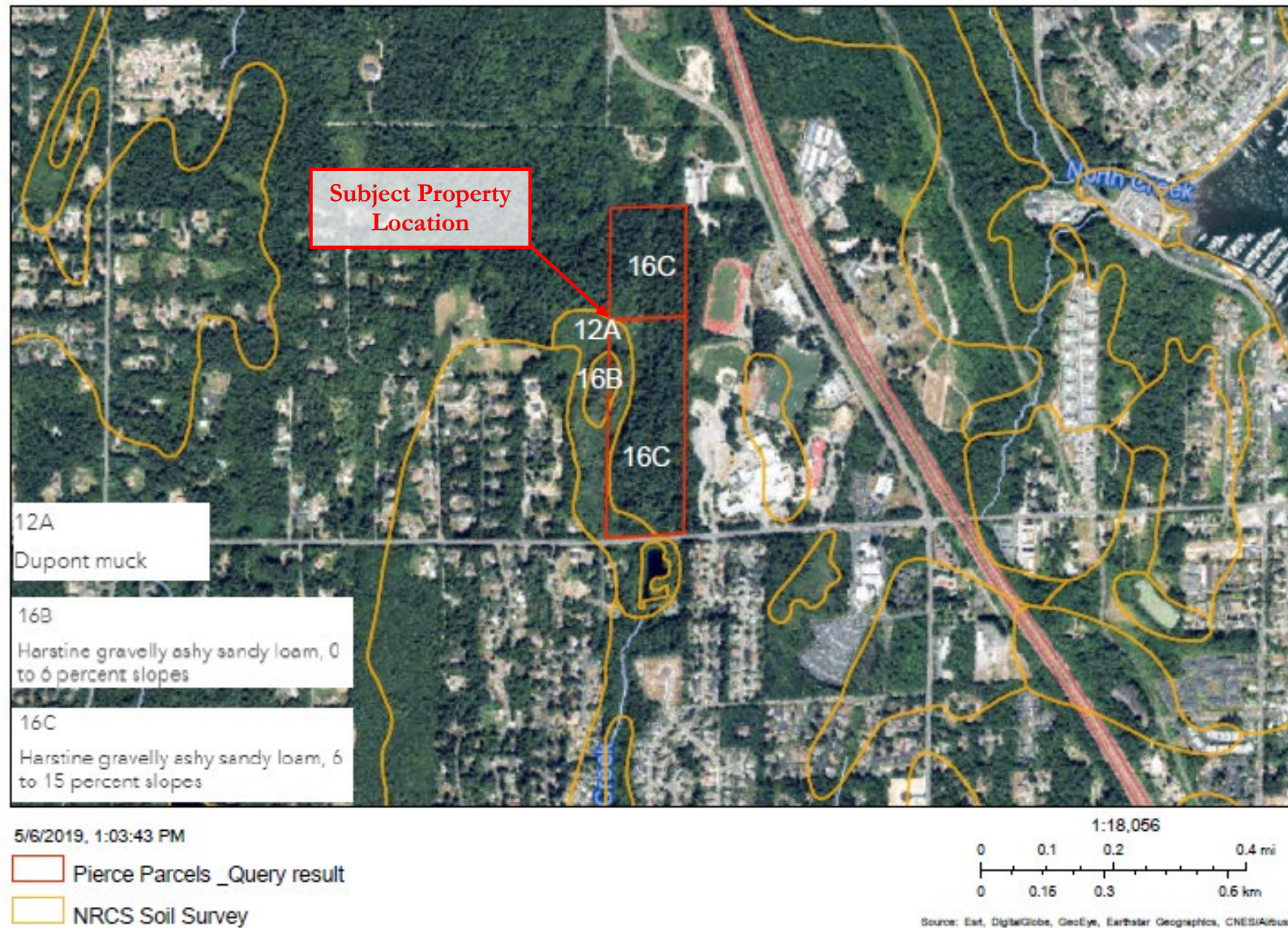
Appendix B — Background Information

This appendix includes a Pierce County Topographic map (B1); NRCS soil survey map (B2); USFWS NWI map (B3); Pierce County stream and wetland inventory (B4); DNR Stream Typing map (B5); WDFW SalmonScape map (B6); and WDFW PHS map (B7).

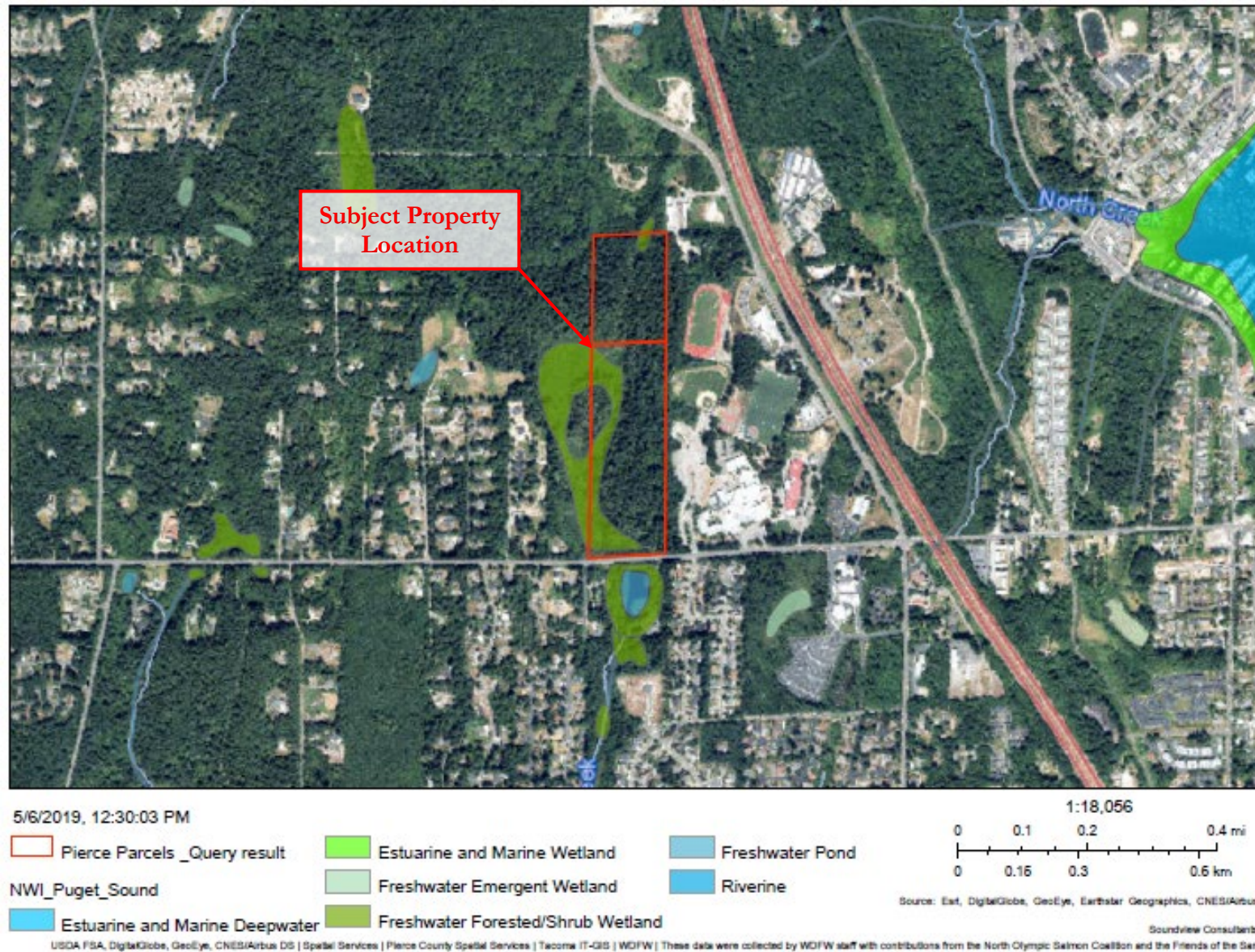
Appendix B1. Pierce County Topographic Map



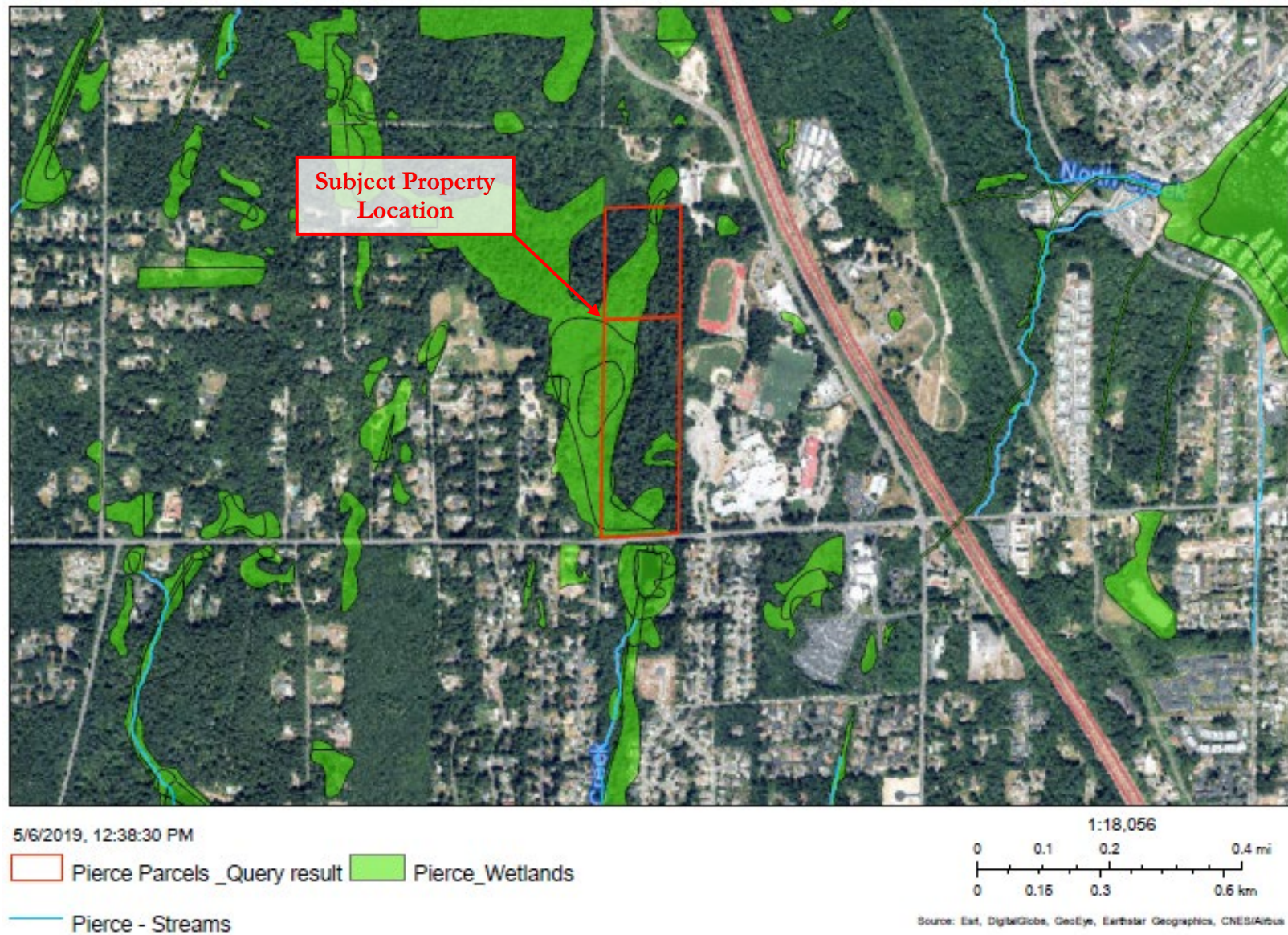
Appendix B2. NRCS Soil Survey Map



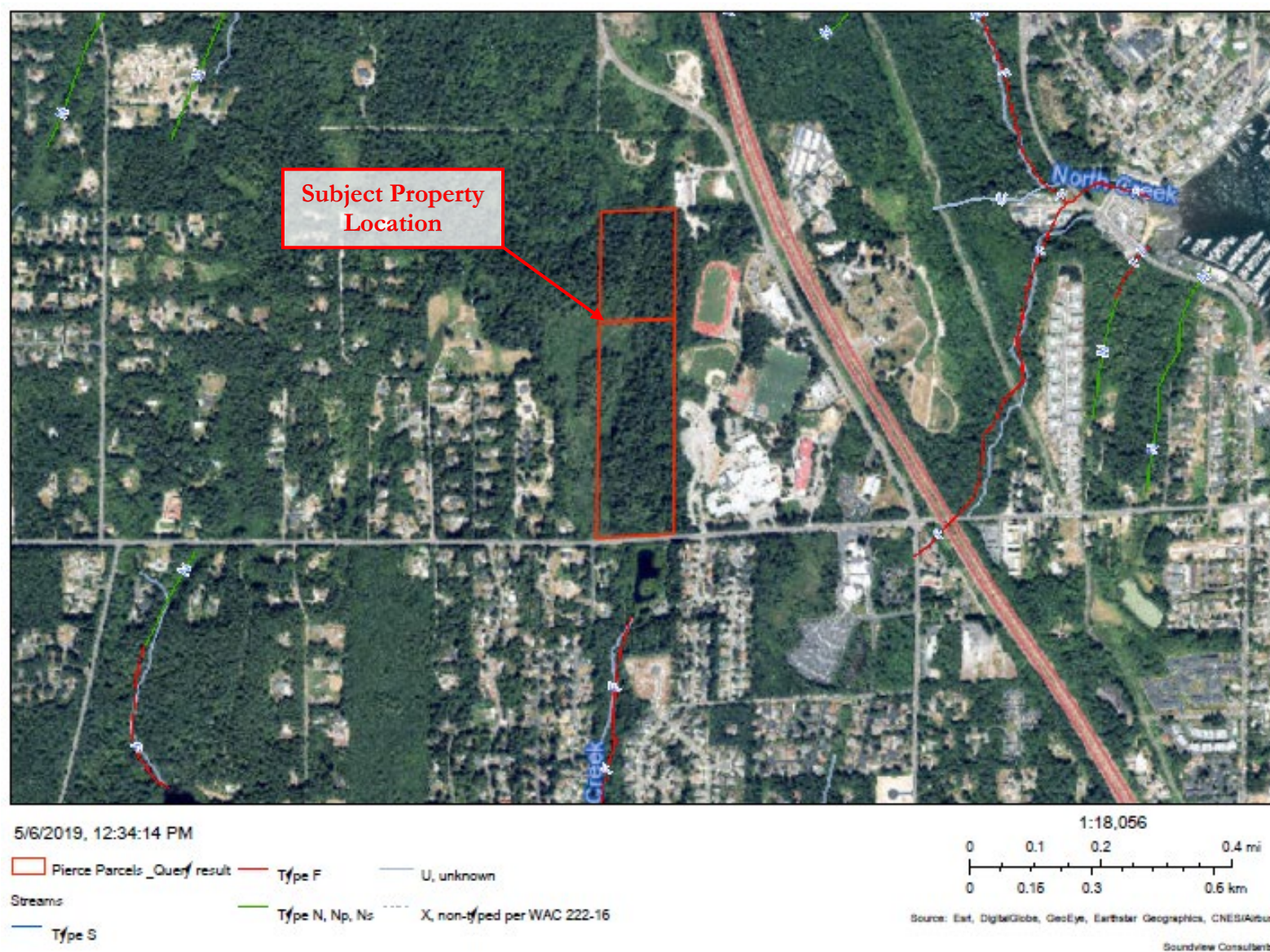
Appendix B3. USFWS NWI Map



Appendix B4. Pierce County Stream and Wetland Inventory



Appendix B5. DNR Stream Typing Map



Appendix B6. WDFW SalmonScape Map



Appendix B7. WDFW PHS Map





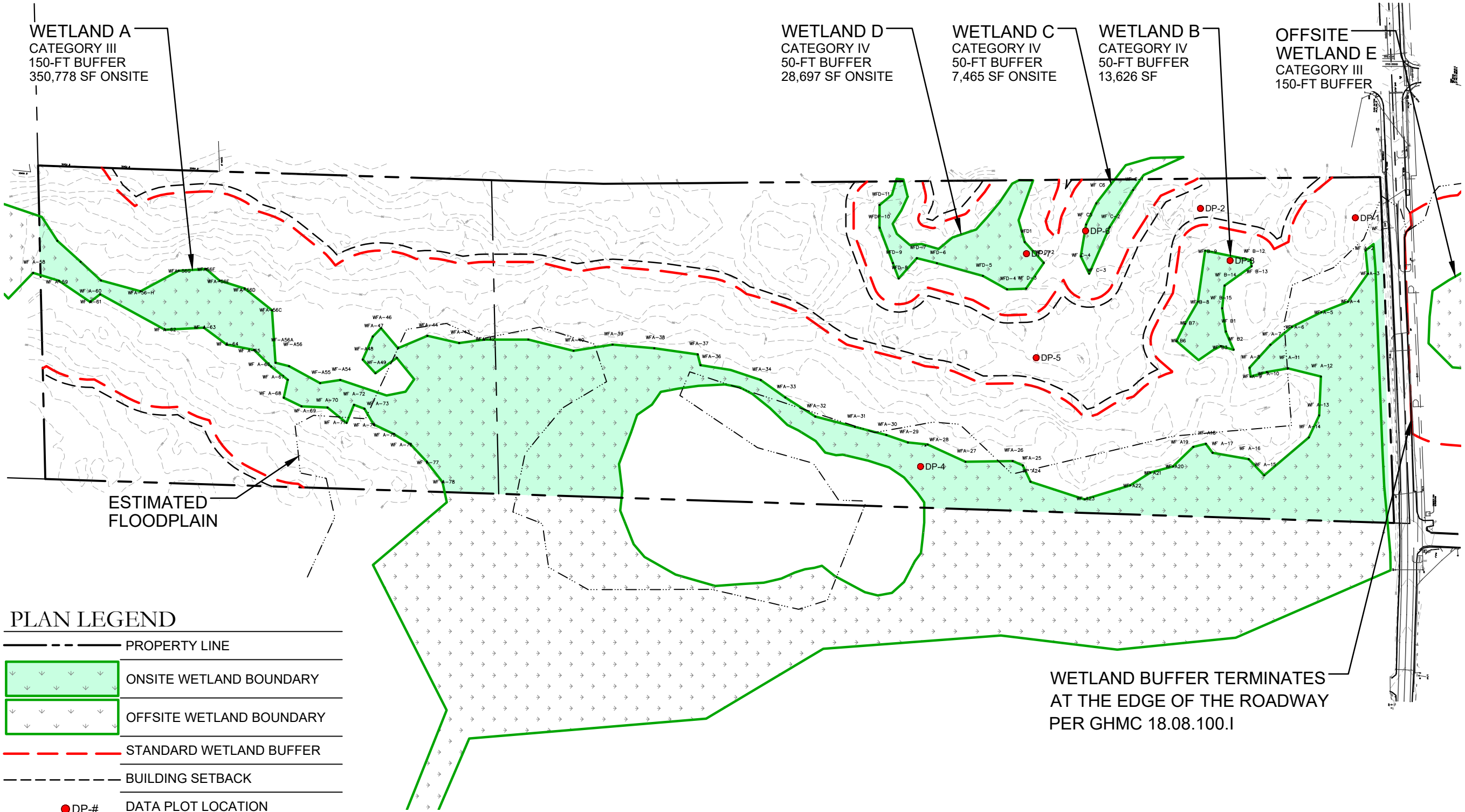
WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPublic
REPORT DATE: 07/08/2019 2.33

Query ID: P190708143314

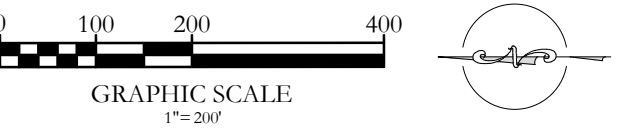
Common Name	Site Name	Priority Area	Accuracy	Federal Status	Sensitive Data	Source Entity
Scientific Name	Source Dataset	Occurrence Type		State Status	Resolution	Geometry Type
Notes	Source Record	More Information (URL)		PHS Listing Status		
	Source Date	Mgmt Recommendations				
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.gov/Programs/AquaticResources/Pages/default.aspx		PHS Listed		
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.gov/Programs/AquaticResources/Pages/default.aspx		PHS Listed		
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.gov/Programs/AquaticResources/Pages/default.aspx		PHS Listed		
Freshwater Pond	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.gov/Programs/AquaticResources/Pages/default.aspx		PHS Listed		

Appendix C — Site Plan



PLAN LEGEND

- PROPERTY LINE
- ONSITE WETLAND BOUNDARY
- OFFSITE WETLAND BOUNDARY
- STANDARD WETLAND BUFFER
- BUILDING SETBACK
- DATA PLOT LOCATION
- EXISTING CONTOUR
- ESTIMATED FLOODPLAIN



PRELIMINARY
INFORMATION ONLY

NOT FOR CONSTRUCTION

SOUNDVIEW CONSULTANTS LLC ASSUMES
NO LIABILITY OR RESPONSIBILITY FOR
CONSTRUCTION, IMPROVEMENTS, OR
ESTIMATES BASED ON THIS PLAN SET



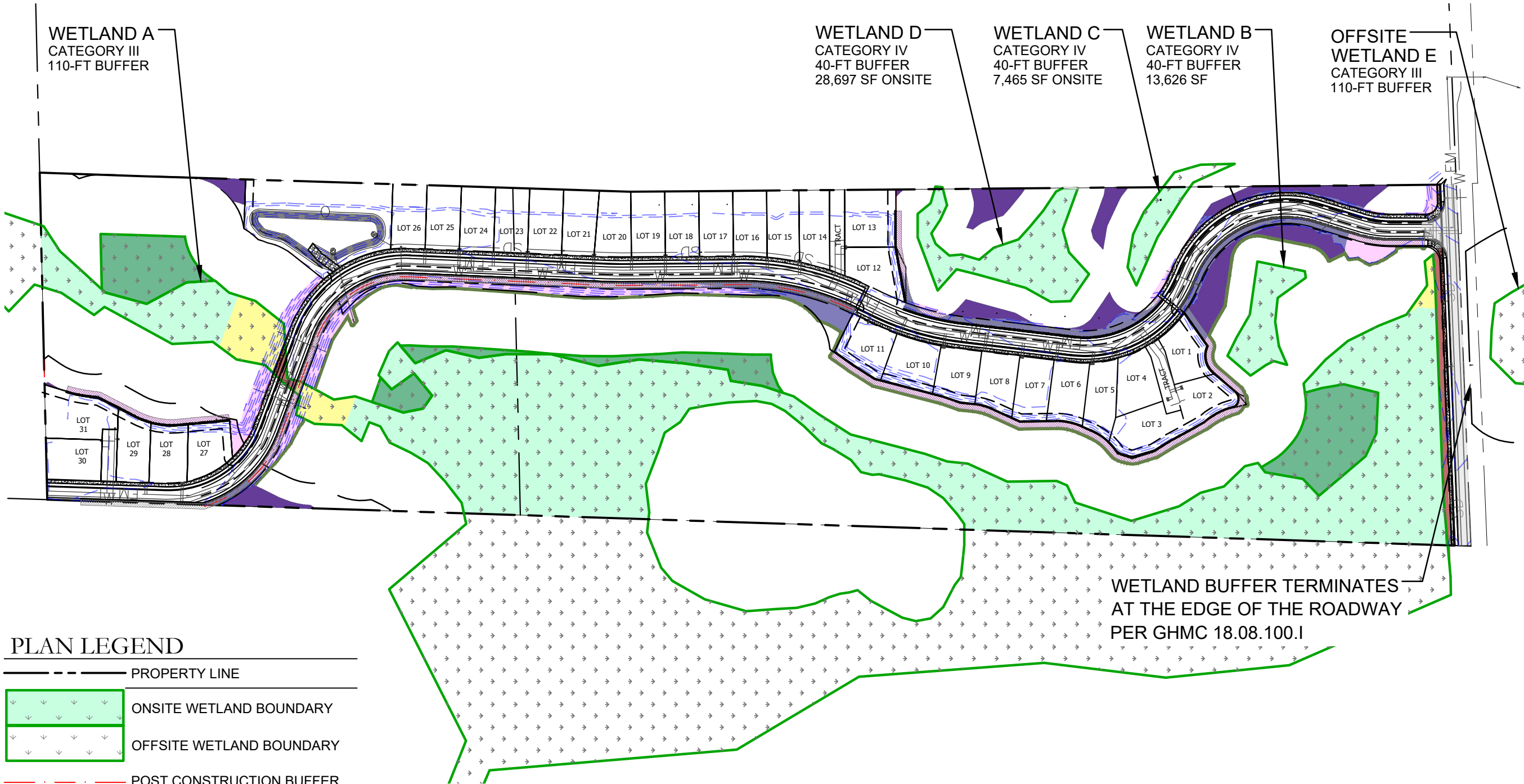
SOURCES:

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE, SUITE D
GIG HARBOR, WASHINGTON 98335
P. 253.514.8952
F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

ROSEDALE STREET NW
ADJACENT TO (WEST):
GIG HARBOR HIGH SCHOOL
GIG HARBOR, WA 98335

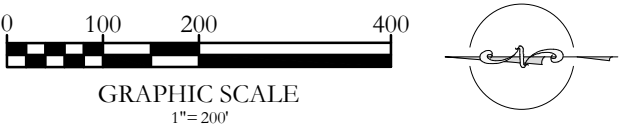
PIERCE COUNTY
PARCEL NUMBER(S):
0221063034, 0221063035

DATE: 12/23/2021
JOB: 1900.0001
BY: DLS
SCALE: AS SHOWN
SHEET: 1



PLAN LEGEND

- PROPERTY LINE
- ONSITE WETLAND BOUNDARY
- OFFSITE WETLAND BOUNDARY
- POST CONSTRUCTION BUFFER
- REDUCED WETLAND BUFFER
- BUILDING SETBACK
- PROPOSED CONTOUR



IMPACTS LEGEND

WETLAND IMPACTS		
WETLAND FILL (WETLAND A ONLY)	7,790 SF	
INDIRECT WETLAND IMPACTS	18,462 SF	
BUFFER IMPACTS		
TEMPORARY CONSTRUCTION RELATED IMPACTS (TO BE REPLANTED AS BUFFER CREATION)	22,400 SF	
TEMPORARY CONSTRUCTION RELATED IMPACTS (TO BE REPLANTED AS BUFFER)	53,878 SF	
TOTAL IMPACTS:	102,530 SF	

MITIGATION LEGEND

WETLAND MITIGATION		
WETLAND CREATION	61,761 SF	
BUFFER MITIGATION		
BUFFER CREATION	58,703 SF	
BUFFER ENHANCEMENT	14,687 SF	
RESTORATION OF TEMPORARY CONSTRUCTION RELATED IMPACTS (TO BE REPLANTED AS BUFFER)	53,878 SF	
TOTAL BUFFER MITIGATION:	189,029 SF	

NOTE: WETLAND CREATION SQUARE FOOTAGE IS A CONSERVATIVE ESTIMATE; FINAL WETLAND CREATION AREAS WILL BE DETERMINED BASED ON PROJECT NEEDS.

PRELIMINARY
INFORMATION ONLY

NOT FOR CONSTRUCTION

SOUNDVIEW CONSULTANTS LLC ASSUMES NO LIABILITY OR RESPONSIBILITY FOR CONSTRUCTION, IMPROVEMENTS, OR ESTIMATES BASED ON THIS PLAN SET

SOURCES:

CONTOUR
ENGINEERING • LLC

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
P: 253.514.8952
F: 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

2907 HARBORVIEW DRIVE, SUITE D
GIG HARBOR, WASHINGTON 98335

ROSEDALE STREET NW
ADJACENT TO (WEST):
GIG HARBOR HIGH SCHOOL
GIG HARBOR, WA 98335

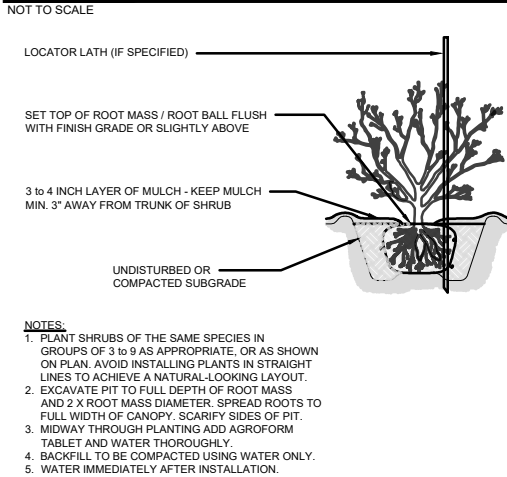
PIERCE COUNTY
PARCEL NUMBER(S):
0221063034, 0221063035

DATE: 12/23/2021
JOB: 1900.0001
BY: DLS
SCALE: AS SHOWN
SHEET: 2

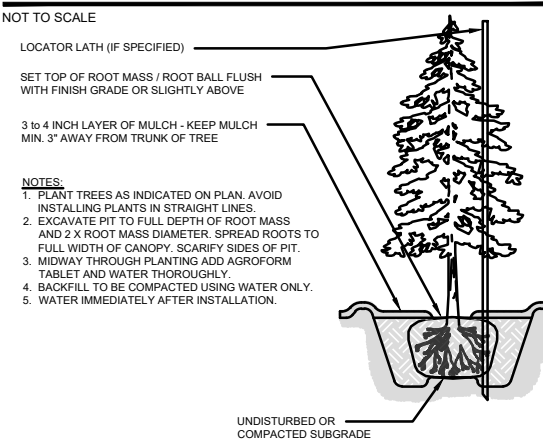
PLANT SCHEDULE

		Area (sf):	58,703	14,687	53,878	61,761	189,029				
		Cov'g (%):	100	50	100	100					
		Trees (%):	50	25	50	50					
		Shrubs (%):	50	75	50	50					
Scientific Name	Common Name	WL Status	Buffer Creation	Buffer Enhancement	Buffer Restoration	Wetland Creation	TOTAL	Spacing (min.)	Height (min.)	Size (min.)	Planting Area
TREES											
<i>Acer macrophyllum</i>	bigleaf maple	FACU					0	10 ft	3 ft	2 gal	Dry
<i>Fraxinus latifolia</i>	Oregon ash	FACW					0	12 ft	3 ft	2 gal	Wet - in wetland
<i>Pseudotsuga menziesii</i>	Douglas fir	FACU					0	10 ft	3 ft	2 gal	Dry
<i>Salix scouleriana</i>	Scouler's willow	FAC					0	5 ft	4 ft	Stakes	Dry
<i>Salix sitchensis</i>	Sitka willow	FACW					0	10 ft	4 ft	Stakes	Moist/Wet
<i>Thuja plicata</i>	western redcedar	FAC					0	10 ft	3 ft	2 gal	Moist - on hummock
<i>Tsuga heterophylla</i>	western hemlock	FACU					0	10 ft	3 ft	2 gal	Moist - on hummock
		Total:	339	21	311	357	1028				
SHRUBS											
<i>Athyrium filix-femina ssp. cyclosorum</i>	lady fern	FAC					0	4 ft	12 in	1 gal	Moist/Wet
<i>Acer circinatum</i>	vine maple	FAC					0	10 ft	4 ft	2 gal	Dry/Moist
<i>Cornus stolonifera</i>	red-twig dogwood	FACW					0	4 ft	3 ft	1 gal	Moist/Wet
<i>Gaultheria shallon</i>	salal	FACU					0	4 - 5 ft	1 ft	1 gal	Dry
<i>Lonicera involucrata</i>	black twinberry	FAC					0	4 ft	2 ft	1 gal	Moist/Wet
<i>Mahonia aquifolium</i>	tall Oregon grape	FACU					0	4 ft	2 ft	1 gal	Dry
<i>Physocarpus capitatus</i>	Pacific ninebark	FACW					0	5 ft	2 ft	1 gal	Moist/Wet
<i>Polystichum munitum</i>	western swordfern	FACU					0	4 - 5 ft	1 ft	1 gal	Dry/Moist
<i>Rubus spectabilis var. spectabilis</i>	salmonberry	FAC					0	4 ft	2 ft	1 gal	Moist
<i>Salix hookeriana</i>	Hooker's willow	FACW					0	5 ft	4 ft	Stakes	Moist/Wet
<i>Spiraea douglasii</i>	Douglas spirea	FACW					0	4 ft	2 ft	1 gal	Moist/Wet
<i>Symphoricarpos albus var. laevigatus</i>	common snowberry	FACU					0	4 ft	2 ft	1 gal	Dry
<i>Vaccinium ovatum</i>	evergreen huckleberry	FACU					0	4 ft	2 ft	1 gal	Dry/Moist
<i>Vaccinium parvifolium</i>	red huckleberry	FACU					0	4 ft	18 in	1 gal	Dry
		Total:	1356	254	1244	1426	4280				
SEED MIXES (www.riverrefugeseed.com)		WL Status	Buffer Creation	Buffer Enhancement	Buffer Restoration	Wetland Creation	TOTAL	NOTE: PLANT COUNTS ARE ESTIMATES AND DEPENDENT UPON FINAL MITIGATION PLAN			
Native Upland Grass Mix #9		20 lbs/acre									
<i>Elymus glaucus</i>	Blue wildrye	30%									
<i>Bromus carinatus</i>	California brome	25%									
<i>Hordeum brachyantherum</i>	Meadow barley	10%									
<i>Festuca roemerii</i>	Roemer's fescue	10%									
<i>Deschampsia elongata</i>	Slender hairgrass	10%									
<i>Agrostis exarata</i>	Spike bentgrass	5%									
<i>Deschampsia cespitosa</i>	Tufted hairgrass	5%									
<i>Festuca rubra var. rubra</i>	Red fescue	5%									
		Total (lbs):	27	7	25		59				
Native Wetland Grass Mix #10		20 lbs/acre									
<i>Glyceria occidentalis</i>	Western managras	40%									
<i>Beckmannia syzigachne</i>	American sloughgrass	30%									
<i>Hordeum brachyantherum</i>	Meadow barley	20%									
<i>Alopecurus aequalis</i>	Shortawn foxtail	10%									
		Total (lbs):				29	29				
1 - Scientific names and species identification taken from <i>Flora of the Pacific Northwest, 2nd Edition (Hitchcock and Cronquist, Ed. by Giblin, Ledger, Zika, and Olmstead, 2018).</i>											
2 - Over-sized container plants are suitable for replacement pending Wetland Scientist approval.											
3 - Native plant species may be substituted or added with Wetland Scientist approval.											
4 - All disturbed and bare soil areas in the buffer to be seeded with a native grass seed mix.											
5 - Tree calculations based upon 10-ft average spacing.											
6 - Shrub calculations based upon 5-ft average spacing.											

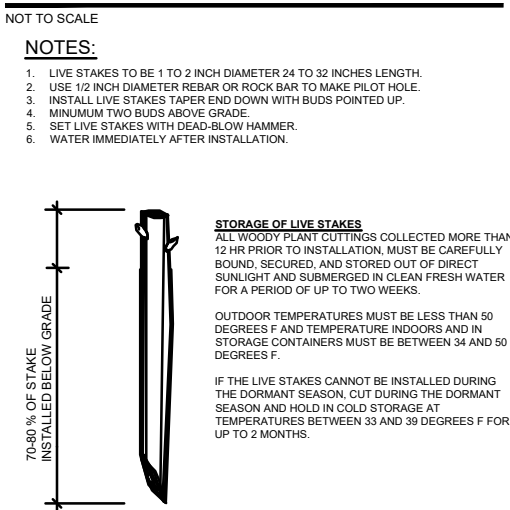
TREE AND SHRUB PLANTING DETAIL (TYPICAL)



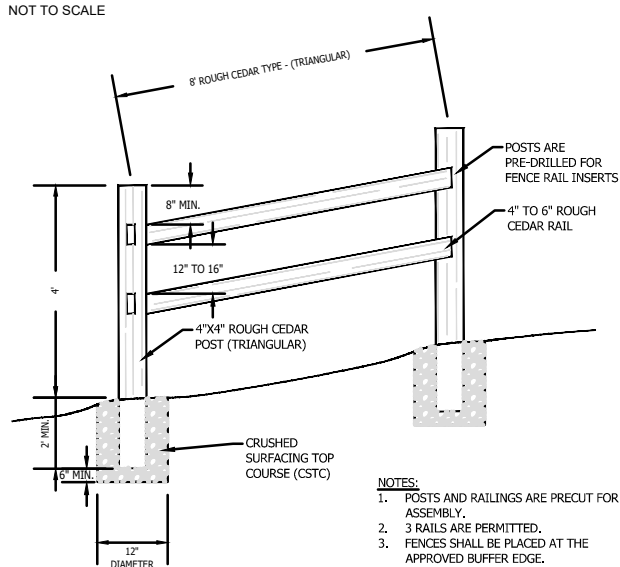
CONIFEROUS TREE PLANTING DETAIL (TYPICAL)



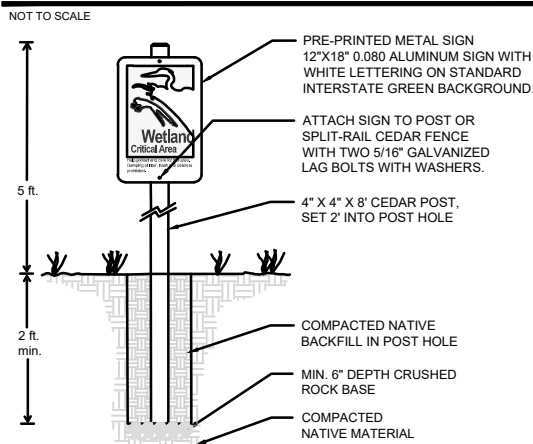
LIVE STAKE PLANTING DETAIL



SPLIT RAIL FENCE DETAIL



CRITICAL AREA SIGN DETAIL



- CRITICAL AREA BOUNDARY SIGN NOTES:**
1. THE WETLAND/STREAM SIGN SHALL BE POSTED AT THE BOUNDARY BETWEEN THE LOT AND THE CRITICAL AREA.
 2. ONE SIGN SHALL BE POSTED FOR EVERY RESIDENTIAL LOT AND ONE PER EVERY ONE HUNDRED FEET FOR ALL PUBLIC RIGHTS OF WAY, TRAILS, PARKING AREAS, PLAYGROUNDS AND ALL OTHER USES LOCATED ADJACENT TO CRITICAL AREAS AND ASSOCIATED BUFFERS AND SHALL BE STATIONED PER LOCATION, ON THE APPROVED PLANS TO THE PROPOSED DEVELOPMENT.
 3. PRE-PRINTED METAL SIGN AVAILABLE THROUGH SIGN, AVAILABLE THROUGH:
ZUMAR INDUSTRIES
PHONE: 1-800-426-7967.
WEBSITE: WWW.ZUMAR.COM

PRELIMINARY
INFORMATION ONLY

NOT FOR CONSTRUCTION

SOUNDVIEW CONSULTANTS LLC ASSUMES
NO LIABILITY OR RESPONSIBILITY FOR
CONSTRUCTION, IMPROVEMENTS, OR
ESTIMATES BASED ON THIS PLAN SET

SOURCES:

CONTOUR
ENGINEERING, LLC

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
P: 253.514.8952
F: 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

ROSEDALE STREET NW
ADJACENT TO (WEST):
GIG HARBOR HIGH SCHOOL
GIG HARBOR, WA 98335
PIERCE COUNTY
PARCEL NUMBER(S):
0221063034, 0221063035

DATE: 12/23/2021

JOB: 1900.0001

BY:DLS

SCALE: AS SHOWN

SHEET: 3

Appendix D — Data Forms

SOIL

Sampling Point: DP-1U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 9	5YR 2.5/1	100	-	-	-	-	MeLo	Medium loam
9 - 14	10YR 4/4	70	10YR 5/1	20	D	M	SaLo	Sandy loam
			7.5YR 4/4	10	C	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:
☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)	
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	☐ Very Shallow Dark Surface (TF12)	
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in Remarks)	
☐ Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)		
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)		
☐ Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)		
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)		

Restrictive Layer (if present): Type: <u>None</u> Depth (inches): <u>--</u>	Hydric Soil Present? Yes ☐ No ☒
--	---

Remarks:
No hydric soil indicators met.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)
☐ Inundation Visible on Aerial Imagery (B7)		
☐ Sparsely Vegetated Concave Surface (B8)		

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): <u>None</u> Water Table Present? Yes ☐ No ☒ Depth (inches): <u>None</u> Saturation Present? Yes ☐ No ☒ Depth (inches): <u>None</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators met.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1900.0001 - Rosedale Street NW City/County: Gig Harbor / Pierce Sampling Date: 05/31/2019
Applicant/Owner: Axys Capital Management LLC State: WA Sampling Point: DP-2U
Investigator(s): Rachael Hyland Section, Township, Range: 06/21N/02E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 3
Subregion (LRR): A2 Lat: 47.331066 Long: -122.60807952 Datum: WGS 84
Soil Map Unit Name: Harstine gravelly ashy sandy loam, 6 to 15 percent slopes (16C) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: No wetland criteria observed. Upland plot to Wetland B. Data collected east of Wetland B.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>17%</u> (A/B)
1. <u>Pseudotsuga menziesii</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Tsuga heterophylla</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>90</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u>Vaccinium ovatum</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Gaultheria shallon</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Vaccinium parvifolium</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>85</u> = Total Cover				
Herb Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Athyrium cyclosorum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes ☐ No ☒
1. <u>Hedera helix</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>30</u> = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				

Remarks: **No hydrophytic vegetation indicators met; did not meet dominance test. Prevalence index not warranted as both hydric soils and hydrology were not observed.**

SOIL

Sampling Point: DP-2U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
+2 - 0	Duff	-	-	-	-	-	-	organic duff layer
0 - 3	2.5YR 3/3	100	-	-	-	-	MeLo	Medium loam with roots
3 - 7	7.5YR 2.5/1	100	-	-	-	-	MeLo	Medium loam
7 - 14	10YR 4/4	100	-	-	-	-	SaLo	Sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)

☐ Histic Epipedon (A2)

☐ Black Histic (A3)

☐ Hydrogen Sulfide (A4)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Sandy Mucky Mineral (S1)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Loamy Mucky Mineral (F1) (except MLRA 1)

☐ Loamy Gleyed Matrix (F2)

☐ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

☐ 2 cm Muck (A10)

☐ Red Parent Material (TF2)

☐ Very Shallow Dark Surface (TF12)

☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: None
Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:
No hydric soil indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

☐ Surface Water (A1)

☐ High Water Table (A2)

☐ Saturation (A3)

☐ Water Marks (B1)

☐ Sediment Deposits (B2)

☐ Drift Deposits (B3)

☐ Algal Mat or Crust (B4)

☐ Iron Deposits (B5)

☐ Surface Soil Cracks (B6)

☐ Inundation Visible on Aerial Imagery (B7)

☐ Sparsely Vegetated Concave Surface (B8)

☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)

☐ Salt Crust (B11)

☐ Aquatic Invertebrates (B13)

☐ Hydrogen Sulfide Odor (C1)

☐ Oxidized Rhizospheres along Living Roots (C3)

☐ Presence of Reduced Iron (C4)

☐ Recent Iron Reduction in Tilled Soils (C6)

☐ Stunted or Stressed Plants (D1) (LRR A)

☐ Other (Explain in Remarks)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)

☐ Drainage Patterns (B10)

☐ Dry-Season Water Table (C2)

☐ Saturation Visible on Aerial Imagery (C9)

☐ Geomorphic Position (D2)

☐ Shallow Aquitard (D3)

☐ FAC-Neutral Test (D5)

☐ Raised Ant Mounds (D6) (LRR A)

☐ Frost-Heave Hummocks (D7)

Field Observations:

Wetland Hydrology Present? Yes ☐ No ☒

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? Yes ☐ No ☒ Depth (inches): None
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators met.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1900.0001 - Rosedale Street NW City/County: Gig Harbor / Pierce Sampling Date: 05/31/2019
Applicant/Owner: Axys Capital Management LLC State: WA Sampling Point: DP-3W
Investigator(s): Rachael Hyland Section, Township, Range: 06/21N/02E
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): A2 Lat: 47.330945 Long: -122.60848764 Datum: WGS 84
Soil Map Unit Name: Harstine gravelly ashy sandy loam, 6 to 15 percent slopes (16C) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: All three wetland criteria observed. Data collected in eastern portion of Wetland B.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Salix scouleriana</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u>20</u>	<u> </u>	<u> </u>	
<u>20</u> = Total Cover				Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>Salix scouleriana</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Spiraea douglasii</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>70</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Carex obnupta</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>40</u> = Total Cover				Hydrophytic Vegetation Present? Yes ☒ No ☐
Woody Vine Stratum (Plot size: <u>30 ft</u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>60</u>				Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks: <u>Hydrophytic vegetation criteria met through the dominance test.</u>				

SOIL

Sampling Point: DP-3W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 11	10YR 2/2	100	-	-	-	-	Mucky SiLo	Mucky silt loam
11 - 16+	10YR 2/1	100	-	-	-	-	Muck	*See comment in remarks
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils ³ :		
☐ Histosol (A1)			☐ Sandy Redox (S5)			☐ 2 cm Muck (A10)		
☐ Histic Epipedon (A2)			☐ Stripped Matrix (S6)			☐ Red Parent Material (TF2)		
☐ Black Histic (A3)			☒ Loamy Mucky Mineral (F1) (except MLRA 1)			☐ Very Shallow Dark Surface (TF12)		
☐ Hydrogen Sulfide (A4)			☐ Loamy Gleyed Matrix (F2)			☐ Other (Explain in Remarks)		
☐ Depleted Below Dark Surface (A11)			☐ Depleted Matrix (F3)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
☐ Thick Dark Surface (A12)			☐ Redox Dark Surface (F6)					
☐ Sandy Mucky Mineral (S1)			☐ Depleted Dark Surface (F7)					
☐ Sandy Gleyed Matrix (S4)			☐ Redox Depressions (F8)					
Restrictive Layer (if present): Type: <u>None</u> Depth (inches): <u>--</u>						Hydric Soil Present? Yes ☒ No ☐		
Remarks: Hydric soil criteria met through indicator F1. *Small isolated pocket of 2.5Y 5/1 silt loam observed.								

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
☒ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)	
☒ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)	
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)	
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)	
☐ Inundation Visible on Aerial Imagery (B7)			
☐ Sparsely Vegetated Concave Surface (B8)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): <u>None</u> Water Table Present? Yes ☒ No ☐ Depth (inches): <u>5</u> Saturation Present? Yes ☒ No ☐ Depth (inches): <u>2</u> (includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Wetland hydrology criteria met through primary indicators A2 and A3.			

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1900.0001 - Rosedale Street NW City/County: Gig Harbor / Pierce Sampling Date: 05/31/2019
Applicant/Owner: Axys Capital Management LLC State: WA Sampling Point: DP-4W
Investigator(s): Rachael Hyland Section, Township, Range: 06/21N/02E
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): A2 Lat: 47.332392 Long: -122.61018818 Datum: WGS 84
Soil Map Unit Name: Dupont muck NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: All three wetland criteria observed. Data collected within Wetland A.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u>0</u>	<u> </u>	<u> </u>	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: 15 ft)				
1. <u>Rubus spectabilis</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Frangula purshiana</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Malus fusca</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
Herb Stratum (Plot size: 5 ft)				
1. <u>Oenanthе sarmentosa</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. <u>Maianthemum dilatatum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Athyrium cyclosorum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
4. <u>Lycopus americanus</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
5. <u> </u>	<u>60</u>	<u> </u>	<u> </u>	% Bare Ground in Herb Stratum <u>10</u>
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Remarks: Hydrophytic vegetation criteria met through the dominance test.
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
Woody Vine Stratum (Plot size: 30 ft)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	% Bare Ground in Herb Stratum <u>10</u>
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
Woody Vine Stratum (Plot size: 30 ft)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	% Bare Ground in Herb Stratum <u>10</u>
Woody Vine Stratum (Plot size: 30 ft)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
Woody Vine Stratum (Plot size: 30 ft)				% Bare Ground in Herb Stratum <u>10</u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
Woody Vine Stratum (Plot size: 30 ft)				
Remarks: Hydrophytic vegetation criteria met through the dominance test.				

SOIL

Sampling Point: DP-4W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 8	10YR 3/1	100	-	-	-	-	Muck SiLo	Mucky silt loam
8 - 14	7.5YR 2/2	100	-	-	-	-	SiLo	Silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	☐ Very Shallow Dark Surface (TF12)
☒ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in Remarks)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)	
☐ Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	

Restrictive Layer (if present):	Hydric Soil Present?
Type: <u>None</u>	Yes ☒ No ☐
Depth (inches): <u>--</u>	

Remarks:
Hydric soil criteria met through indicator A4.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☒ High Water Table (A2)	☐ Drainage Patterns (B10)
☒ Saturation (A3)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Frost-Heave Hummocks (D7)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes ☐ No ☒ Depth (inches): <u>None</u>	Yes ☒ No ☐
Water Table Present? Yes ☒ No ☐ Depth (inches): <u>5</u>	
Saturation Present? Yes ☒ No ☐ Depth (inches): <u>2</u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology criteria met through primary indicators A2, A3, and C1.

SOIL

Sampling Point: DP-5U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
+2 - 0	duff layer	-	-	-	-	-	-	organic duff layer
0 - 3	5YR 2.5/1	100	-	-	-	-	MeLo	Medium loam with roots
3 - 4	10YR 2/1	100	-	-	-	-	MeLo	Medium loam
4 - 9	10YR 3/6	85	10YR 5/1	15	D	M	SaLo	Sandy loam
9 - 16	10YR 3/6	100	-	-	-	-	SaLo	Sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) (except MLRA 1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: None
Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:
No hydric soil indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ Salt Crust (B11)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Other (Explain in Remarks)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Wetland Hydrology Present? Yes ☐ No ☒

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? Yes ☐ No ☒ Depth (inches): None
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators met.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1900.0001 - Rosedale Street NW City/County: Gig Harbor / Pierce Sampling Date: 05/31/2019
Applicant/Owner: Axys Capital Management LLC State: WA Sampling Point: DP-6W
Investigator(s): Rachael Hyland Section, Township, Range: 06/21N/02E
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): A2 Lat: 47.331655 Long: -122.60853179 Datum: WGS 84
Soil Map Unit Name: Harstine gravelly ashy sandy loam, 6 to 15 percent slopes (16C) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: All three wetland criteria met. Data collected in western portion of Wetland C.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
1. <u>Thuja plicata</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>25</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u>Spiraea douglasii</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Gaultheria shallon</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>40</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Athyrium cyclosorum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes ☒ No ☐
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				

Remarks: **Hydrophytic vegetation criteria met through the dominance test.**

SOIL

Sampling Point: DP-6W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹				
0 - 4	7.5YR 2.5/1	100	-	-	-	-	MeLo	Medium loam with roots	
4 - 10	7.5YR 4/2	96	7.5YR 3/3	2	C	M	SaLo	Gravelly sandy loam	
			10YR 4/3	2	C	M	SaLo	Gravelly sandy loam	
10 - 14	7.5YR 2.5/1	100	-	-	-	-	Muck SiLo	Mucky Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4)	☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☒ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>None</u> Depth (inches): <u>--</u>	Hydric Soil Present? Yes ☒ No ☐
--	---

Remarks:
Hydric soil criteria met through indicator F3.

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1) ☐ High Water Table (A2) ☒ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)	

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): <u>None</u> Water Table Present? Yes ☒ No ☐ Depth (inches): <u>14</u> Saturation Present? Yes ☒ No ☐ Depth (inches): <u>12</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology criteria met through primary indicator A3.

SOIL

Sampling Point: DP-7W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 7	10YR 2/1	100	-	-	-	-	MeLo	Medium loam with roots and gravel
7 - 10	7.5YR 2.5/1	100	-	-	-	-	SiLo	Silt loam
10 - 16+	10YR 2/1	100	-	-	-	-	Muck	Muck

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)

☐ Histic Epipedon (A2)

☐ Black Histic (A3)

☒ Hydrogen Sulfide (A4)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Sandy Mucky Mineral (S1)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Loamy Mucky Mineral (F1) (except MLRA 1)

☐ Loamy Gleyed Matrix (F2)

☐ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

☐ 2 cm Muck (A10)

☐ Red Parent Material (TF2)

☐ Very Shallow Dark Surface (TF12)

☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: None
Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:
Hydric soil criteria met through indicator A4.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

☐ Surface Water (A1)

☒ High Water Table (A2)

☒ Saturation (A3)

☐ Water Marks (B1)

☐ Sediment Deposits (B2)

☐ Drift Deposits (B3)

☐ Algal Mat or Crust (B4)

☐ Iron Deposits (B5)

☐ Surface Soil Cracks (B6)

☐ Inundation Visible on Aerial Imagery (B7)

☐ Sparsely Vegetated Concave Surface (B8)

☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)

☐ Salt Crust (B11)

☐ Aquatic Invertebrates (B13)

☒ Hydrogen Sulfide Odor (C1)

☐ Oxidized Rhizospheres along Living Roots (C3)

☐ Presence of Reduced Iron (C4)

☐ Recent Iron Reduction in Tilled Soils (C6)

☐ Stunted or Stressed Plants (D1) (LRR A)

☐ Other (Explain in Remarks)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)

☐ Drainage Patterns (B10)

☐ Dry-Season Water Table (C2)

☐ Saturation Visible on Aerial Imagery (C9)

☐ Geomorphic Position (D2)

☐ Shallow Aquitard (D3)

☐ FAC-Neutral Test (D5)

☐ Raised Ant Mounds (D6) (LRR A)

☐ Frost-Heave Hummocks (D7)

Field Observations:

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology criteria met through primary indicators A2, A3, and C1.

SOIL

Sampling Point: DP-8W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹				
0 - 11	10YR 2/1	80	5YR 3/6	20	C	M	Lo	Mucky loam	
11 - 15	5Y 5/1	65	7.5YR 4/6	5	C	M	Clay	Clay, mixed matrix	
	10YR 2/1	30	-	-	-	-	SiLo	Silt loam, mixed matrix	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☒ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4)	☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☒ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☒ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>None</u> Depth (inches): <u>--</u>	Hydric Soil Present? Yes ☒ No ☐
--	---

Remarks:
Hydric soil criteria met through indicators A4, A11, F1, and F6.

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1) ☐ High Water Table (A2) ☒ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☒ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)	

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): <u>None</u> Water Table Present? Yes ☒ No ☐ Depth (inches): <u>15</u> Saturation Present? Yes ☒ No ☐ Depth (inches): <u>11</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology criteria met through primary indicators A3 and C1. Groundwater observed at 15" below ground surface after 10 minutes. Water table is presumed to be higher than 15" due to the presence of clay in the second layer, however, time constraints did not allow enough time for groundwater to equilibrate.

SOIL

Sampling Point: DP-9U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 10	10YR 3/1	90	2.5Y 4/2	10	D	M	SiLo	Silt loam
10 - 15	2.5Y 4/2	100	-	-	-	-	SiLo	Silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)

☐ Histic Epipedon (A2)

☐ Black Histic (A3)

☐ Hydrogen Sulfide (A4)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Sandy Mucky Mineral (S1)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Loamy Mucky Mineral (F1) (except MLRA 1)

☐ Loamy Gleyed Matrix (F2)

☐ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

☐ 2 cm Muck (A10)

☐ Red Parent Material (TF2)

☐ Very Shallow Dark Surface (TF12)

☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: None
Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:
No hydric soil criteria met. Depletions do not meet requirements of F7; second layer lacks redox features and therefore is not considered depleted.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

☐ Surface Water (A1)

☐ High Water Table (A2)

☐ Saturation (A3)

☐ Water Marks (B1)

☐ Sediment Deposits (B2)

☐ Drift Deposits (B3)

☐ Algal Mat or Crust (B4)

☐ Iron Deposits (B5)

☐ Surface Soil Cracks (B6)

☐ Inundation Visible on Aerial Imagery (B7)

☐ Sparsely Vegetated Concave Surface (B8)

☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)

☐ Salt Crust (B11)

☐ Aquatic Invertebrates (B13)

☐ Hydrogen Sulfide Odor (C1)

☐ Oxidized Rhizospheres along Living Roots (C3)

☐ Presence of Reduced Iron (C4)

☐ Recent Iron Reduction in Tilled Soils (C6)

☐ Stunted or Stressed Plants (D1) (LRR A)

☐ Other (Explain in Remarks)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)

☐ Drainage Patterns (B10)

☐ Dry-Season Water Table (C2)

☐ Saturation Visible on Aerial Imagery (C9)

☐ Geomorphic Position (D2)

☐ Shallow Aquitard (D3)

☐ FAC-Neutral Test (D5)

☐ Raised Ant Mounds (D6) (LRR A)

☐ Frost-Heave Hummocks (D7)

Field Observations:

Wetland Hydrology Present? Yes ☐ No ☒

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? Yes ☐ No ☒ Depth (inches): None
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology criteria met. Soil pit excavated to 16 inches deep.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1900.0001 - Rosedale Street NW City/County: Gig Harbor / Pierce Sampling Date: 10/28/2021
Applicant/Owner: Axys Capital Management LLC State: WA Sampling Point: DP-10U
Investigator(s): Brian Jonescu Section, Township, Range: 06/21N/02E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): A2 Lat: 47.336804 Long: -122.60992146 Datum: WGS 84
Soil Map Unit Name: Harstine gravelly ashy sandy loam, 6 to 15 percent slopes (16C) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: <u>No wetland criteria met. Data collected in the northwest corner of the site. Precipitation above normal for the prior 30 days (161 percent of normal) with 1.99" of rainfall recorded on the day of the investigation.</u>	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
1. <u>Acer macrophyllum</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Pseudotsuga menziesii</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Thuja plicata</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
			<u>75</u> = Total Cover	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u>Vaccinium ovatum</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Acer macrophyllum</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Thuja plicata</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Gaultheria shallon</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
5. <u>Mahonia nervosa</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
			<u>37</u> = Total Cover	
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)				Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Polystichum munitum</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
			<u>60</u> = Total Cover	
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				Hydrophytic Vegetation Present? Yes ☐ No ☒
1. <u>Rubus ursinus</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
			<u>15</u> = Total Cover	
% Bare Ground in Herb Stratum <u>40</u>				
Remarks: <u>No hydrophytic vegetation criteria met. Prevalence index not warranted due to lack of combined hydric soil and hydrology.</u>				

Appendix E — Wetland Rating Forms

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): A Date of site visit: 05/31/19
Rated by Rachael Hyland Trained by Ecology? ☒ Yes ☐ No Date of training 3/2019
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (*figures can be combined*).

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

 Category I – Total score = 23 - 27
 Category II – Total score = 20 - 22
 X Category III – Total score = 16 - 19
 Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	M	M	M	
Landscape Potential	M	M	M	
Value	L	L	M	TOTAL
Score Based on Ratings	5	5	6	16

**Score for each
function based
on three
ratings**
(*order of ratings
is not
important*)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	N/A

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

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 entire unit usually controlled by tides except during floods?

☒ **NO** – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the 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 all** of the following criteria?

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ **NO** – go to 5 ☐ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number A

☒ NO – go to 6

☐ YES – The wetland class is **Riverine**

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

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 the wetland unit being scored.

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 HGM 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.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0		0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0		5
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0		4
Total for D 1		11

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0	0
Source _____	Yes = 1 No = 0	0
Total for D 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: 3 or 4 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0	0
Total for D 3	Add the points in the boxes above	0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Question D 3.1: A tributary to North Creek is listed as a 303d waterbody for pH approximately 0.6 mile northeast of the subject property at its closest point; however, North Creek is located in the neighboring sub-basin and has no hydrologic connection to the wetland.

Question D 3.2: Although there are three 303d waterbodies in the sub-basin, the closest one is located approximately 3.5 miles to the north of the subject property at its closest point. Due to this great distance and hydrologic disconnection, the wetland does not have the opportunity to provide water quality improvement.

Question D 3.3: The wetland is not located within a mapped Water Quality Improvement Project area according to the Washington State Department of Ecology's Water Quality Atlas.

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		2
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0		3
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5		3
Total for D 4		8

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

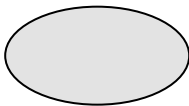
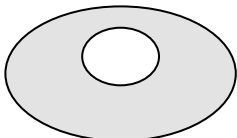
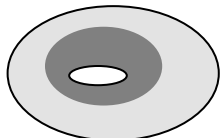
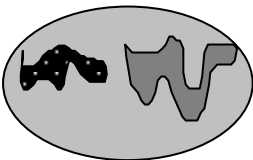
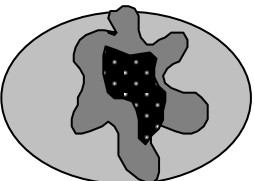
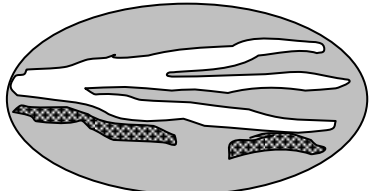
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0		0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0		1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0		1
Total for D 5		2

Rating of Landscape Potential If score is: 3 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0 Roadway and ineffective culverts are hydrologic impairments that delay storm flows and act similar to a levee/flood control dam. There are no problems with flooding downstream of the wetland. points = 0		0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for D 6		0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

Wetland name or number A

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i> ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 ☒ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☒ Forested (areas where trees have > 30% cover) 1 structure: points = 0 <i>If the unit has a Forested class, check if:</i> ☒ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	2
H 1.2. Hydroperiods 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 ac to count (<i>see text for descriptions of hydroperiods</i>). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☒ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 ☐ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points	0
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</i> If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i>  None = 0 points  Low = 1 point  Moderate = 2 points   High = 3 points   All three diagrams in this row are HIGH = 3 points	1

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☒ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) ☒ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		4
Total for H 1	Add the points in the boxes above	8

Rating of Site Potential If score is: 15-18 = H X 7-14 = M 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> 18.24 % undisturbed habitat + [(% moderate and low intensity land uses) 11.54 /2] = 24.009 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> 36.67 % undisturbed habitat + [(% moderate and low intensity land uses) 24.83 /2] = 49.085 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0		0
Total for H 2	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	

Rating of Value If score is: 2 = H X 1 = M 0 = L *Record the rating on the first page*

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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:** Woodland 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 – see web link above*).
- ✗ **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 – see web link above*).
- **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 – see web link on previous page*).
- **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 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☒ No= Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = Category I ☐ No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to SC 2.2 ☒ No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = Category I ☒ No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes – Contact WNHP/WDNR and go to SC 2.4 ☒ No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = Category I ☒ No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to SC 3.3 ☒ No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in 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 SC 3.3 ☒ No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = Is a Category I bog ☐ No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = Is a Category I bog ☐ No = Is not a bog	

Wetland name or number A

SC 4.0. Forested Wetlands Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes = Category I ☒ No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) ☐ Yes – Go to SC 5.1 ☒ No = Not a wetland in a coastal lagoon SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) ☐ Yes = Category I ☐ No = Category II	
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat 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 ☐ Yes – Go to SC 6.1 ☒ No = not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = Category I ☐ No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = Category II ☐ No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = Category III ☐ No = Category IV	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number A

This page left blank intentionally

Wetland name or number B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): B Date of site visit: 05/31/19
Rated by Rachael Hyland Trained by Ecology? ☒ Yes ☐ No Date of training 3/19
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (*figures can be combined*).
Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY IV (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
☐ **Category II** – Total score = 20 - 22
☐ **Category III** – Total score = 16 - 19
☒ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	M	M	L	
Landscape Potential	L	M	M	
Value	L	L	M	TOTAL
Score Based on Ratings	4	5	5	14

**Score for each
function based
on three
ratings**
(*order of ratings
is not
important*)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	N/A

Wetland name or number B

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number B

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

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 entire unit usually controlled by tides except during floods?

☒ **NO** – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the 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 all** of the following criteria?

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ **NO** – go to 5 ☐ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number B

☒ NO – go to 6

☐ YES – The wetland class is **Riverine**

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

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 the wetland unit being scored.

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 HGM 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.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	3
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1	10

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0
Source _____	Yes = 1 No = 0
Total for D 2	0

Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M X 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0
Total for D 3	0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Question D 3.1: A tributary to North Creek is listed as a 303d waterbody for pH approximately 0.6 mile northeast of the subject property at its closest point; however, North Creek is located in the neighboring sub-basin and has no hydrologic connection to the wetland.

Question D 3.2: Although there are three 303d waterbodies in the sub-basin, the closest one is located approximately 3.5 miles to the north of the subject property at its closest point. Due to this great distance and hydrologic disconnection, the wetland does not have the opportunity to provide water quality improvement.

Question D 3.3: The wetland is not located within a mapped Water Quality Improvement Project area according to the Washington State Department of Ecology's Water Quality Atlas.

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		4
D 4.2. <u>Depth of storage during wet periods:</u> Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0		3
D 4.3. <u>Contribution of the wetland to storage in the watershed:</u> Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5		0
Total for D 4		7

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

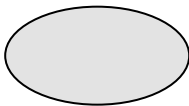
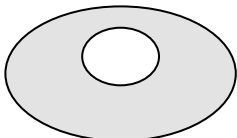
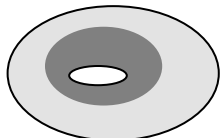
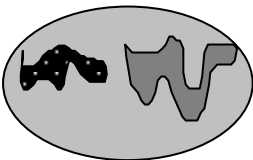
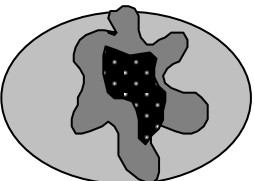
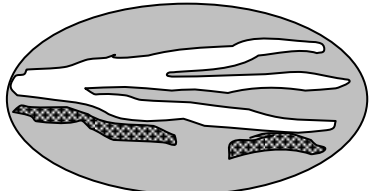
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0		0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0		0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0		1
Total for D 5		1

Rating of Landscape Potential If score is: 3 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. <u>The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</u> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): - Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 - Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0 Roadway and ineffective culverts are hydrologic impairments that delay storm flows and act similar to a levee/flood control dam. There are no problems with flooding downstream of the wetland. points = 0		0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for D 6		0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

Wetland name or number B

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i> ☐ Aquatic bed 4 structures or more: points = 4 ☒ Emergent 3 structures: points = 2 ☒ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 <i>If the unit has a Forested class, check if:</i> ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	1
H 1.2. Hydroperiods 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 ac to count (<i>see text for descriptions of hydroperiods</i>). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☒ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 ☐ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points	0
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</i> If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i>  None = 0 points  Low = 1 point  Moderate = 2 points     All three diagrams in this row are HIGH = 3points	1

Wetland name or number B

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		2
Total for H 1	Add the points in the boxes above	5

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). Calculate: <u>18.24</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>11.54</u> /2] = <u>24.009</u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: <u>36.67</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>24.83</u> /2] = <u>49.085</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0		0
Total for H 2	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: 2 = H X 1 = M 0 = L

Record the rating on the first page

Wetland name or number B

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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:** Woodland 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 – see web link above*).
- ✗ **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 – see web link above*).
- **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 – see web link on previous page*).
- **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 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number B

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☒ No= Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = Category I ☐ No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to SC 2.2 ☒ No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = Category I ☒ No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes – Contact WNHP/WDNR and go to SC 2.4 ☒ No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = Category I ☒ No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to SC 3.3 ☒ No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in 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 SC 3.3 ☒ No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = Is a Category I bog ☐ No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = Is a Category I bog ☐ No = Is not a bog	

Wetland name or number B

SC 4.0. Forested Wetlands Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes = Category I ☒ No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) ☐ Yes – Go to SC 5.1 ☒ No = Not a wetland in a coastal lagoon SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) ☐ Yes = Category I ☐ No = Category II	
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat 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 ☐ Yes – Go to SC 6.1 ☒ No = not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = Category I ☐ No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = Category II ☐ No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = Category III ☐ No = Category IV	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number B

This page left blank intentionally

Wetland name or number C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): C Date of site visit: 05/31/19
Rated by Rachael Hyland Trained by Ecology? ☒ Yes ☐ No Date of training 3/19
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (*figures can be combined*).
Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY IV (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
☐ **Category II** – Total score = 20 - 22
☐ **Category III** – Total score = 16 - 19
☒ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	M	M	L	
Landscape Potential	M	M	M	
Value	L	L	M	TOTAL
Score Based on Ratings	5	5	5	15

**Score for each
function based
on three
ratings**
(*order of ratings
is not
important*)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	N/A

Wetland name or number C

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number C

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

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 entire unit usually controlled by tides except during floods?

☒ **NO** – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the 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 all** of the following criteria?

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ **NO** – go to 5 ☐ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number C

☒ NO – go to 6

☐ YES – The wetland class is **Riverine**

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

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 the wetland unit being scored.

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 HGM 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.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	1
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1	6

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0
Source _____	Yes = 1 No = 0
Total for D 2	1

Rating of Landscape Potential If score is: 3 or 4 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0
Total for D 3	0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Question D 3.1: A tributary to North Creek is listed as a 303d waterbody for pH approximately 0.6 mile northeast of the subject property at its closest point; however, North Creek is located in the neighboring sub-basin and has no hydrologic connection to the wetland.

Question D 3.2: Although there are three 303d waterbodies in the sub-basin, the closest one is located approximately 3.5 miles to the north of the subject property at its closest point. Due to this great distance and hydrologic disconnection, the wetland does not have the opportunity to provide water quality improvement.

Question D 3.3: The wetland is not located within a mapped Water Quality Improvement Project area according to the Washington State Department of Ecology's Water Quality Atlas.

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		4
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0		3
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5		0
Total for D 4		7

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

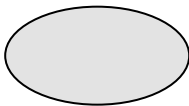
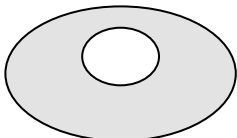
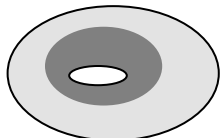
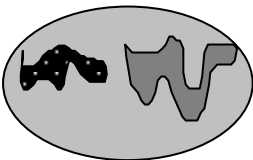
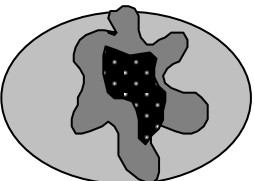
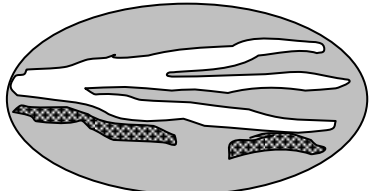
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0		0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0		1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0		1
Total for D 5		2

Rating of Landscape Potential If score is: 3 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0 Roadway and ineffective culverts are hydrologic impairments that delay storm flows and act similar to a levee/flood control dam. There are no problems with flooding downstream of the wetland. points = 0		0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for D 6		0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

Wetland name or number C

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i> ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 ☒ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 <i>If the unit has a Forested class, check if:</i> ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	0
H 1.2. Hydroperiods 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 ac to count (<i>see text for descriptions of hydroperiods</i>). ☒ Permanently flooded or inundated 4 or more types present: points = 3 ☒ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 ☐ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</i> If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i>  None = 0 points  Low = 1 point  Moderate = 2 points     All three diagrams in this row are HIGH = 3points	0

Wetland name or number C

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		2
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> <u>18.24</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>11.54</u> /2] = <u>24.009</u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> <u>36.67</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>24.83</u> /2] = <u>49.085</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0		0
Total for H 2	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: 2 = H X 1 = M 0 = L *Record the rating on the first page*

Wetland name or number C

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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:** Woodland 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 – see web link above*).
- **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 – see web link above*).
- **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 – see web link on previous page*).
- **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 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☒ No= Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = Category I ☐ No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to SC 2.2 ☒ No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = Category I ☒ No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes – Contact WNHP/WDNR and go to SC 2.4 ☒ No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = Category I ☒ No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to SC 3.3 ☒ No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in 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 SC 3.3 ☒ No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = Is a Category I bog ☐ No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = Is a Category I bog ☐ No = Is not a bog	

Wetland name or number C

SC 4.0. Forested Wetlands Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes = Category I ☒ No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) ☐ Yes – Go to SC 5.1 ☒ No = Not a wetland in a coastal lagoon SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) ☐ Yes = Category I ☐ No = Category II	
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat 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 ☐ Yes – Go to SC 6.1 ☒ No = not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = Category I ☐ No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = Category II ☐ No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = Category III ☐ No = Category IV	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number C

This page left blank intentionally

Wetland name or number D

RATING SUMMARY – Western Washington

Name of wetland (or ID #): D Date of site visit: 05/31/19
Rated by Rachael Hyland Trained by Ecology? ☒ Yes ☐ No Date of training 3/19
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY IV (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
☐ **Category II** – Total score = 20 - 22
☐ **Category III** – Total score = 16 - 19
☒ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	M	M	L	
Landscape Potential	M	M	M	
Value	L	L	M	TOTAL
Score Based on Ratings	5	5	5	15

**Score for each
function based
on three
ratings
(order of ratings
is not
important)**

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	N/A

Wetland name or number D

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number D

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

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 entire unit usually controlled by tides except during floods?

☒ **NO** – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the 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 all** of the following criteria?

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (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**.

☒ **NO** – go to 5 ☐ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number D

☒ NO – go to 6

☐ YES – The wetland class is **Riverine**

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

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 the wetland unit being scored.

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 HGM 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.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number D

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	3
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1	10

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0
Source _____	
Total for D 2	1

Rating of Landscape Potential If score is: 3 or 4 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0
Total for D 3	0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Question D 3.1: A tributary to North Creek is listed as a 303d waterbody for pH approximately 0.6 mile northeast of the subject property at its closest point; however, North Creek is located in the neighboring sub-basin and has no hydrologic connection to the wetland.

Question D 3.2: Although there are three 303d waterbodies in the sub-basin, the closest one is located approximately 3.5 miles to the north of the subject property at its closest point. Due to this great distance and hydrologic disconnection, the wetland does not have the opportunity to provide water quality improvement.

Question D 3.3: The wetland is not located within a mapped Water Quality Improvement Project area according to the Washington State Department of Ecology's Water Quality Atlas.

Wetland name or number D

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		4
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0		3
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5		3
Total for D 4		10

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

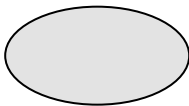
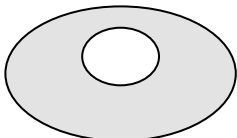
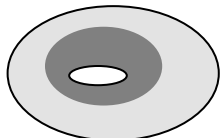
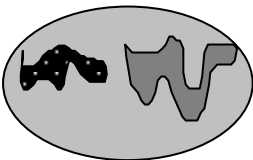
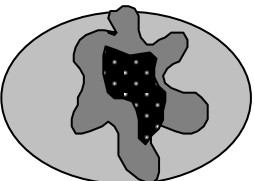
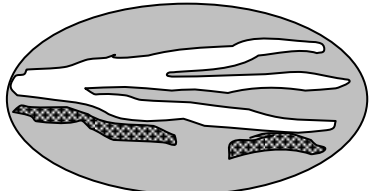
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0		0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0		1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0		1
Total for D 5		2

Rating of Landscape Potential If score is: 3 = H X 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0 Roadway and ineffective culverts are hydrologic impairments that delay storm flows and act similar to a levee/flood control dam. There are no problems with flooding downstream of the wetland. points = 0		0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0		0
Total for D 6		0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

Wetland name or number D

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i> ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 ☒ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☒ Forested (areas where trees have > 30% cover) 1 structure: points = 0 <i>If the unit has a Forested class, check if:</i> ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	1
H 1.2. Hydroperiods 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 ac to count (<i>see text for descriptions of hydroperiods</i>). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☒ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 ☐ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points	0
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</i> If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i>  None = 0 points  Low = 1 point  Moderate = 2 points     All three diagrams in this row are HIGH = 3points	1

Wetland name or number D

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) ☒ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		3
Total for H 1	Add the points in the boxes above	6

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> <u>18.24</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>11.54</u> /2] = <u>24.009999999999999</u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> <u>36.67</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>24.83</u> /2] = <u>49.085</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0		0
Total for H 2	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0		1

Rating of Value If score is: 2 = H X 1 = M 0 = L *Record the rating on the first page*

Wetland name or number D

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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:** Woodland 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 – see web link above*).
- **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 – see web link above*).
- **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 – see web link on previous page*).
- **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 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number D

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ☒ No= Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = Category I ☐ No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to SC 2.2 ☒ No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = Category I ☒ No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes – Contact WNHP/WDNR and go to SC 2.4 ☒ No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = Category I ☒ No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to SC 3.3 ☒ No – Go to SC 3.2 SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in 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 SC 3.3 ☒ No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = Is a Category I bog ☐ No – Go to SC 3.4 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 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = Is a Category I bog ☐ No = Is not a bog	

Wetland name or number D

SC 4.0. Forested Wetlands Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes = Category I ☒ No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) ☐ Yes – Go to SC 5.1 ☒ No = Not a wetland in a coastal lagoon SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) ☐ Yes = Category I ☐ No = Category II	
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat 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 ☐ Yes – Go to SC 6.1 ☒ No = not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = Category I ☐ No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = Category II ☐ No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = Category III ☐ No = Category IV	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number D

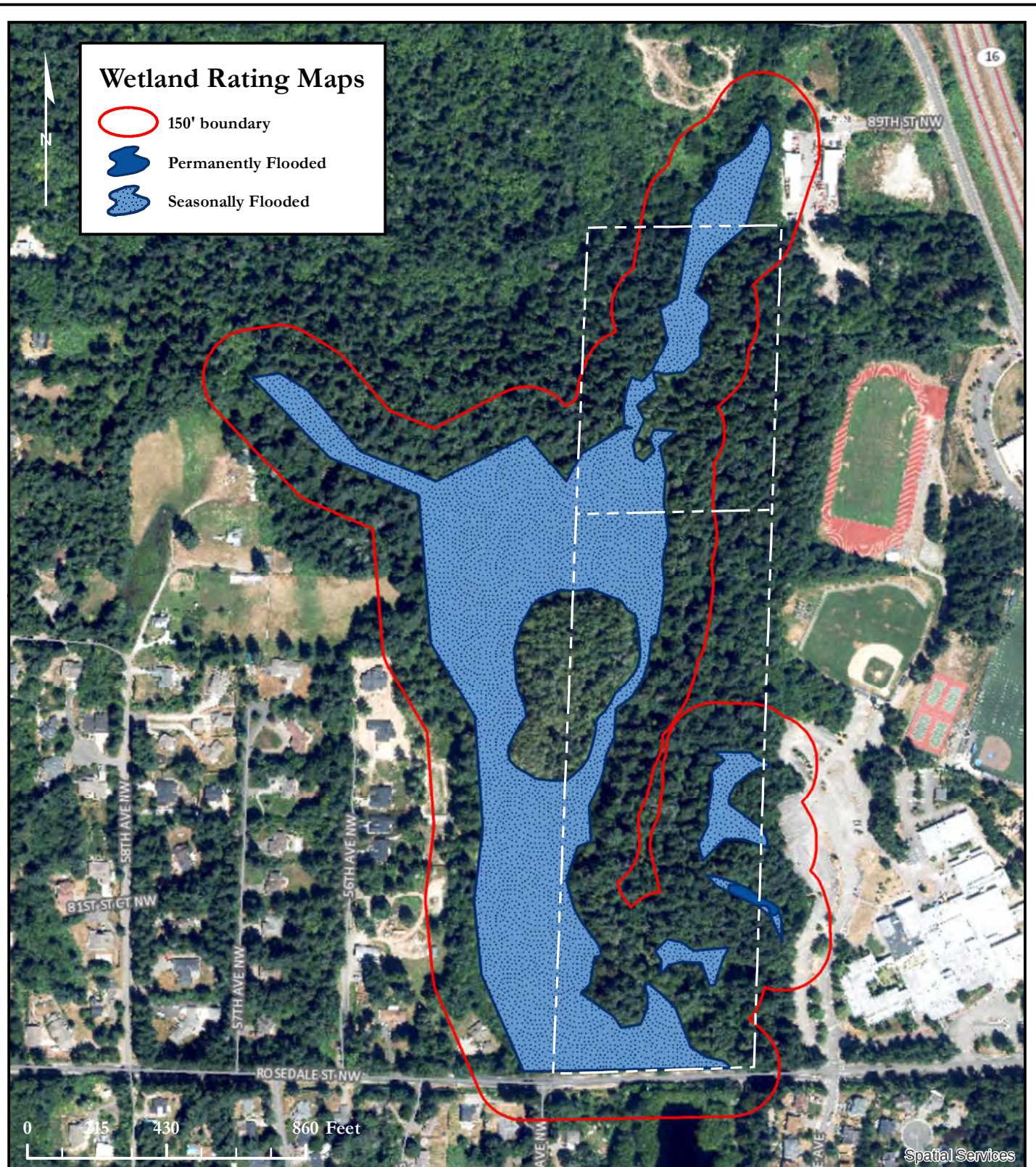
This page left blank intentionally

Appendix F — Wetland Rating Figures



FIGURE NO. 1 of 5

ROSEDALE STREET NW - HYDROPERIOD MAP



Wetland Rating Maps

- 150' boundary
- Permanently Flooded
- Seasonally Flooded


Soundview Consultants LLC
 Environmental Assessment • Planning • Land Use Solutions
 2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
 Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

ROSEDALE STREET NW

XXX 88TH ST NW
 XXX ROSEDALE STREET
 GIG HARBOR, WA 98335

PIERCE COUNTY PARCEL NUMBERS:
 0221063034, 0221063035

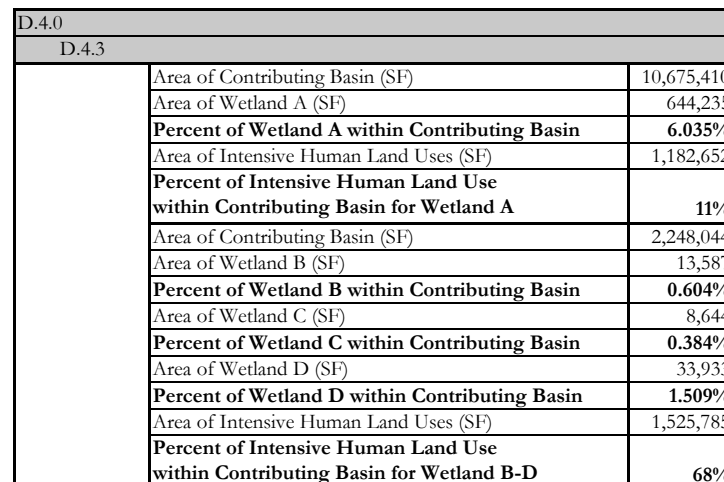
DATE: 7/16/2019

JOB: 1900.0001

BY: DLS

SCALE: 1" = 430'

FIGURE NO. 2 of 5

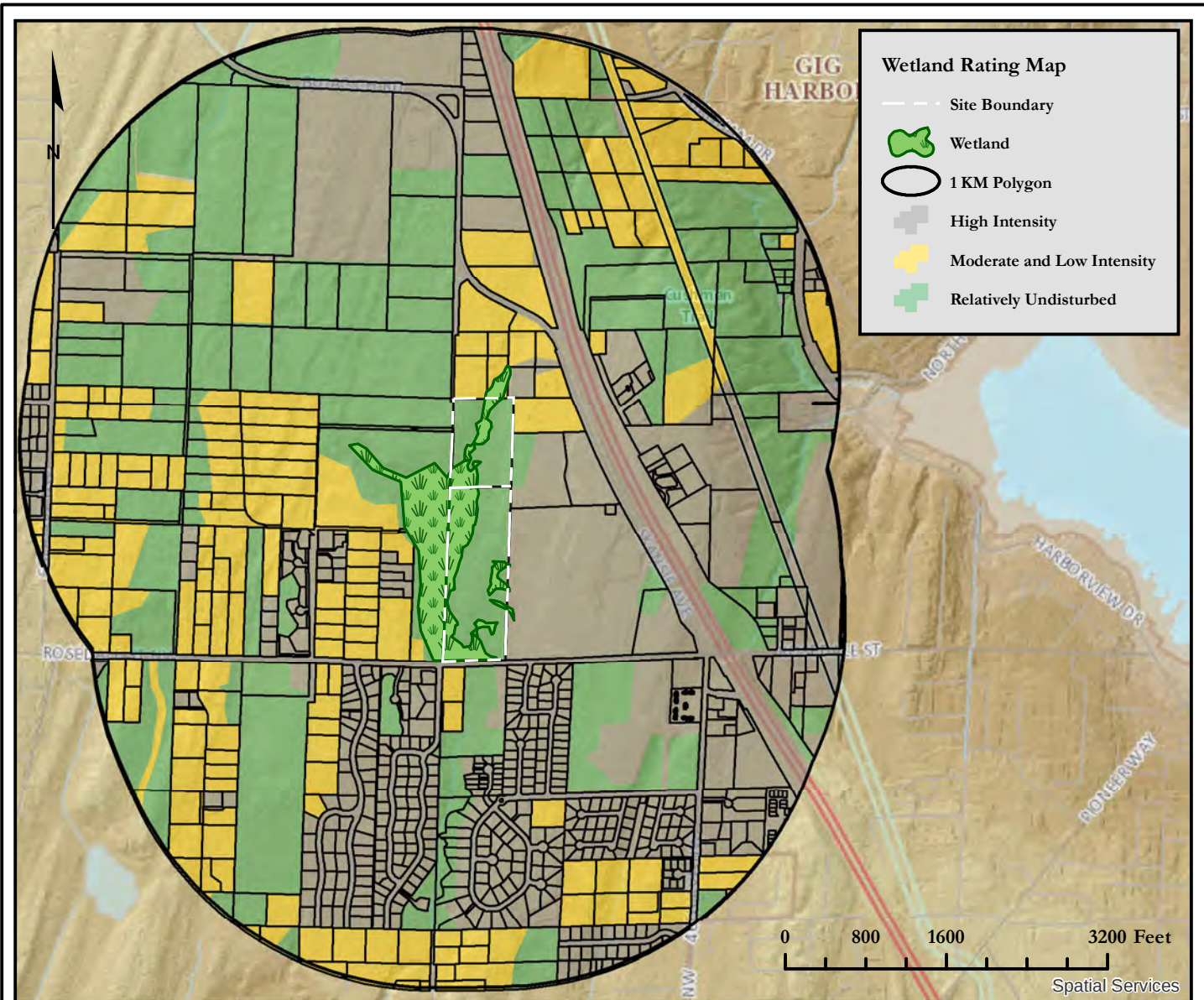


ROSEDALE STREET NW
XXX 88TH ST NW
XXX ROSEDALE STREET
GIG HARBOR, WA 98335

PIERCE COUNTY PARCEL NUMBERS:
0221063034, 0221063035

DATE: 1/10/2020
JOB: 1900.0001
BY: DLS
SCALE: 1" = 1,000'
FIGURE NO. 3 of 5

ROSEDALE STREET NW - HABITAT MAP



H.2.0 Wetland A-D		
H.2.1		
	Abutting Undisturbed Habitat	18.24%
	Abutting Moderate & Low Intensity Land Uses	11.54%
	Accessible Habitat	24.01%
H.2.2		
	Undisturbed Habitat	36.67%
	Moderate & Low Intensity Land Uses	24.83%
	Undisturbed Habitat in 1 KM Polygon	49.08%
H.2.3		
	High Intensity Land Use in 1 KM Polygon	38.51%



Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

ROSEDALE STREET NW

XXX 88TH ST NW
XXX ROSEDALE STREET
GIG HARBOR, WA 98335

PIERCE COUNTY PARCEL NUMBER:
0221063034, 0221063035

DATE: 7/16/2019

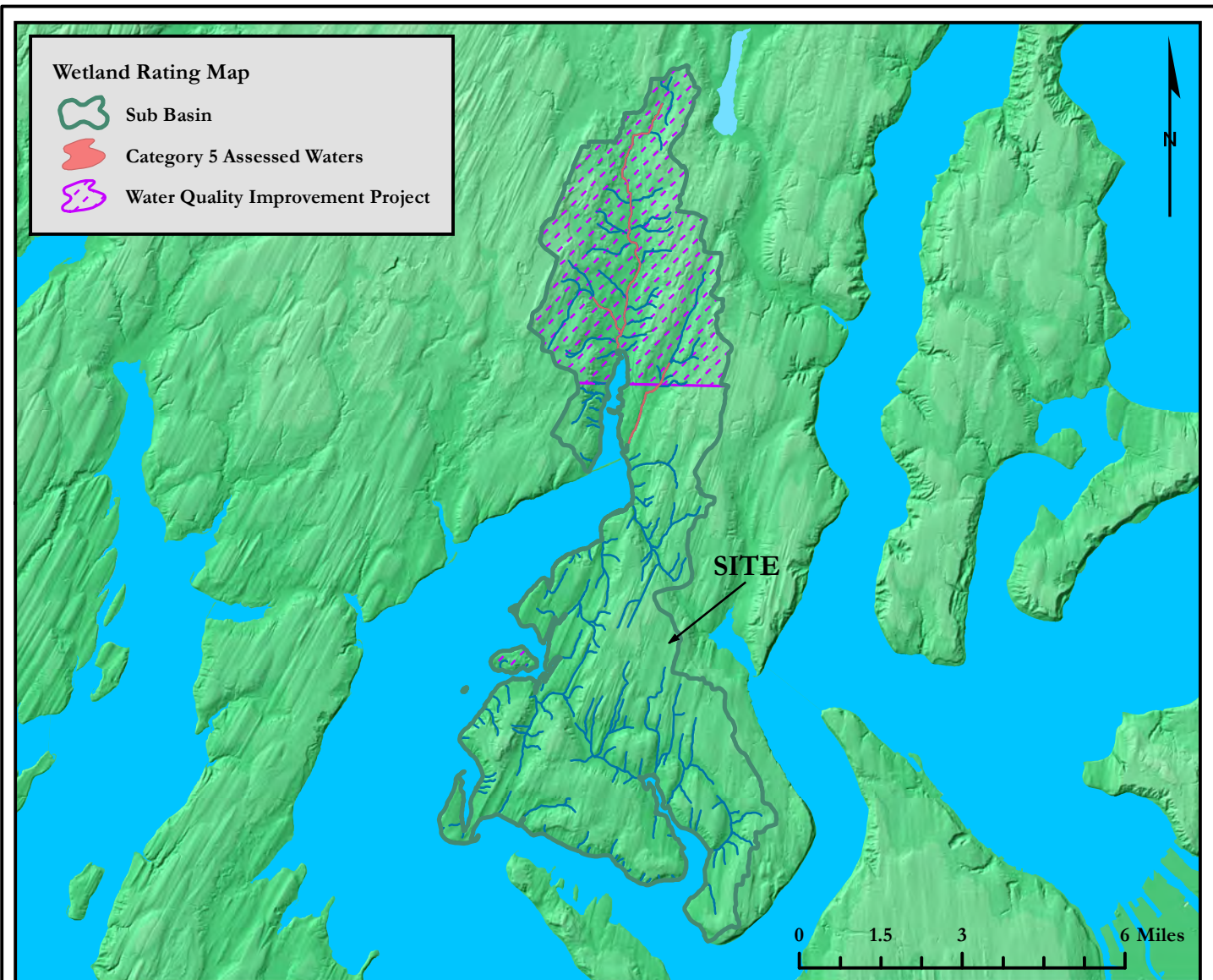
JOB: 1900.0001

BY: DLS

SCALE: 1" = 1,600'

FIGURE NO. 4 of 5

ROSEDALE STREET NW - HABITAT MAP



LISTING ID	CATEGORY	PARAMETER	MEDIA	WATERBODY	WATERBODY TYPE
53150	5	Bacteria	Water	HENDERSON BAY	Marine (Full Grids)
53187	5	Bacteria	Water	HENDERSON BAY	Marine (Full Grids)
53188	5	Bacteria	Water	HENDERSON BAY	Marine (Full Grids)
38843	5	Dissolved Oxygen	Water	PURDY CREEK	Rivers/Streams
38471	5	Dissolved Oxygen	Water	BURLEY CREEK	Rivers/Streams
38475	5	Dissolved Oxygen	Water	BURLEY CREEK	Rivers/Streams
10387	5	Bacteria	Water	PURDY CREEK	Rivers/Streams
38420	5	Dissolved Oxygen	Water	BEAR CREEK	Rivers/Streams



Soundview Consultants LLC
 Environmental Assessment • Planning • Land Use Solutions
 2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
 Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

ROSEDALE STREET NW

XXX 88TH ST NW
 XXX ROSEDALE STREET
 GIG HARBOR, WA 98335

PIERCE COUNTY PARCEL NUMBER:
 0221063034, 0221063035

DATE: 7/16/2019

JOB: 1900.0001

BY: DLS

SCALE: 1" = 3 mi

FIGURE NO. 5 of 5

Appendix G — Qualifications

All field inspections, wetland and habitat assessments, and supporting documentation, including this *Wetland and Fish and Wildlife Habitat Assessment Report and Conceptual Mitigation Plan* prepared for the *Rosedale Street Northwest* property were prepared by, or under the direction of, Matt DeCaro of SVC. In addition, the site investigations were performed by Rachael Hyland and report preparation was completed by Kelly Kramer.

Matt DeCaro

Principal

Professional Experience: 15 years

Matt DeCaro is a Principal and Senior Scientist with a diverse background in environmental planning, wetland science, stream ecology, water quality, tree assessments, site remediation, NEPA compliance, and project management. He manages a wide range of industrial, commercial, and multi-family residential projects throughout Western Washington, providing environmental permitting and regulatory compliance assistance for land use projects from their planning stages through entitlement and construction. His local expertise, diverse professional background, and positive relationships with regulatory personnel are integral components of his successful project outcomes.

Matt earned a Bachelor of Science degree with a focus in Environmental Science from the Evergreen State College in Olympia, Washington, with additional graduate-level coursework and research in aquatic restoration and salmonid ecology. Matt has received 40-hour wetland delineation training (*Western Mountains, Valleys, & Coast and Arid West Regional Supplements*) and regularly performs wetland, stream, and shoreline delineations. Matt has been formally trained in the use of the *2014 Washington State Wetland Rating System* and *Determination of Ordinary High Water Mark* by WSDOE, and he is a Pierce County Qualified Wetland Specialist and Wildlife Biologist. He has attended USFWS survey workshops for multiple threatened and endangered species, and he is a Senior Author of WSDOT Biological Assessments. Matt holds 40-hour HAZWOPER training and has managed Phase I Environmental Site Assessments, subsurface investigations, and contaminant remediation projects throughout the Pacific Northwest. His diverse experience also includes NEPA compliance for federal permitting projects; noxious weed abatement; army ant research in the Costa Rican tropical rainforest; spotted owl surveys on federal and private lands; and salmonid spawning and migration surveys.

Rachael Hyland, WPIT

Environmental Scientist & Certified Ecologist

Professional Experience: 8 years

Rachael Hyland is an Environmental Scientist with extensive wetland and stream delineation and regulatory coordination experience. Rachael has a background in wetland and ecological habitat assessments in various states, most notably Washington, Connecticut, Massachusetts, Rhode Island, and Ohio. She has experience in assessing wetland, stream, riparian, and tidal systems, as well as complicated agricultural and disturbed sites. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects. She also has extensive knowledge of bats and their associated habitats and white nose

syndrome (*Pseudogymnoascus destructans*), a fungal disease affecting bats which was recently documented in Washington.

Rachael earned a Bachelor of Science degree in Ecology and Evolutionary Biology from the University of Connecticut, with additional ecology studies at the graduate level. Rachael is a Wetland Professional in Training (WPIT) through the Society of Wetland Scientists as well as a Certified Ecologist through the Ecological Society of America. She has completed 40-hour wetland delineation training for Western Mountains, Valleys, & Coast and Arid West Regional Supplement, in addition to formal training for the Northcentral and Northeast supplement, and experience with the Midwest, Eastern Mountains and Piedmont, and Atlantic and Gulf Coast supplements. She has also received formal training from the Washington State Department of Ecology in the Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, Selecting Wetland Mitigation Sites Using a Watershed Approach, and Wetland Classification. Rachael has also received training from the Washington State Department of Transportation in Biological Assessment Preparation for Transportation Projects and is listed by WSDOT as a junior author for preparing Biological Assessments.

Kelly Kramer

Environmental Scientist / Project Manager

Professional Experience: 7 years

Kelly Kramer is an Environmental Scientist/Project Manager and currently assists with a variety of land use projects including single-family residential and larger commercial/industrial projects. Kelly conducts wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; performs environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects.

Kelly earned a Master of Science degree in Integrated Plant and Soil Science, Graduate Certificate in College Teaching and Learning, and Bachelor of Science degree in Equine Science and Management from the University of Kentucky. She has received 40-hour wetland delineation training (Western Mtns, Valleys, & Coast and Arid West Regional Supplement), and has been formally trained through the Coastal Training Program in Using Field Indicators for Hydric Soils, and by the Washington State Department of Ecology in the use of the Washington State Wetland Rating System. She has a diverse background in academic research, college level teaching, and forage extension, as well as industry experience in farm and pasture management. She is a published author in the Journal of Equine Veterinary Science through her graduate research, which focused on non-structural carbohydrate variation of cool-season grass pastures.

From: [Jeremy Hammar](#)
To: [Michelle Thomas](#)
Subject: FW: Written comments Permit #'s PL-PPLAT-22-002, PL-DR-22-0025, PL-SEPA-22-2008 Inbox
Date: Wednesday, March 26, 2025 2:55:26 PM
Attachments: [ESC-BusOfc_20250326_141049.pdf](#)

From: Gillespie, Patrick <gillespiep@psd401.net>
Sent: Wednesday, March 26, 2025 2:42 PM
To: Jeremy Hammar <jhammar@gigharborwa.gov>
Cc: Ashley Murphy <murphya@psd401.net>
Subject: Written comments Permit #'s PL-PPLAT-22-002, PL-DR-22-0025, PL-SEPA-22-2008 Inbox

Jeremy, thank you for your time on the phone today. Please find attached written comments, for the Design Review board, opposing the reduction of the 40 foot transition buffer on parcels boarding Peninsula School District property.

RE: Permit #'s: PL-PPLAT-22-002, PL-DR-22-0025, PL-SEPA-22-2008

Thank you,
Patrick

PS: looks like your email address was spelled incorrectly in the notice for this meeting.

--



Patrick Gillespie, Director of Facilities and Capital Projects
Peninsula School District
P 253-530-3805 **W** psd401.net
gillespiep@psd401.net
14015 62nd Avenue NW, Gig Harbor, WA 98332



PENINSULA SCHOOL DISTRICT

INSPIRING AND EMPOWERING EVERY CHILD, EVERY DAY

Patrick Gillespie
Director of Facilities and Capital Projects
Peninsula School District #401
14015 - 62nd Ave NW, Gig Harbor, WA 98332
gillespiep@psd401.net
253-530-1051

March 20, 2025

Jeremy Hammer
City of Gig Harbor
3500 Grandview Street
Gig Harbor, WA 98335

Subject: Permit Number(s): PL-PPLAT-22-0002, PL-DR-22-0025, PL-SEPA-22-0008

Applicant: Gig Harbor Holding Co.

Dear Mr. Hammer,

I am writing on behalf of Peninsula School District #401 regarding the proposed development associated with Permit Numbers: PL-PPLAT-22-0002, PL-DR-22-0025, and PL-SEPA-22-008, and specifically the applicant's request to reduce the required 40-foot transition buffer, as outlined in Gig Harbor Municipal Code (GHMC) Chapter 17.99.180, Zone Transition Buffering Standards.

We have significant concerns about the proposed reduction of the transition buffer from 40 feet to 25 feet, particularly with regard to Gig Harbor High School, which borders parcels 0221063034 and 0221063035 along their east property lines. This site, in addition to the high school, includes Discovery Elementary, Pioneer Elementary, and Henderson Bay High School. These facilities, along with their associated parking lots and athletic fields, are in use from approximately 5:00 AM to 11:00 PM most days and are frequently used by the community for various events year-round.

A reduced buffer would bring the proposed new homes much closer to a site that is actively used, increasing the likelihood that headlights from vehicles and lighting from both parking lots and athletic field lights will shine directly into the new homes. Additionally, the sounds commonly associated with the operation of these schools and athletic facilities would be more prominent.

This situation would not only impact the quality of life for the new homeowners but could also lead to an increase in complaints to the City and the School District about the existing lighting and activity levels—conditions that would be well known to the residents prior to moving into the area.

Although there are no current plans for upgrades to Gig Harbor High School, the reduction of the buffer could have adverse effects on any future plans the District may have for the site. Given the importance of maintaining adequate

separation between the new homes and the school's ongoing operations, Peninsula School District respectfully requests that the 40-foot transition buffer not be reduced.

We believe that preserving the 40-foot buffer will help avoid potential conflicts between the proposed development and the existing activities at Gig Harbor High School, while also safeguarding the long-term interests of both the school district and the new homeowners.

Thank you for considering our concerns.

Sincerely,
Patrick Gillespie

Director of Facilities
Peninsula School District #401