



RIPARIAN PLANTING PLAN

May 4, 2020



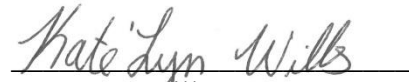
Highland Terrace *La Center, Washington*

Prepared for
Felida Rose, LLC.
13217 NW 30th Court
Vancouver, Washington 98685
(360) 624-3116

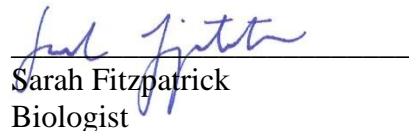
Prepared by
Ecological Land Services
1157 3rd Avenue, Suite 220A • Longview, WA 98632
(360) 578-1371 • Project Number 2378.01

SIGNATURE

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



Kate'Lyn Wills
Biologist IV



Sarah Fitzpatrick
Biologist



Shawn Godinho
Biologist

TABLE OF CONTENTS

INTRODUCTION 1
SITE DESCRIPTION..... 1
PLANTING PLAN..... 1
PERFORMANCE STANDARDS, MONITORING AND MAINTENANCE..... 3
LIMITATIONS 4
REFERENCES 5

Figure 1 Vicinity Map
Figure 2 Site Map

INTRODUCTION

Evergreen Homes NW has contracted Ecological Land Services, Inc. (ELS) to develop a riparian planting plan to compensate for impacts accrued during the construction of the Highland Terrace Subdivision. To compensate for approximately 3,962 square feet of impacts to the southern riparian buffer to widen NW Pacific Highway, the applicant proposes 3,962 square feet of riparian enhancement, consisting of invasive species removal and planting of 39 native shrubs within the enhancement area (Figure 2).

Project Description

The project proposes the construction of a 98-lot subdivision for single-family residential use that will include clearing, grading, lot preparation, utility installation, construction of interior roads and frontage road improvements, and the construction of a stormwater facility. Impacts to wetlands are further discussed and addressed in the *Revised Bank Use Plan for Highland Terrace* (ELS 2020). This riparian planting plan has been specifically prepared to address impacts to the onsite riparian buffer for the proposed widening of NW Pacific Highway, as well as other frontage improvements such as sidewalks, planter strips, and stormwater conveyance. Impacts beyond those detailed within this planting plan will be avoided through the implementation of best management practices (BMPs), including installing silt fencing along the non-impacted portions of the riparian buffer and making a water truck available to prevent dust blowing during construction.

SITE DESCRIPTION

The 0.8-acre study area is located within a portion of Section 31, Township 3 North, Range 3 East, of the Willamette Meridian. The study area consists of the southeastern portion of Clark County Tax Parcel 258763-000, located south of NW 11th Avenue and north of NW Pacific Highway in La Center, Washington. Both the riparian buffer impact area and the riparian planting area are currently dominated by native shrub species, such as Indian plum (*Oemleria cerasiformis*), beaked hazelnut (*Corylus cornuta*), and understory herbaceous and woody vine species such as sword fern (*Polystichum munitum*) and trailing blackberry (*Rubus ursinus*). As the riparian buffer impact area is located adjacent to the existing NW Pacific Highway, invasive species such as Himalayan blackberry (*Rubus armeniacus*) are more common in this area. The stream from which the riparian buffer extends, Stream 1, is located north of the riparian buffer impact area and the riparian enhancement area and flows southeast before connecting to an offsite to an offsite tributary that eventually flows into the East Fork Lewis River. One wetland, Wetland D, is located north of Stream 1 in the northern portion of the study area and another wetland, Wetland E, is in the western portion of the study area. Additional details about onsite wetlands and streams may be found in the *Revised Bank Use Plan for Highland Terrace* (ELS 2020).

PLANTING PLAN

ELS conducted a site visit on November 18, 2019 to collect measurements, observe site conditions, and to determine a suitable planting site in the vicinity of the ordinary high water mark (OHWM). To fully compensate for impacts accrued from the development, riparian enhancement will occur through removal of invasive species, including but not limited to Himalayan blackberry and Canada thistle (*Cirsium arvense*), and through planting of native shrub species consisting of snowberry (*Symphoricarpos albus*), black twinberry (*Lonicera involucrata*), and salal (*Gaultheria*

shallon). Plants specified for mitigation are designed to provide multiple functions, including to filter any upland or impervious surface runoff flowing downslope and to provide cover and enhance the existing habitat for species that utilize the riparian habitat. Plantings will be installed late fall to early spring (October through March) after project completion, when the plants are dormant and the soil moisture conditions are favorable for planting. Table 1 below describes plant, size, and spacing that will be planted within the enhancement area.

Table 1. Plant Specifications

Species	Size	Spacing	Quantity
Snowberry (<i>Symphoricarpos albus</i>)	1-gallon	6-foot on Center	13
Black twinberry (<i>Lonicera involucrata</i>)			13
Salal (<i>Gaultheria shallon</i>)			13
Total			39

Planting Schedule and Equipment

The following equipment may be used to prepare and install plants within the enhancement areas: brush hog, weed eater, tractor, rototiller, tree shovel, garden shovel, and power auger.

Planting Specifications

1. Plant the shrubs during the late fall to early spring (October-March) at the approximate spacing identified in Table 1.
2. Clear native or non-native species within an approximately five foot radius to decrease competition.
3. All plant materials will be kept cool and moist prior to installation.
4. All plant materials will have well developed roots and sturdy stems, with an appropriate root to shoot ratio.
5. No damaged or desiccated roots or diseased plants will be accepted.
6. Dig the receiving hole several inches wider than the size of the root system.
7. Position the planted species’ root collar so that they are at or slightly above the level of the surrounding soil to allow for settling.
8. Backfill the hole with soil.
9. Gently compact the soil around the planted species to eliminate air spaces.
10. If necessary, install mulch around the base of the installed plants.
11. Install tree stakes as needed during installation and throughout monitoring period.

Maintenance

The planted shrubs will be maintained as often as necessary to ensure that the specific performance standards are met. The maintenance includes the following:

- Inspect the plantings at least once annually and maintain as needed to achieve the performance standards.

- Remove competing vegetation from around the base of plant species during the entire monitoring period after planting.
- If mulch is utilized, replace mulch as needed to suppress competing vegetation.
- Replace dead or failed plants to meet the performance standards. Replaced plants will be installed as described for the original installation.

PERFORMANCE STANDARDS, MONITORING AND MAINTENANCE

The proposed project will impact 3,962 square feet of Stream 1’s riparian buffer to widen NW Pacific Highway. Mitigation for impacts will consist of 3,962 square feet of enhancement between the stream and the impacted stream buffer, consisting of invasive species removal and installation of 39 native shrubs. Table 1 in the section titled “Planting Plan” details planting specifications.

Mitigation performance standards include:

- Planted species will achieve 100 percent survival for Year 1 of monitoring.
- Planted species will achieve at least 90 percent survival for Year 3 of monitoring.
- Planted species will achieve at least 85 percent survival for Year 5 of monitoring.
- Planted species will achieve at least 80 percent survival for Year 7 of monitoring.

Monitoring and maintenance will occur for seven years and will be conducted by the client (unless otherwise assigned). Monitoring will consist of counting planted species to document their survival. Maintenance will occur as needed and will include but is not limited to removing invasive plants, mowing competing grasses from the base of plantings, and replacing failed plantings.

Monitoring will occur between April and June of each monitoring year and a letter will be submitted to the City of La Center by December 31st during each monitoring year: Year 1 (one growing season after planting installations), Year 3, Year 5, and Year 7. Monitoring reports will consist of a letter with the following information:

- Permit number
- Project location
- Number of species planted
- Number of failed plantings (if any)
- Statement of whether performance standards have been achieved
- Picture(s) of the plantings taken from the same location each year
- Summary of maintenance efforts

If performance standards are not being met, a contingency plan will be developed and approved by the City of La Center that details the following:

- Cause(s) of failure
- Proposed corrective actions
- Time-frame for completing corrective actions
- Whether additional maintenance and monitoring is necessary

The planting area will be monitored for a 7-year period following plant installation. Evergreen Homes NW is responsible for replacement of dead or missing plants for the entire seven-year monitoring period to uphold survivability listed in the performance standards. Maintenance will be conducted for seven years and will involve removing invasive plants and re-installing failed plants to meet performance standards. Evergreen Homes NW is responsible for mowing competitive grasses and invasive species from bases of planted trees as needed during the growing season.

LIMITATIONS

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

REFERENCES

City of La Center. 2018. *La Center Municipal Code (LCMC), Chapter 18.300, Critical Lands*.

Ecological Land Services, Inc. (ELS) Revised 2020. *Revised Bank Use Plan for Highland Terrace*.

FIGURES

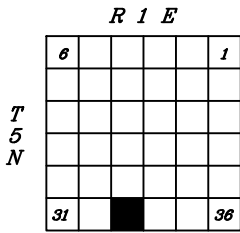
4/30/2020 10:01 AM c:\Users\jennifer\Box\ELSWA\Clark\la center\2378-evergreen homes nwl\2378.01-highland terrace subdivision\2378.01-figures\Highland 2378.01_PLT.dwg Jennifer

WASHINGTON



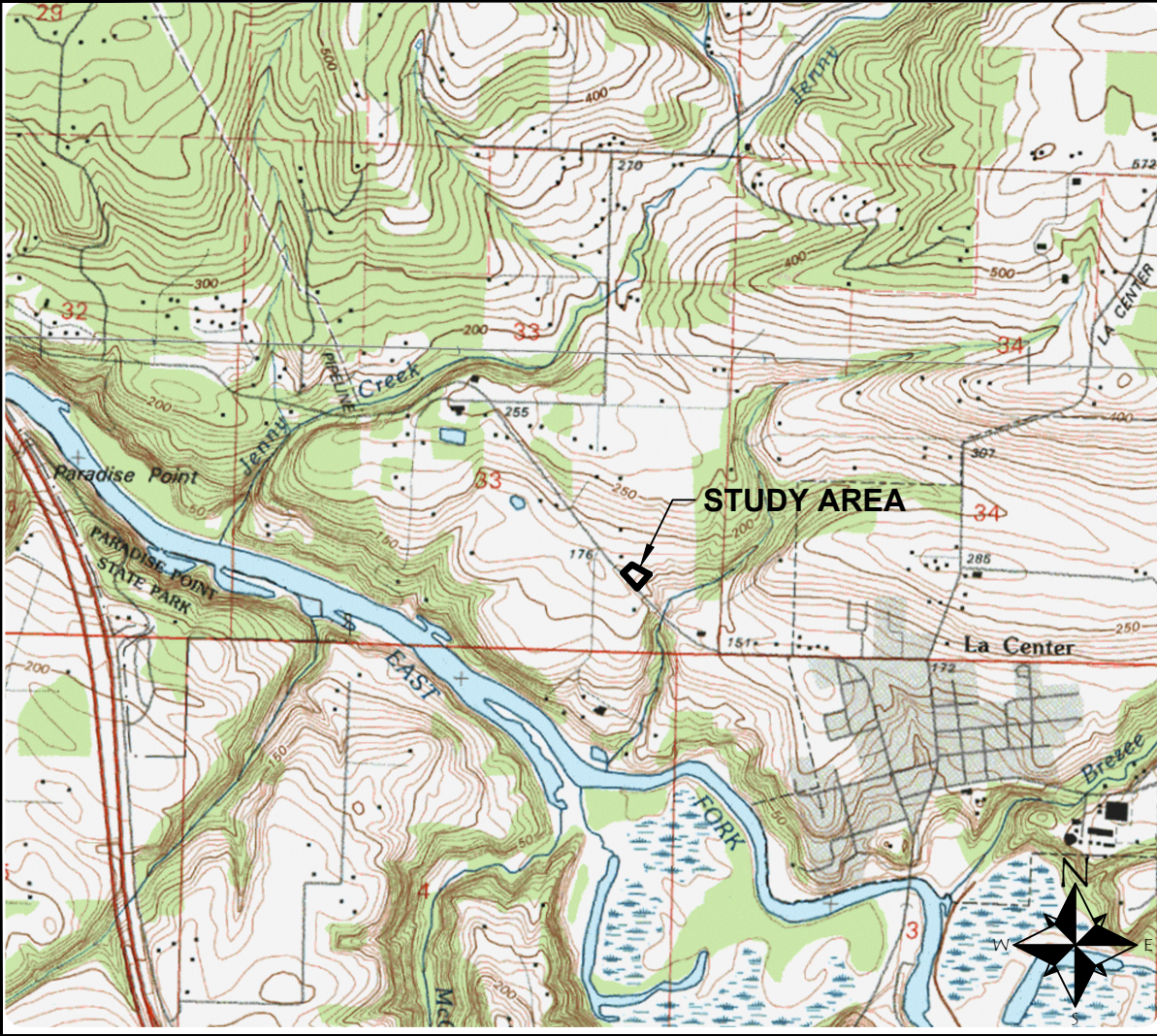
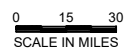
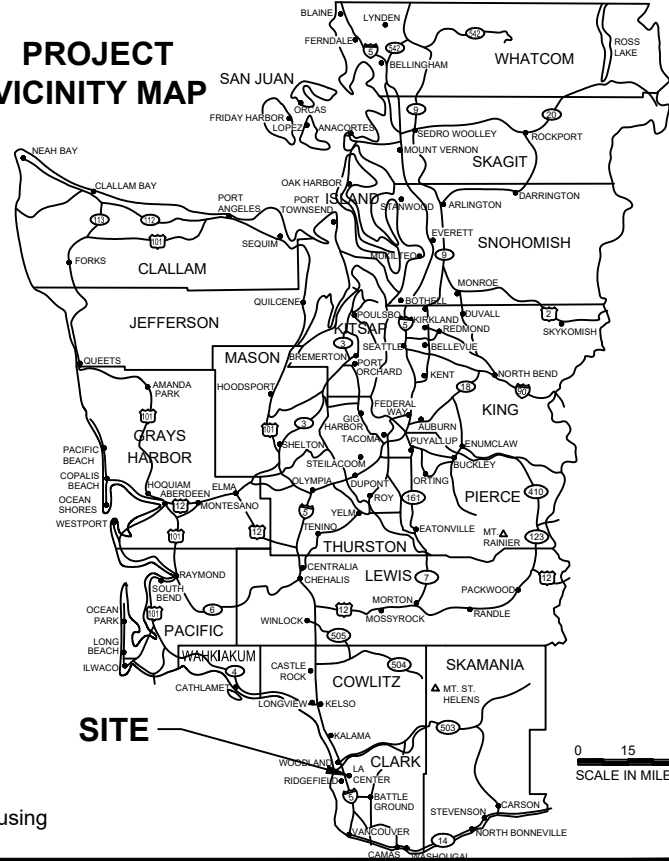
Latitude: 45.5211°
Longitude: -122.4104°

LOCATION MAP



NOTE:
USGS topographic quadrangle map reproduced using MAPTECH Inc., Terrain Navigator Pro software.

PROJECT VICINITY MAP



PROPOSED: Wetland Fill
IN Wetlands
NEAR: La Center
COUNTY: Clark
SHEET 1 OF 2
STATE: WA
DATE: 4/30/20

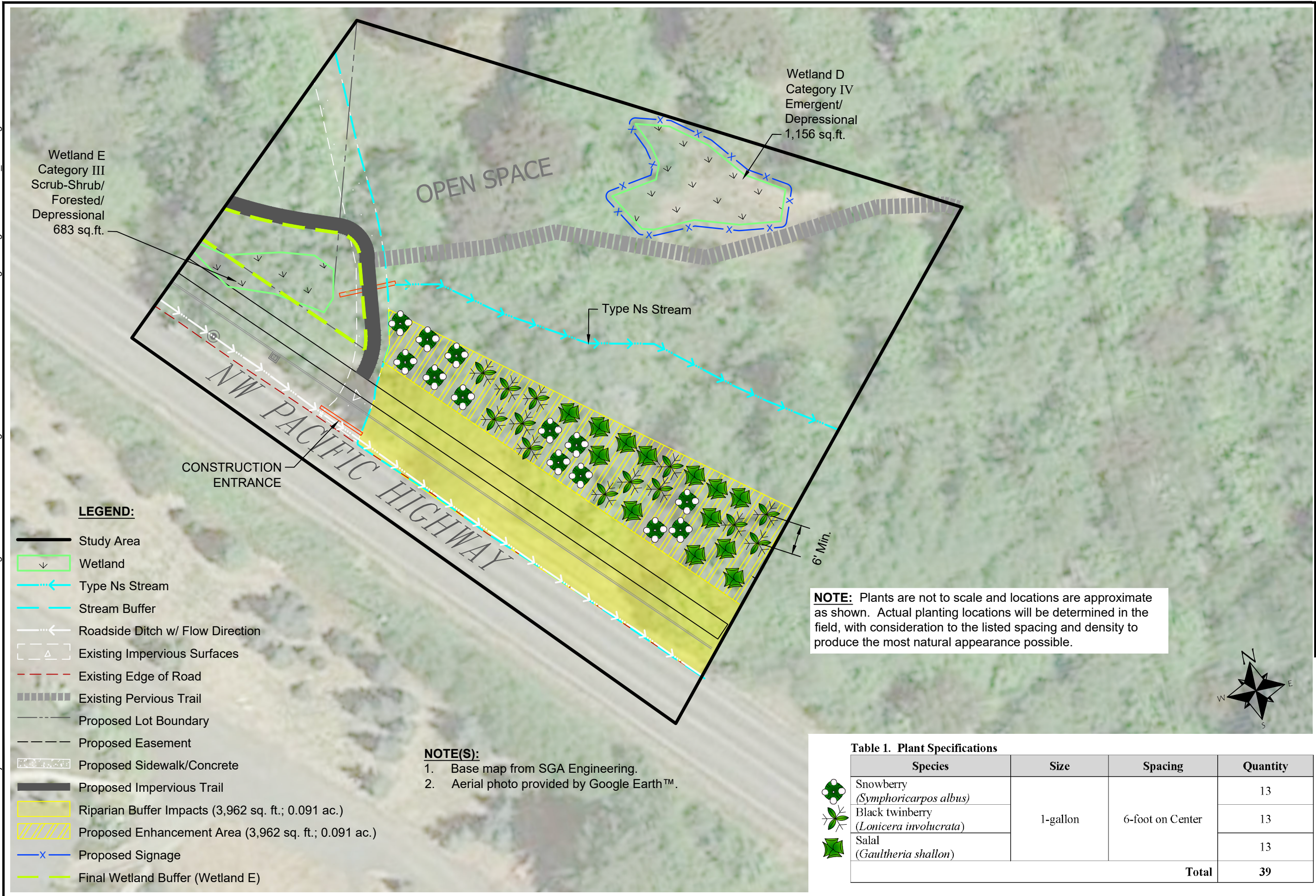
VICINITY MAP
APPLICANT: Evergreen Homes NW
PROJECT NAME: Highland Terrace Subdivision
REFERENCE #: NWS-2016-540
SITE LOCATION ADDRESS:
NW Pacific Hwy.
La Center, WA 98629

PURPOSE:
Construction of 97 lot subdivision
DATUM: NAD83
ADJACENT PROPERTY OWNERS:
SEE JARPA

SCALE IN FEET
0 2000 4000
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371



4/30/2020 10:01 AM c:\Users\jennifer\Box\EL\SWA\Clark\la center\2378-2378-evergreen homes nw\2378.01-highland terrace subdivision\2378.01-figures\Highland 2378.01_PLT.dwg Jennifer



LEGEND:

- Study Area
- Wetland
- Type Ns Stream
- Stream Buffer
- Roadside Ditch w/ Flow Direction
- Existing Impervious Surfaces
- Existing Edge of Road
- Existing Pervious Trail
- Proposed Lot Boundary
- Proposed Easement
- Proposed Sidewalk/Concrete
- Proposed Impervious Trail
- Riparian Buffer Impacts (3,962 sq. ft.; 0.091 ac.)
- Proposed Enhancement Area (3,962 sq. ft.; 0.091 ac.)
- Proposed Signage
- Final Wetland Buffer (Wetland E)

NOTE(S):
 1. Base map from SGA Engineering.
 2. Aerial photo provided by Google Earth™.

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

Table 1. Plant Specifications

Species	Size	Spacing	Quantity
Snowberry (<i>Symphoricarpos albus</i>)	1-gallon	6-foot on Center	13
Black twinberry (<i>Lonicera involucrata</i>)			13
Salal (<i>Gaultheria shallon</i>)			13
Total			39

PURPOSE: Construction of 97 lot subdivision

Riparian Planting Plan
APPLICANT: Evergreen Homes NW
PROJECT NAME: Highland Terrace Subdivision
REFERENCE #: NWS-2016-540
SITE LOCATION ADDRESS: NW Pacific Hwy.
 La Center, WA 98629

ADJACENT PROPERTY OWNERS: SEE JARPA

PROPOSED: Wetland Fill

IN Wetlands
NEAR: La Center
COUNTY: Clark
STATE: WA

SHEET 2 OF 2
DATE: 4/30/20

DATE: NAD83
ADJACENT PROPERTY OWNERS: SEE JARPA

1157 3rd Ave., Suite 220A
 Longview, WA 98632
 Phone: (360) 578-1371

Ecological Land Services

SCALE IN FEET
 0 30 60