

Biological Evaluation No Effects Letter
Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

File No. 5790-004-00

December 19, 2017

Prepared for:

City of Mukilteo Public Works
11930 Cyrus Way
Mukilteo, Washington 98275

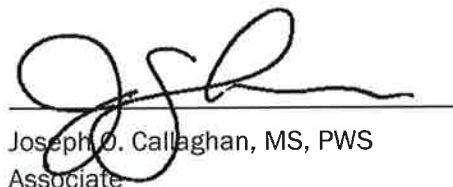
Attention: Challis Stringer

Prepared by:

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INTRODUCTION

GeoEngineers, Inc. (GeoEngineers) was contracted by City of Mukilteo (Mukilteo) to prepare this No Effects Biological Evaluation (BE) Letter for a road widening project (Harbour Pointe Boulevard Widening Project). The project is located near the Cyrus Way and Harbour Pointe Boulevard intersection in Mukilteo, Washington (Figure 1, Vicinity Map). As a result of the proposed project, wetland mitigation will be required and is proposed at the City of Mukilteo owned property (Japanese Gulch) located northeast of the 76th Street SW and 44th Avenue West intersection (Figure 1). For more information on the project see Appendix A, Joint Aquatic Resource Permit Application (JARPA) drawings. A BE is required to address Endangered Species Act (ESA) Section 7 consultation requirements. This letter addresses potential project effects on threatened and endangered species and their critical habitat.

Information on species listed under the ESA, and potentially present in the project area, was obtained from the United States Fish and Wildlife Service (USFWS) project specific list (USDI-USFWS 2017a and b), the Washington State Department of Fish and Wildlife (WDFW) priority habitat and species (PHS) interactive mapper (WDFW, 2017) and the National Oceanic and Atmospheric Administration - Fisheries (NOAA Fisheries) species lists (NOAA Fisheries 2017). A Washington State Department of Natural Resources (DNR) search of their Natural Heritage Program revealed no records of listed plants, high quality ecosystems or other significant natural features near the road widening or mitigation project site (DNR, 2017). There are no mapped streams within the project footprints or adjacent to the work areas. There are no documented threatened or endangered species within 5,000 feet of the project site or the proposed mitigation area (WDFW, 2017). Listed species information and potential effects of the project are discussed below in individual sections of this letter.

PROJECT LOCATION AND SITE DESCRIPTION

Project Location

The road widening project footprint is situated along road right-of-way (ROW). The project extends approximately 1,600 feet west along Harbour Pointe Boulevard from Mukilteo Speedway, with a small northwest to southeast extension along Cyrus Way (Appendix A - Figure 2, Site Plan). The proposed road widening is located in Section 27 of Township 28 North and Range 4 East of the Willamette Meridian (W.M.) and Water Resource Inventory Area (WRIA) 8 (Cedar-Sammamish). The proposed mitigation site, located northeast of the 76th Street SW and 44th Avenue West intersection is situated in Section 10 of Township 28 North and Range 4 East of the WM and WRIA 7 (Snohomish). Both the road widening and the mitigation site are located within Hydrologic Unit Code (HUC) 17110019 (Puget Sound).

Project Site and Mitigation Site Descriptions

The Harbour Pointe Boulevard road widening project area is developed with commercial office parks, a bank, a gas station and Mukilteo City Hall. Four undeveloped and forested parcels are located south of Harbour Pointe Boulevard from just west of Cyrus Way to a point approximately 250 feet east of Mukilteo Speedway (Hwy 525) (Figure 2). Vegetation in the forested parcels adjacent to the road widening area largely consists of red alder (*Alnus rubra*), Pacific willow (*Salix lasiandra*), black cottonwood (*Populus balsamifera*), Himalayan blackberry (*Rubus armeniacus*) and reed canarygrass (*Phalaris arundinacea*) with some western red cedar (*Thuja plicata*) trees. Three wetlands have been identified and delineated within the project corridor, one Category III wetland (Wetland A) and one Category IV wetland (Wetland B)

accessibility along this City arterial serving a combination of residential, commercial, industrial, and recreational users.

The footprint of improved surfaces was developed by modeling turning movements of commercial vehicles (semi-trucks) that utilize the corridor each day. Multiple iterations were conducted to minimize the area of new roadway surfaces, both to minimize construction costs and to reduce the potential for impacts to existing sensitive areas. The proposed layout minimizes impacts to existing wetlands and wetland buffers to the maximum extent practicable while still meeting design and safety requirements. Project improvements will expand the existing roadway footprint into one existing wetland (Wetland A) and into disturbed (pavement or gravel) portions of existing wetland buffers. The quality of stormwater from existing roadway surfaces and from proposed surfaces will be improved by installing stormwater features that collect, detain, and treat roadway runoff. Specific media to be used for filtration will be selected based on the land use and stormwater runoff pollutant loading. The combination of these structures will provide water quality improvements as collected runoff passes through the vault wet pools and media cartridges, trapping particulates and adsorbing pollutants.

The wetland impacts associated with the road work will be mitigated on property the City owns, known as Japanese Gulch. The City of Mukilteo has identified Japanese Gulch for wetland and buffer mitigation as part of their CAMP program. Mitigation will include wetland creation and enhancement (Appendix A – Figure 3). See the mitigation plan for more information on proposed compensatory mitigation for the project (GeoEngineers, 2017c).

Japanese Gulch Mitigation Project Description

The mitigation project will require some minor surface excavation/scraping within an existing wetland (Wetland A) and within wetland buffer areas to remove reed canary grass rhizomes and seeds, and to lower grades to create wetlands. The mitigation project will not include work within streams. Excavation will primarily consist of removal of a portion of an existing road and subgrade materials, removal of an earthen berm and decommissioning of a catch basin located in the middle of the existing access road. Currently, it is understood that the grading for the project will be completed in one construction season (summer of 2018 or summer of 2019), and construction sequencing will therefore follow a one-year/one-season construction approach. As part of the mitigation:

- 315 square feet of existing wetland will be enhanced,=;
- 4,851 square feet of wetland habitat will be created (2,105 square feet of creation for compensatory mitigation and 2,746 square feet of paper buffer creation¹); and
- 792 square feet of buffer habitat will be enhanced.

¹ It is anticipated that the paper buffer area will become wetland because of site elevations and hydrology, however only 2,105 sq. ft. of the total wetland creation area will be credited for compensatory mitigation, the remainder will be paper buffer to protect and shield the created wetland from human and dog use of the trail (future boardwalk) along the southern edge of the mitigation area.

- **Construction-related noise** Construction-related noise is considered a direct effect of the project, but will only be temporary. Once construction is complete, noise in the action area will return to pre-project levels. There will be no underwater noise associated with this project because there will be no in-water work and there are no adjacent streams.

- **Road Widening Site:** Construction equipment, such as an excavator and dump trucks, is anticipated to generate in-air noise at the approximate level of 82 decibels (dBA) at 50 feet from the source (WSDOT, 2015). The project site is surrounded by developed areas creating soft (buildings and vegetation) conditions that would attenuate noise at an approximate rate of 7.5 dBA (per doubling distance) for the soft site (WSDOT, 2015). The WSDOT Biological Assessment Preparation Manual cites the 1978 Environmental Protection Agency (EPA) document for urban areas having a dBA level that ranges from 60 to 65 (WSDOT, 2015). Since the project is located in an urban area with businesses and busy roadways, the ambient baseline levels are estimated to be 65 dBA. The WSDOT manual provides an equation to identify the distance point source construction noise will travel before it attenuates to the ambient baseline sound level by the practical spreading loss method (WSDOT, 2015). Based on the above-mentioned parameters and the equation, the distance from the project site at which construction noise would become indistinguishable from background ambient noise conditions is approximately 239 feet over land.
- **Mitigation Site:** Construction equipment, such as an excavator and dump trucks, is anticipated to generate in-air noise at the approximate level of 82 dBA at 50 feet from the source (WSDOT, 2015). The project site is surrounded by forested areas and developed areas creating soft (buildings and vegetation) conditions that would attenuate noise at an approximate rate of 7.5 dBA (per doubling distance) for the soft site (WSDOT, 2015). The WSDOT Biological Assessment Preparation Manual cites the 1978 EPA document for rural areas having a dBA level that ranges from 35 to 40 (WSDOT, 2015). Since the project is located in a rural area actively used by humans for gardening, biking and hiking, the ambient baseline levels are estimated to be 40 dBA. The WSDOT manual provides an equation to identify the distance point source construction noise will travel before it attenuates to the ambient baseline sound level by the practical spreading loss method (WSDOT, 2015). Based on the above-mentioned parameters and the equation, the distance from the project site at which construction noise would become indistinguishable from background ambient noise conditions is approximately 2,393 feet over land.

■ Water quality

- **Road Widening Site:** There will be no impacts to water quality as a result of the project, because BMPs will be implemented and there are no streams immediately adjacent to the project. Stormwater from the project area drains through vegetated swales and then southeast through approximately 1,400 feet of stormwater conduit (pipe with 12 inches or less diameter), and then discharges to a tributary of Picnic Point Creek. All turbid stormwater from the project site will be infiltrated into adjacent upland areas or treated before being discharged from the site.
- **Mitigation Site:** There will be no impacts to water quality as a result of the project, because BMPs will be implemented and there are no adjacent streams within the project vicinity. All turbid stormwater from the project site will be infiltrated into adjacent upland areas or treated before being discharged from the site.

■ Habitat alteration

- **Road Widening Site:** Clearing, grading, and other construction activities will result in a loss of vegetation and wetland habitat. Vegetation to be removed will primarily consist of the herbaceous and shrub layer including some young trees. However, vegetated habitat within the project footprint is highly impacted and isolated due to being situated in a developed area. Vegetated areas are dominated by invasive species such as Himalayan blackberry and reed

- **Yellow-billed cuckoo (*Coccyzus americanus*)** – Yellow-billed cuckoos are associated with open deciduous woodlands and deciduous riparian forests that are at least 25 acres in size (NatureServe, 2017). There is no suitable habitat for yellow-billed cuckoos in the action area; this species is not expected to occur in the project area. Therefore, **no effects** to yellow-billed cuckoo are expected to occur from project activities.
- **Bull trout (*Salvelinus confluentus*)** – There are no fish-bearing streams within the road widening project action area or the proposed mitigation site action area (DNR, 2016). Therefore, **no effects** to bull trout are expected to occur from project activities.
- **Steelhead (*Oncorhynchus mykiss*)** – There are no fish-bearing streams within the road widening project action area or the proposed mitigation site action area (DNR, 2016). Therefore, **no effects** to steelhead are expected to occur from project activities.
- **Chinook (*Oncorhynchus tshawytscha*)** – There are no fish-bearing streams within the road widening project action area or the proposed mitigation site action area (DNR, 2016). Therefore, **no effects** to Chinook are expected to occur from project activities.

POTENTIAL EFFECTS OF THE ACTION

No **direct effects** to listed species have been identified. There are several potential **effects** resulting from the project activities in the vicinity of the project that are not expected to occur outside of the action area and no listed species have been identified within the action area. These potential effects include the following:

- Increased noise during construction is expected to be minimal because of the land setting and existing site conditions. No impacts to listed species have been identified from increased in-air noise.
- Sedimentation from stormwater runoff and accidental spills of fuel, oils, chemicals, and concrete leachate could occur during construction. However, the project will include the implementation of impact avoidance, minimization measures, and BMPs, which are expected to prevent such spills and stormwater runoff emanating from the project site from reaching any surface waters during construction. No impacts to listed species have been identified from construction stormwater and potential spills.
- Habitat alteration will be affected from the project.
 - **Road widening site:** Vegetation and wetland habitat will be removed. However, the area is impacted from the historic development of roadways, ditches and businesses. There are little to no buffers and vegetation is largely invasive (Himalayan blackberry and reed canarygrass). Due to habitat isolation and lack of vegetated corridors, listed species are not expected to be within these areas. Therefore, no impacts to listed species have been identified from construction or the project.
 - **Mitigation site:** The nature of the proposal, wetland creation and wetland and buffer enhancement will modify the site. However, habitat functions of the area are expected to increase as a result of the project. In addition, there are no mapped threatened or endangered species within the vicinity of the project. Therefore, no impacts to listed species have been identified from construction or the project.

Coastal pelagic, groundfish and pacific salmon species are not anticipated to be within the project action area. Therefore, the project will have **no effect** on essential fish habitat for Pacific salmon, coastal pelagic fish species or groundfish species for the following reasons:

- Salmonids, coastal pelagic and groundfish species are not found within the action area.
- The proposed project will control stormwater impacts with proper implementation of BMPs.

LIMITATIONS

GeoEngineers has prepared this Biological Evaluation No Effects Letter in general accordance with the scope and limitations of our proposal. Within the limitations of scope, schedule and budget, our services have been executed in accordance with the generally accepted practices for ESA consultation in this area at the time this report was prepared. No warranty or other conditions express or implied should be understood.

Any electronic form, facsimile or hard copy of the original document (email, text, table and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

This report has been prepared for the exclusive use of City of Mukilteo and their authorized agents and regulatory agencies, following the described methods and information available at the time of the work. No other party may rely on the product of our services unless GeoEngineers agrees in advance to such reliance in writing. The information contained herein should not be applied for any purpose or project except the one originally contemplated.

REFERENCES

Code of Federal Regulations. 2005. Title 50: Wildlife and Fisheries. Section 402.02 – Definitions.

GeoEngineers, Inc. 2017a. "Draft Wetland and Stream Delineation Report, Harbour Pointe Boulevard Widening Project. Mukilteo, Washington." GEI File No. 5790-004-00, September 20, 2016.

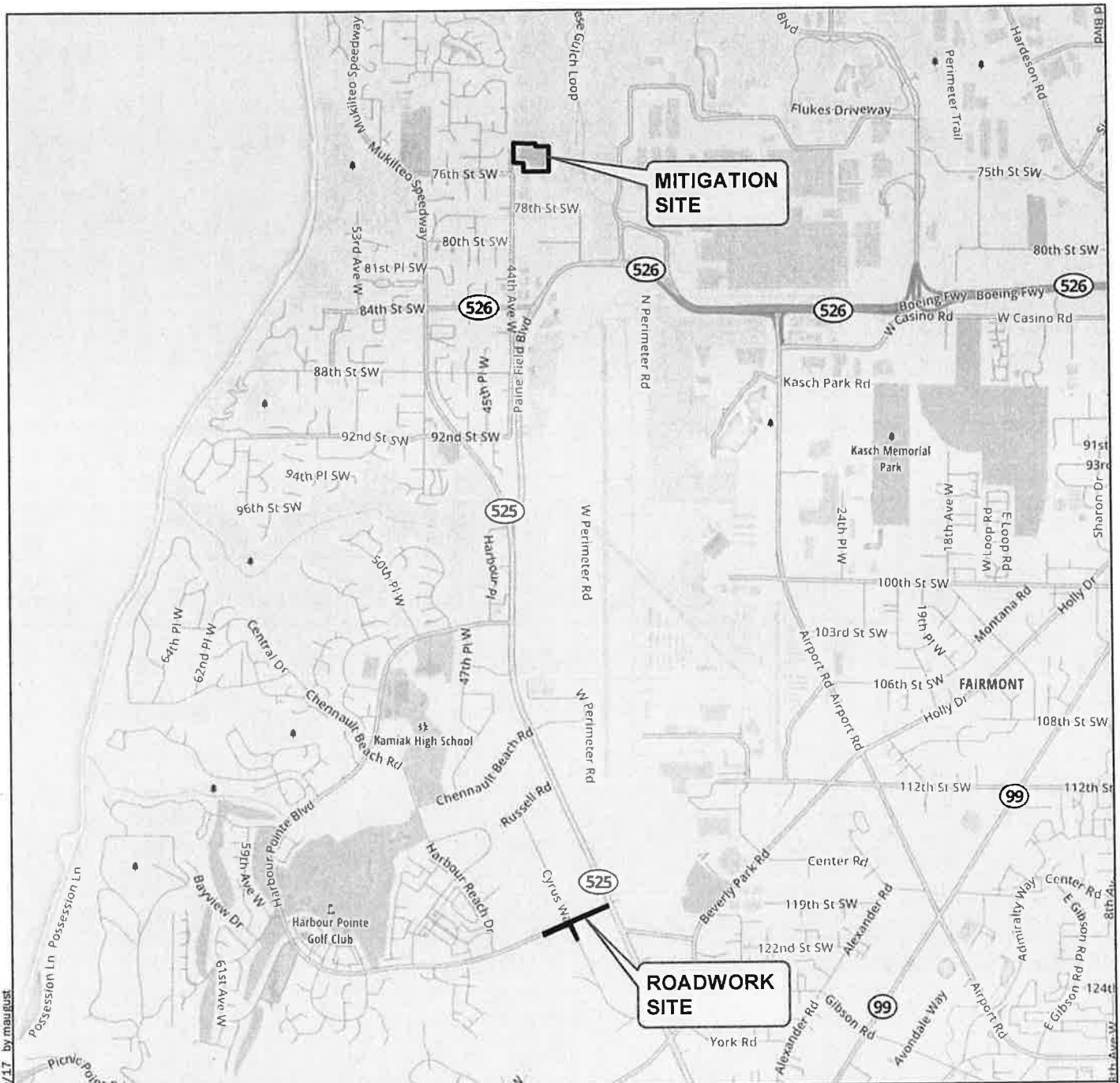
GeoEngineers, Inc. 2017b. Japanese Gulch Wetland Delineation; Harbour Pointe boulevard Widening Project. Mukilteo, Washington. "GEI File No. 5790-004-00, November 14, 2017.

GeoEngineers, Inc. 2017c. "Mitigation Plan for the Harbour Pointe Boulevard Widening Project. Mukilteo, Washington." GEI File No. 5790-004-00, in preparation.

National Oceanic and Atmospheric Administration Fisheries, 2017. "Species Lists." Available at: http://www.westcoast.fisheries.noaa.gov/protected_species/species_list/species_lists.html

NatureServe, 2017. Available at: <http://explorer.natureserve.org/#>.

United States Department of the Interior-United States Fish and Wildlife Service, 2017a. Official Species List. Consultation Code 01EWF00-2017-SLI-1218.



Vicinity Map

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Figure 1

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

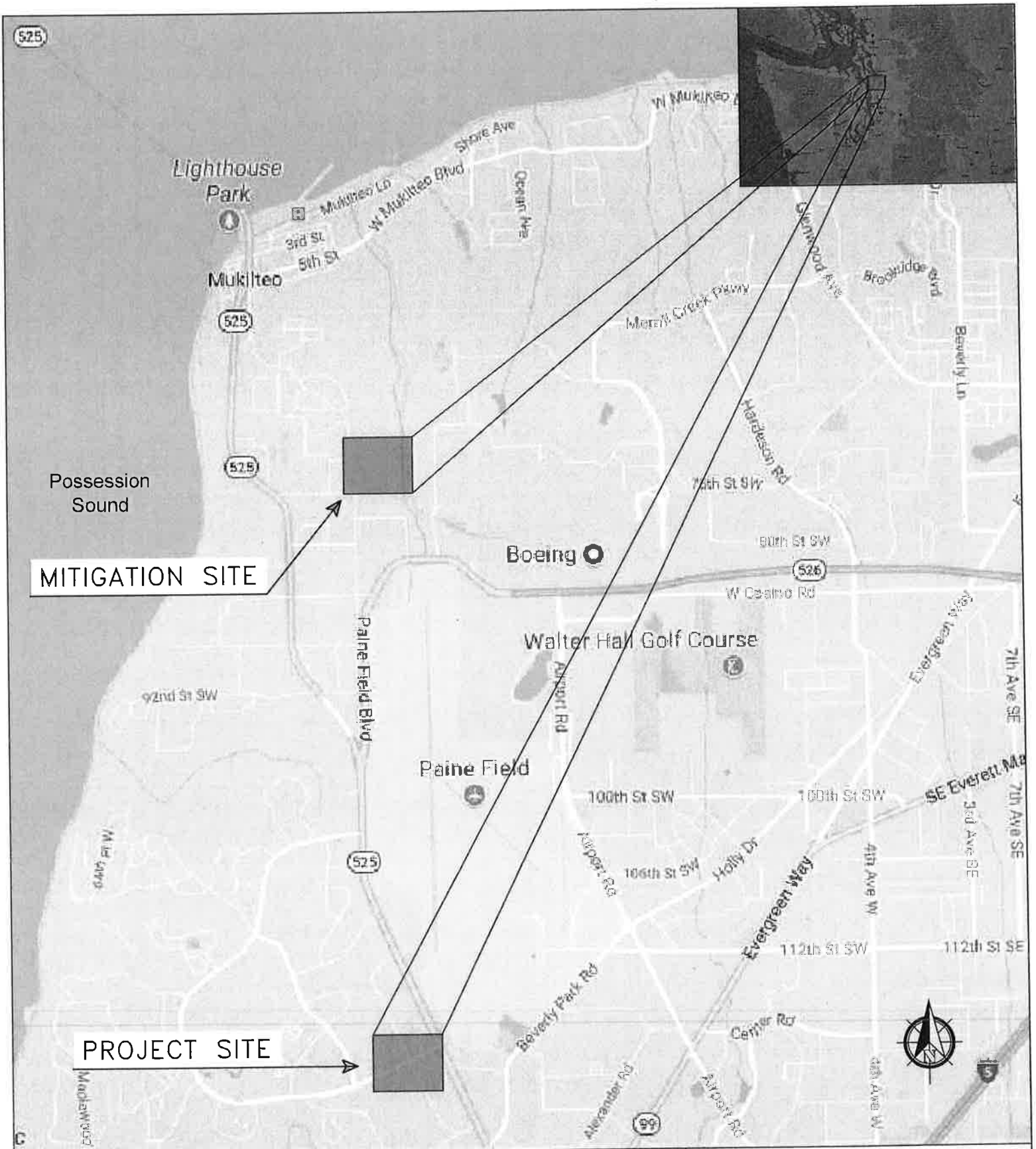
Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

\\055790004\GIS\MXDs\579000400_F1_VicinityMap.mxd Date Exported: 08/29/17 by maugust

APPENDIX A

Project JARPA Drawings



APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

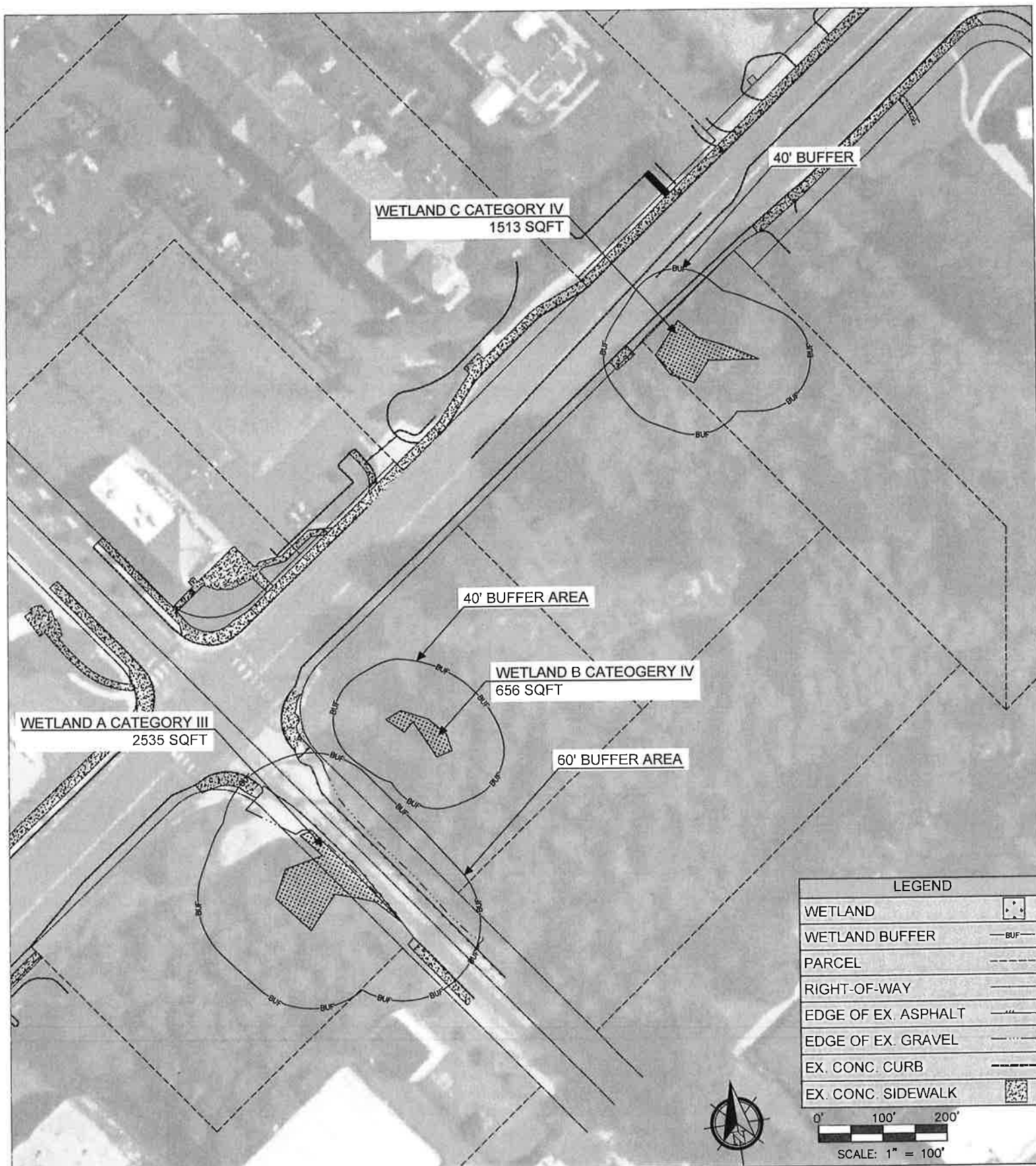
LAT/LONG: (PROJECT SITE)
47.888933°, -122.288214°
LAT/LONG: (MITIGATION SITE)
47.930044°, 122.290486°
DATUM: LIDAR
DATE: 11/30/2017
SHEET 1 OF 8

FIGURE 1 –VICINITY MAP

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH
STATE: WASHINGTON

TUTTLE ENGINEERING
AND MANAGEMENT



APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

LOCATION: SNOHOMISH COUNTY

LAT/LONG: 47.888933°, -122.288214°

DATUM: LIDAR

DATE: 11/30/17

SHEET 2 OF 8

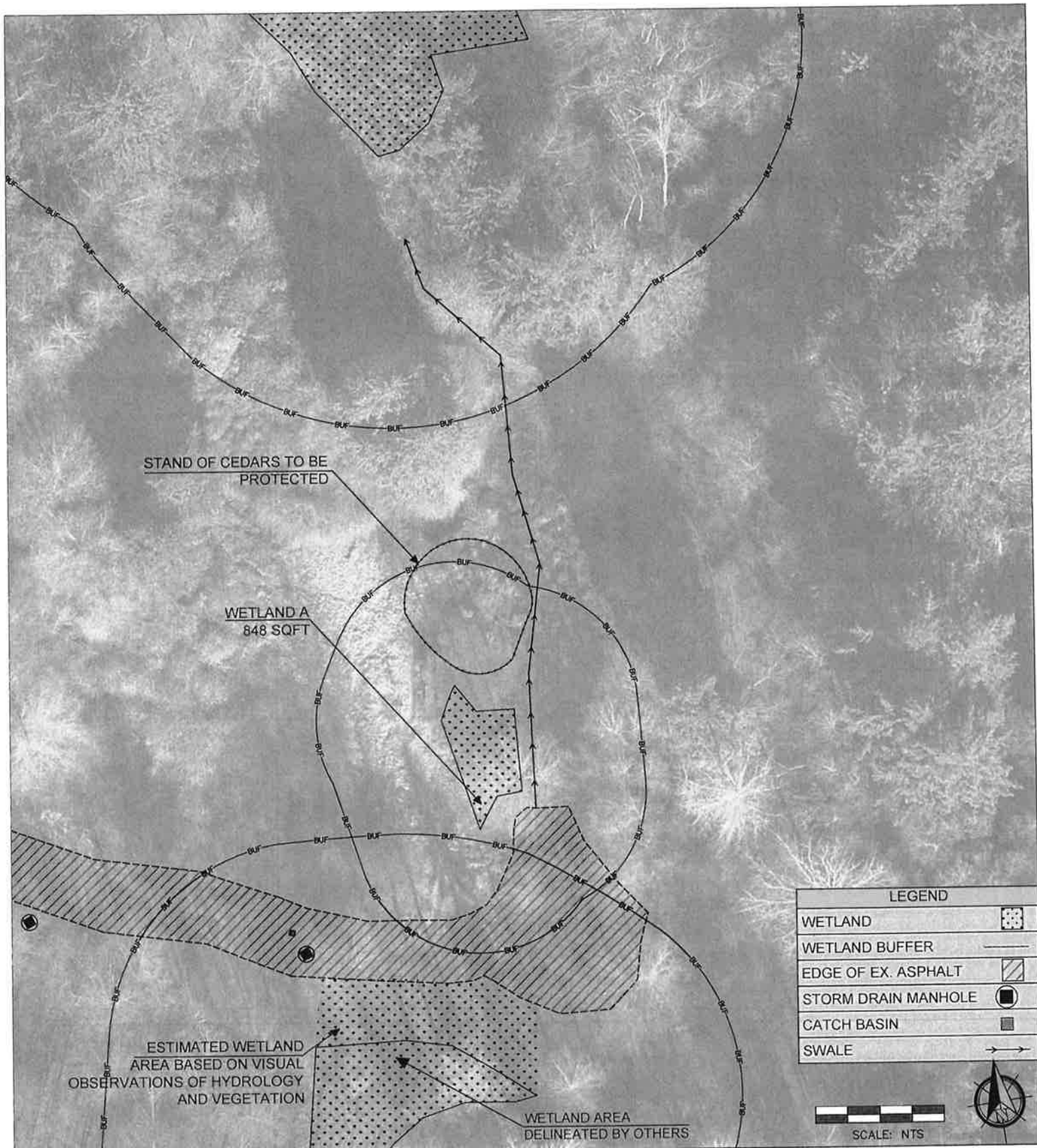
FIGURE 2 —ON SITE EXISTING CONDITIONS

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

STATE: WASHINGTON

TUTTLE ENGINEERING
AND MANAGEMENT



APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

LOCATION: SNOHOMISH COUNTY

LAT/LONG: 47.930044°, 122.290486°

DATUM: LIDAR

DATE: 11/30/17

SHEET 3 OF 8

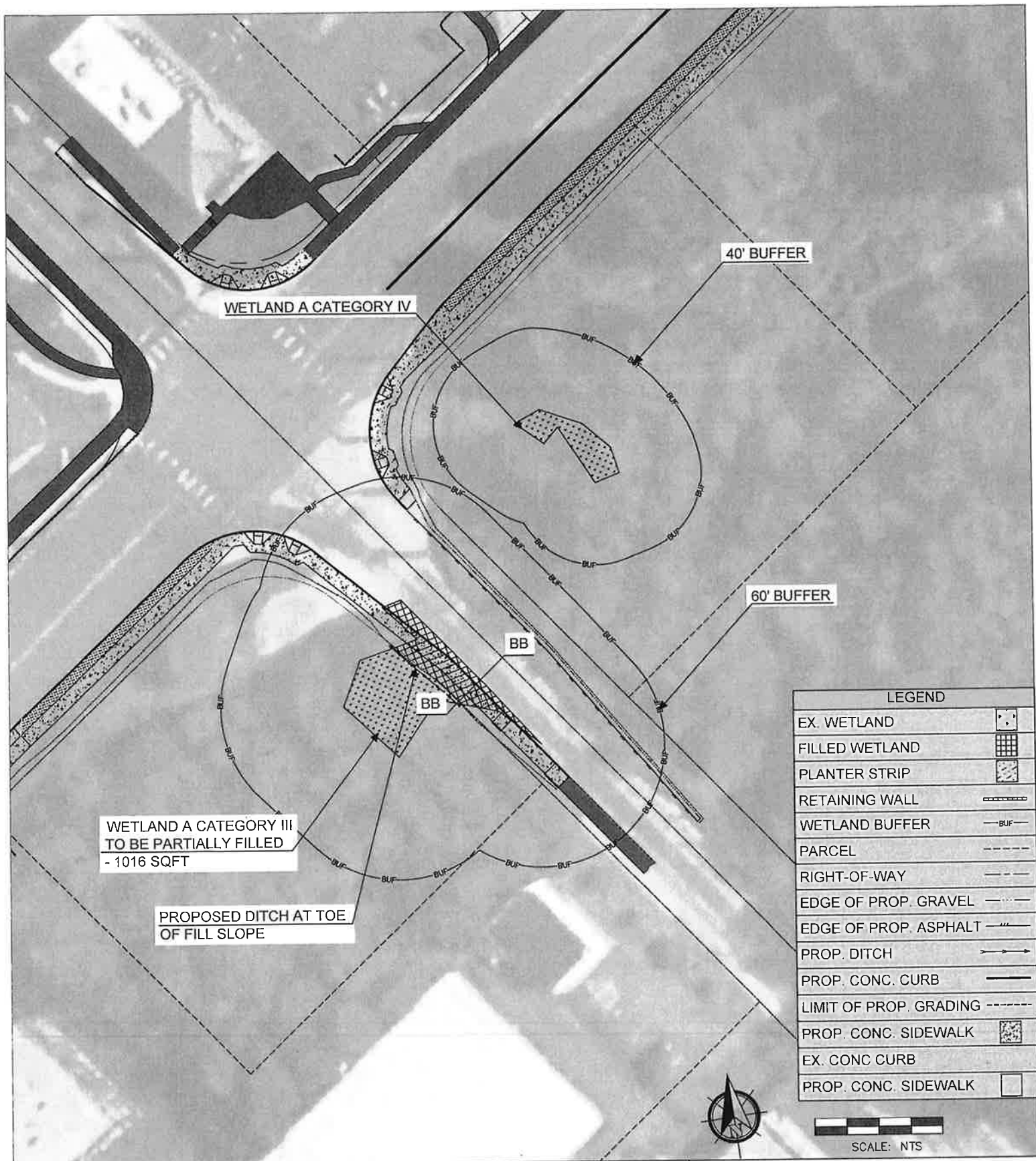
FIGURE 3 –OFF SITE EXISTING CONDITIONS

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

STATE: WASHINGTON

TUTTLE ENGINEERING
AND MANAGEMENT



APPLICANT: CITY OF MUKILTEO, PUBLIC
WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE
BOULEVARD TO ACCOMMODATE TRUCK
ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

LOCATION: SNOHOMISH COUNTY

LAT/LONG: 47.888933°,
-122.288214°

DATUM: LIDAR

DATE: 11/30/17

SHEET 4 OF 8

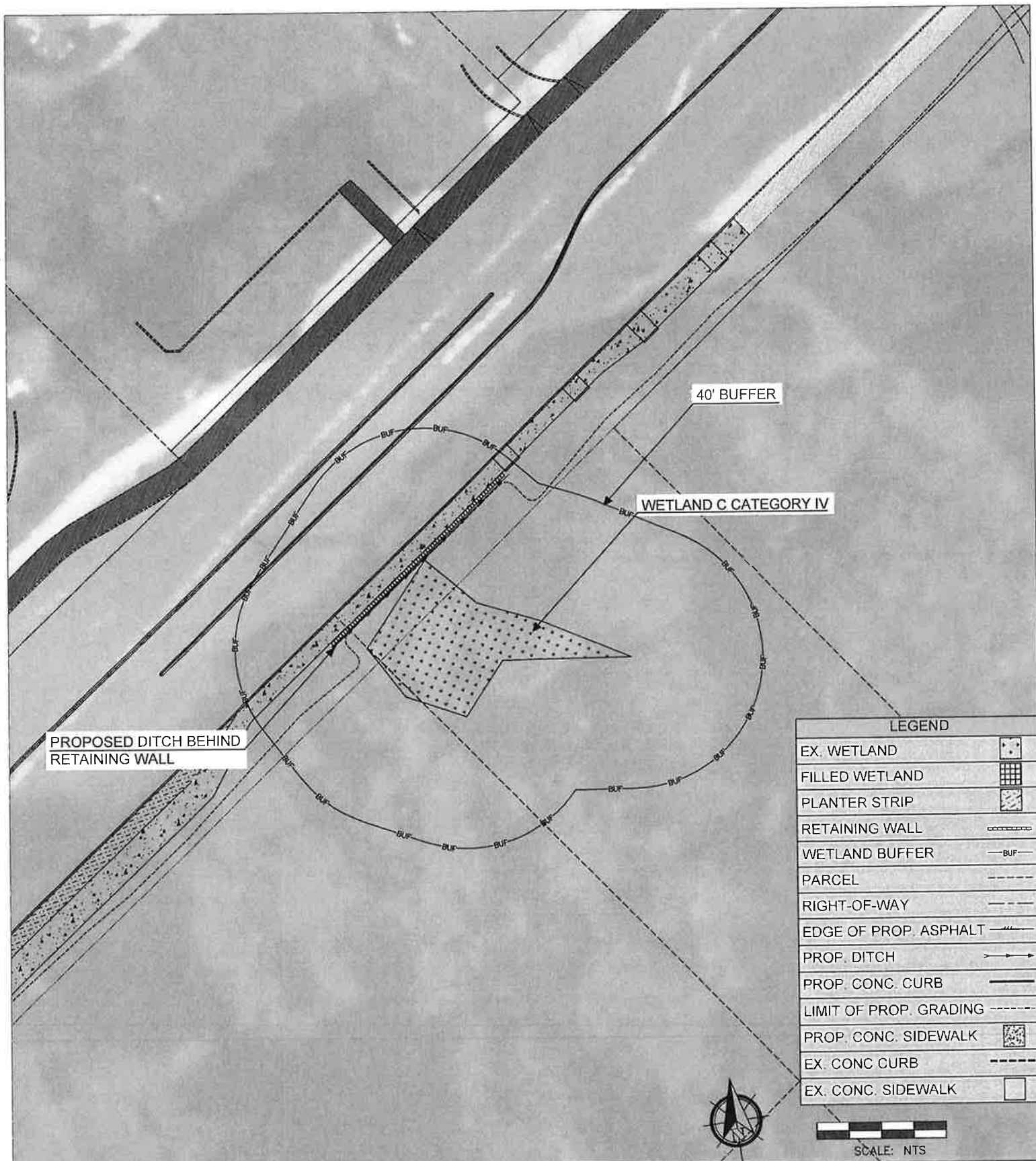
FIGURE 4 -ON SITE PROPOSED CONDITIONS

PROPOSED PROJECT: HARBOUR POINTE
BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

STATE: WASHINGTON

TUTTLE ENGINEERING
AND MANAGEMENT



APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

LOCATION: SNOHOMISH COUNTY

LAT/LONG: 47.888933°, -122.288214°

DATUM: LIDAR

DATE: 11/30/17

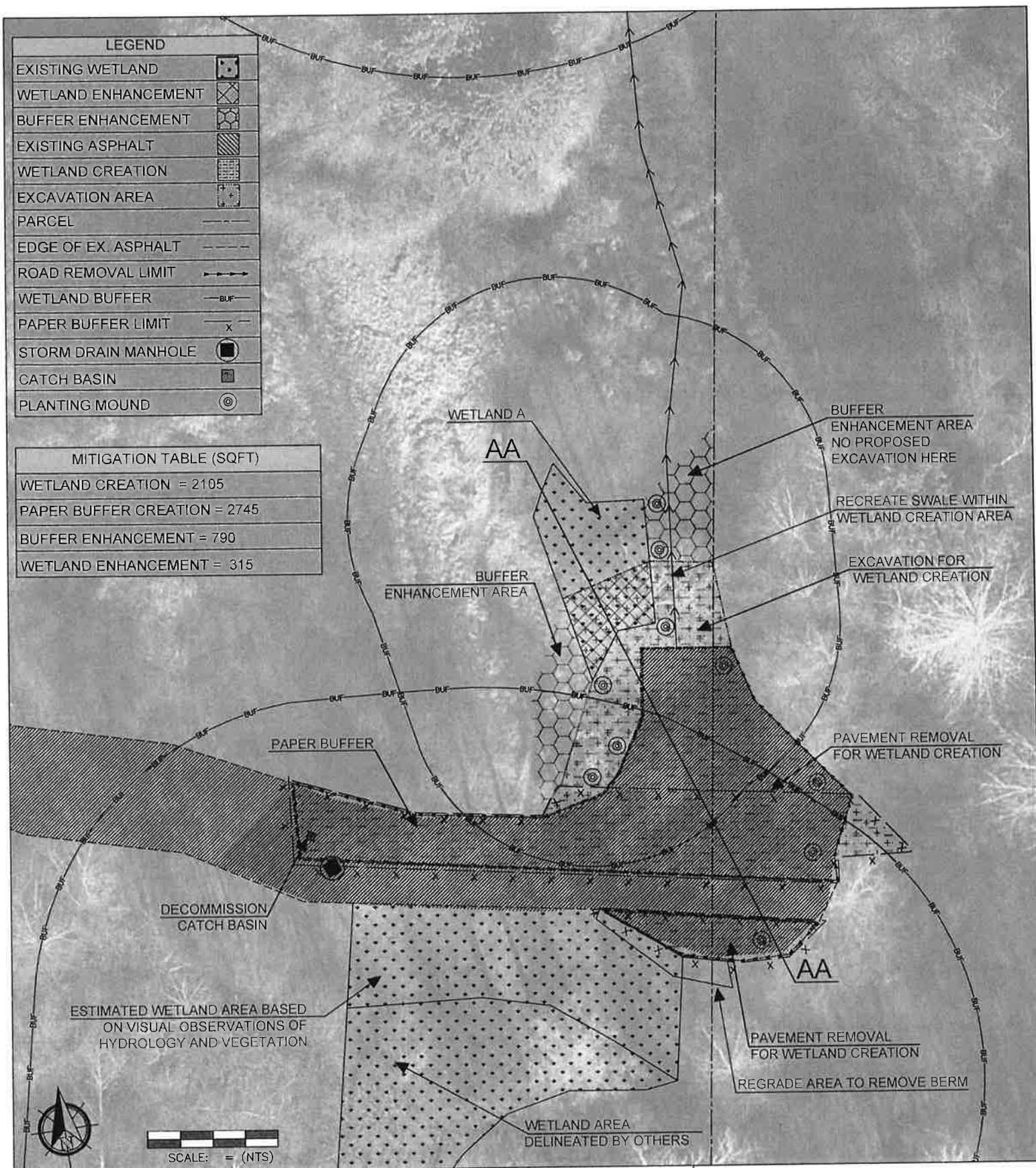
SHEET 5 OF 8

FIGURE 5 -ON SITE PROPOSED CONDITIONS

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

STATE: WASHINGTON



APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

LOCATION: SNOHOMISH COUNTY

LAT/LONG: 47.930044°, 122.290486°

DATUM: LIDAR

DATE: 11/30/17

SHEET 6 OF 8

FIGURE 6 -OFF SITE PROPOSED CONDITIONS

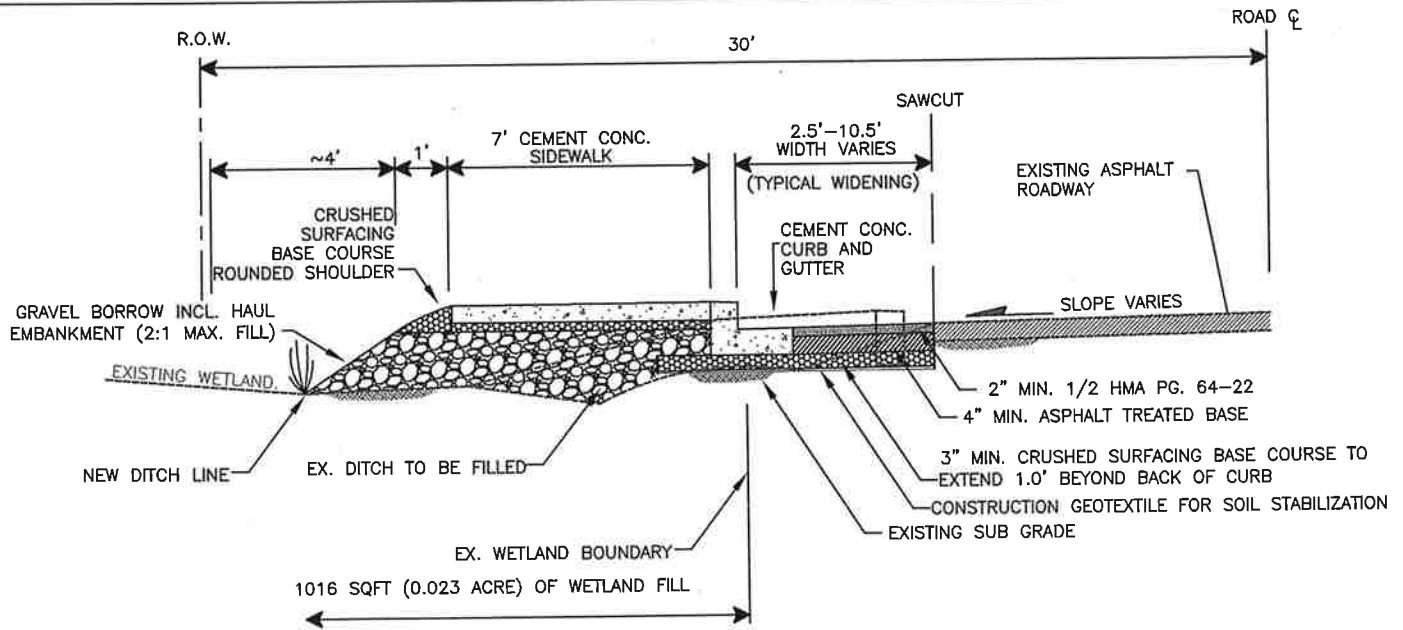
PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

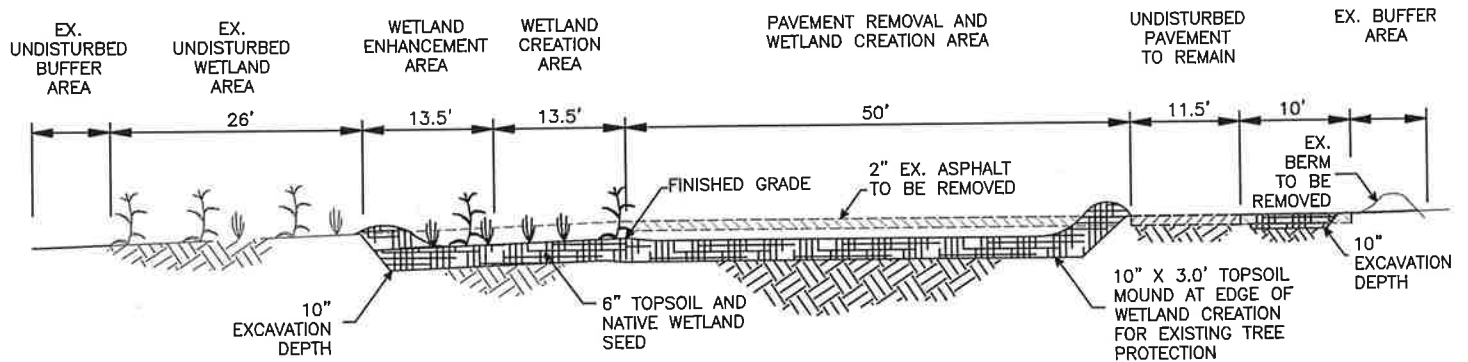
STATE: WASHINGTON

TUTTLE ENGINEERING AND MANAGEMENT

ENGINEERED WETLAND GRADING SECTION



ON SITE WETLAND FILL SECTION A
NTS



NOTE: AT SOUTHERN BOUNDARY WETLAND CREATION MATCH FINISHED GRADE TO ADJACENT GRADE TO FACILITATE FLOWS FROM SOUTH TO NORTH

OFF SITE WETLAND CREATION SECTION B
NTS

APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

LOCATION: NA

LAT/LONG: NA

DATUM: NA

DATE: 11/30/17

SHEET 7 OF 8

FIGURE 7 -PROPOSED WETLAND FILL AND WETLAND ENHANCEMENT SECTIONS

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

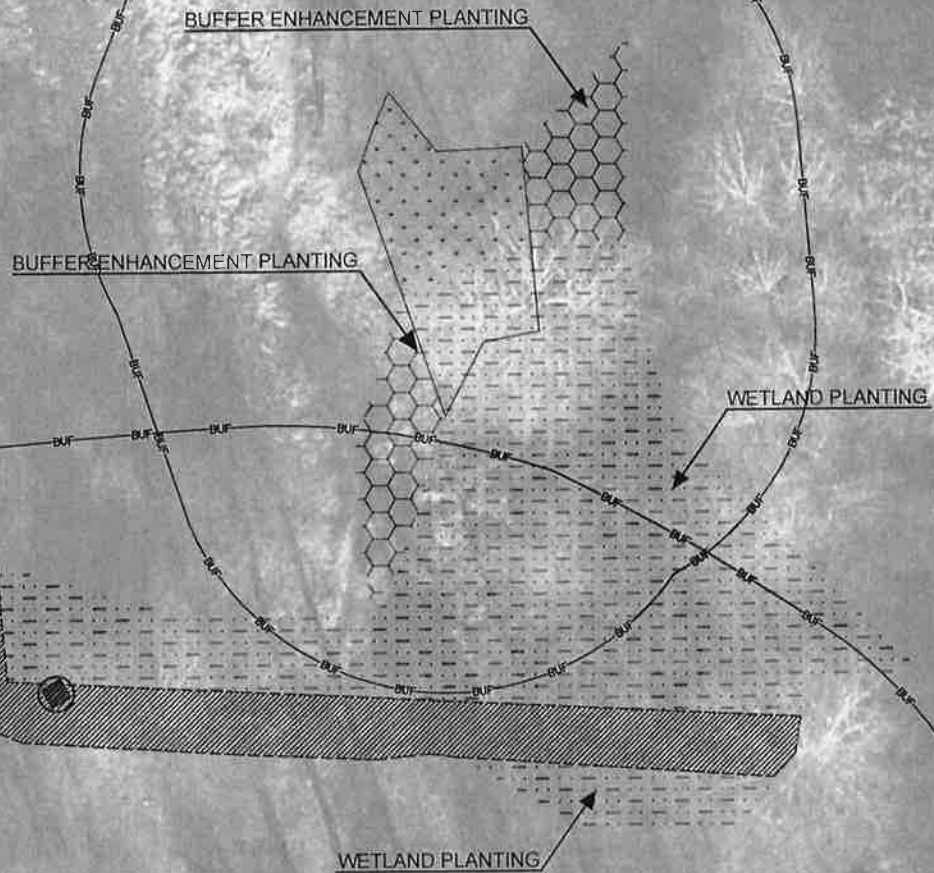
STATE: WASHINGTON

TUTTLE ENGINEERING AND MANAGEMENT

BUFFER ENHANCEMENT PLANTING SCHEDULE						
COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	CONTAINER SIZE	PLANTING AREA (SQUARE FEET)	FOOT-ON-CENTER SPACING (FEET)	PLANT QUANTITY
TREES						
WESTERN HEMLOCK	TSUGA HETEROPHYLLA	FACU	1 GALLON	80	8	2
WESTERN REDCEDAR	THUJA PLICATA	FAC	1 GALLON	80	8	2
SHRUBS						
REDOSIER DOGWOOD	CORNUS SERICEA	FACW	1 GALLON	200	8	6
BLACK HAWTHORNE	OMELERA VERNIFORMIS	FAC	1 GALLON	100	8	3
INDIAN PLUM	MALUS FUSCA	FACU	1 GALLON	150	4	9
PACIFIC NINEBARK	MYRDOCARPUS DARTWIGII	FACW	1 GALLON	200	8	6
EMERGENT						
SLOUGH SEDGE	CAREX OBTUSIPETALA	OBL	1/4-INCH POT, PLUG OR TUBELING	22	1	22
NOTES						
PLANT IN UPLAND, DRIER AREAS ONLY						
PLANT ON MOUNDED AREAS AND ADJACENT TO DRIER AREAS						
PLANT NEXT TO SWALE AND IN WETTER AREAS. CAN TOLERATE SATURATION.						
PLANT ADJACENT TO UPLAND DRY AREAS.						
PLANT IN UPLAND, DRIER AREAS ONLY						
PLANT NEXT TO SWALE AND IN WETTER AREAS. CAN TOLERATE SATURATION.						

WETLAND CREATION AND ENHANCEMENT PLANTING SCHEDULE						
COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	CONTAINER SIZE	PLANTING AREA (SQUARE FEET)	FOOT-ON-CENTER SPACING (FEET)	PLANT QUANTITY
TREES						
CASCARA	FRANKLINIA PURSHIANA	FAC	1 GALLON	300	8	8
WESTERN REDCEDAR	THUJA PLICATA	FAC	1 GALLON	300	8	5
SHRUBS						
REDOSIER DOGWOOD	CORNUS SERICEA	FACW	1 GALLON	500	4	31
BLACK HAWTHORNE	CRATAEGUS SUKSDORFFII	FAC	1 GALLON	500	8	14
WESTERN CRABAPPLE	MALUS FUSCA	FACW	1 GALLON	500	8	14
SITKA WILLOW	SALIX SITCHENSIS	FACW	1 GALLON	500	8	14
EMERGENT						
SLOUGH SEDGE	CAREX OBTUSIPETALA	OBL	1/4-INCH POT, PLUG OR TUBELING	1125	2	281
CREeping SPIKERUSH	ELDOCHARIS PALUSTRIS	OBL	1/4-INCH POT, PLUG OR TUBELING	1125	2	281
NOTES						
PLANT ADJACENT TO UPLAND/UPLOPE FROM SEDGE. CAN TOLERATE SATURATION.						
PLANT IN DRIER AREAS ALONG THE EDGE OF THE CREATED WETLAND.						
PLANT ADJACENT TO UPLAND/UPLOPE FROM SEDGE. CAN TOLERATE SATURATION.						
PLANT ADJACENT TO UPLAND/UPLOPE FROM SEDGE. CAN TOLERATE SATURATION.						
PLANT IN THE DEEPEST PARTS OF THE CREATED WETLAND WHERE TEMPORARY INUNDATION IS EXPECTED.						
PLANT IN THE DEEPEST PARTS OF THE CREATED WETLAND WHERE TEMPORARY INUNDATION IS EXPECTED.						

LEGEND	
EXISTING WETLAND	
WETLAND PLANTING AREA	
BUFFER PLANTING AREA	
EXISTING ASPHALT	



APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS

REFERENCE NUMBER: (TO BE DETERMINED)

ADJACENT PROPERTY OWNERS:

LOCATION: SNOHOMISH COUNTY

LAT/LONG: 47.930044°, 122.290486°

DATUM: LIDAR

DATE: 11/30/17

SHEET 8 OF 8

FIGURE 8 -OFF SITE PLANTING PLAN

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

STATE: WASHINGTON

TUTTLE ENGINEERING AND MANAGEMENT
3140 PLYMOUTH STREET, SUITE 200
SEASIDE, WASHINGTON 98148



Photograph 1. Road Project Site: Google Earth *Street View* photograph, looking east along Harbour Pointe Boulevard near the west end of the project area.



Photograph 2. Road Project Site: Google Earth *Street View* photograph, looking west along Harbour Pointe Boulevard near the east end of the project area.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Appendix
B-1



Photograph 3. Road Project Site: Upland habitat adjacent to Wetland A on the west side of the project area.



Photograph 4. Road Project Site: Typical uplands adjacent to Wetland A on the west side of the project site.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

**Appendix
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Photograph 5. Road Project Site: Dominant vegetation in Wetland A, red alder and hardhack.



Photograph 6. Road Project Site: Soils within sample plot for Wetland A.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Appendix
B-3



Photograph 7. Road Project Site: Google Earth Street View photograph, looking south along Cyrus Way towards Wetland A.



Photograph 8. Road Project Site: Google Earth Street View photograph, looking north along Cyrus Way. Wetland A is on the left side of the photograph and Wetland B is in the trees on the right side of the photograph.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Appendix
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Photograph 9. Road Project Site: Upland habitat adjacent to Wetland B on the central to east side of the project area.



Photograph 10. Road Project Site: Upland habitat adjacent to Wetland B on the central to east side of the project area.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington



Appendix
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Photograph 11. Road Project Site: Wetland B is dominated by a thick herbaceous understory of Slough sedge. No proposed impacts to Wetland B.



Photograph 12. Road Project Site: Vegetation community within Wetland B. No proposed impacts to Wetland B.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Appendix
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Photograph 13. Mitigation Project Site: Looking south towards the mitigation area, swale that drains from the mitigation area, north to a wetland north of the mitigation parcel. Person in the photograph is standing adjacent to Wetland A.



Photograph 14. Mitigation Project Site: Upland habitat west of the proposed mitigation area. This area is outside of the buffer of the proposed created wetland. No work is proposed within this area.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Appendix
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Photograph 15. Mitigation Project Site: Looking southeast within and towards the proposed mitigation area. Pavement will be removed and constructed earthen berm on the right of the photo will be graded to match adjacent grade. Public trailhead is at Ecology blocks in upper left of photo.



Photograph 16. Mitigation Project Site: Looking north within and towards the proposed mitigation area. Pavement will be removed and some upland area will be graded down to create wetland habitat.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Appendix
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Photograph 17. Mitigation Project Site: Existing wetland directly south of the proposed mitigation area.



Photograph 18. Mitigation Project Site: Forested area east of the proposed mitigation site with public trails.

Site Photographs

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS 

Appendix
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APPENDIX C

Threatened and Endangered Species List



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish And Wildlife Office

510 Desmond Drive Se, Suite 102

Lacey, WA 98503-1263

Phone: (360) 753-9440 Fax: (360) 753-9405

<http://www.fws.gov/wafwo/>



In Reply Refer To:

July 18, 2017

Consultation Code: 01EWF00-2017-SLI-1218

Event Code: 01EWF00-2017-E-02148

Project Name: Harbour Pointe Boulevard Widening Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website:

<http://wdfw.wa.gov/mapping/phs/> or at our office website:

http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at <http://www.fws.gov/pacific/eagle/for> information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: <http://www.nmfs.noaa.gov/pr/laws/mmpa/>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:

National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
(360) 753-9440

Project Summary

Consultation Code: 01EWF00-2017-SLI-1218

Event Code: 01EWF00-2017-E-02148

Project Name: Harbour Pointe Boulevard Widening Project

Project Type: TRANSPORTATION

Project Description: The project is classified as a reconstruction project that will mitigate collisions and provide public benefit by reducing congestion, increasing safety, improving business access and improving the level of service at the intersections of Cyrus Way.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/47.88898906249354N122.28759691020433W>



Counties: Snohomish, WA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME

STATUS

North American Wolverine (*Gulo gulo luscus*)
No critical habitat has been designated for this species.
Species profile: <https://ecos.fws.gov/ecp/species/5123>

Proposed
Threatened

Birds

NAME

STATUS

Marbled Murrelet (*Brachyramphus marmoratus*)
Population: U.S.A. (CA, OR, WA)
There is a **final critical habitat** designated for this species. Your location is outside the designated critical habitat.
Species profile: <https://ecos.fws.gov/ecp/species/4467>

Threatened

Streaked Horned Lark (*Eremophila alpestris strigata*)
There is a **final critical habitat** designated for this species. Your location is outside the designated critical habitat.
Species profile: <https://ecos.fws.gov/ecp/species/7268>

Threatened

Yellow-billed Cuckoo (*Coccyzus americanus*)
Population: Western U.S. DPS
There is a **proposed critical habitat** for this species. Your location is outside the proposed critical habitat.
Species profile: <https://ecos.fws.gov/ecp/species/3911>

Threatened

Fishes

NAME

STATUS

Bull Trout (*Salvelinus confluentus*)
Population: U.S.A., conterminous, lower 48 states
There is a **final critical habitat** designated for this species. Your location is outside the designated critical habitat.
Species profile: <https://ecos.fws.gov/ecp/species/8212>

Threatened

Critical habitats

There are no critical habitats within your project area.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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510 Desmond Drive Se, Suite 102
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Phone: (360) 753-9440 Fax: (360) 753-9405
<http://www.fws.gov/wafwo/>



In Reply Refer To:

July 18, 2017

Consultation Code: 01EWF00-2017-SLI-1219

Event Code: 01EWF00-2017-E-02150

Project Name: Harbour Pointe Boulevard Widening Project_ Japanese Gultch Mitigation Site

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website:

<http://wdfw.wa.gov/mapping/phs/> or at our office website:

http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at <http://www.fws.gov/pacific/eagle/for> information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: <http://www.nmfs.noaa.gov/pr/laws/mmpa/>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:

National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
(360) 753-9440

Project Summary

Consultation Code: 01EWF00-2017-SLI-1219

Event Code: 01EWF00-2017-E-02150

Project Name: Harbour Pointe Boulevard Widening Project_ Japanese Gultch Mitigation Site

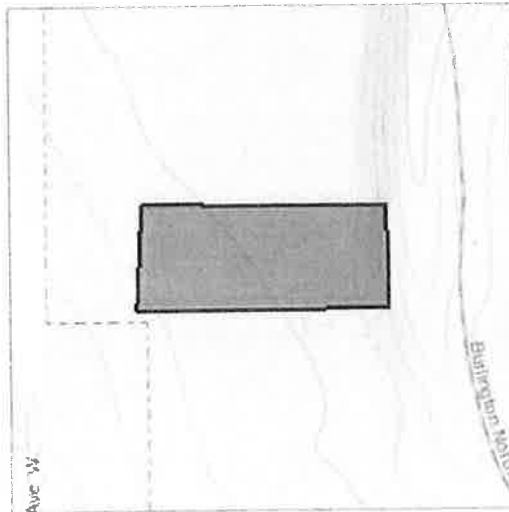
Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: The City of Mukilteo is proposing to conduct wetland creation within the indicated project area to compensate for impacts associated with the Harbour Pointe Boulevard Widening project.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/47.930466598763964N122.29023644730901W>



Counties: Snohomish, WA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
North American Wolverine (<i>Gulo gulo luscus</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Birds

NAME	STATUS
Marbled Murrelet (<i>Brachyramphus marmoratus</i>) Population: U.S.A. (CA, OR, WA) There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Streaked Horned Lark (<i>Eremophila alpestris strigata</i>) There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7268	Threatened
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) Population: Western U.S. DPS There is a proposed critical habitat for this species. Your location is outside the proposed critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

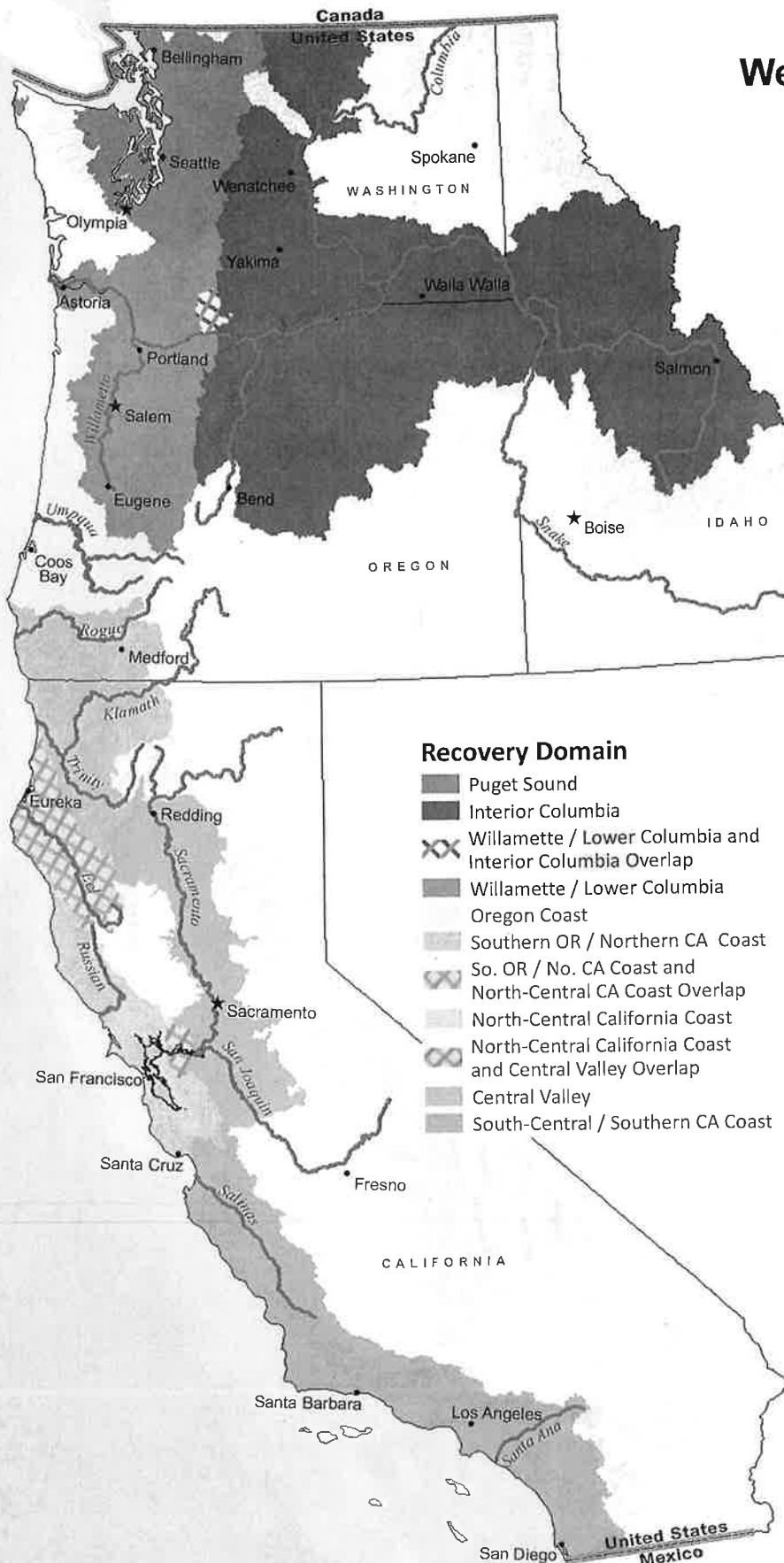
Fishes

NAME	STATUS
Bull Trout (<i>Salvelinus confluentus</i>) Population: U.S.A., conterminous, lower 48 states There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened










Critical habitats

There are no critical habitats within your project area.

Status of ESA Listings & Critical Habitat Designations for West Coast Salmon & Steelhead



Recovery Domain

-  Puget Sound
-  Interior Columbia
-  Willamette / Lower Columbia and Interior Columbia Overlap
-  Willamette / Lower Columbia Oregon Coast
-  Southern OR / Northern CA Coast
-  So. OR / No. CA Coast and North-Central CA Coast Overlap
-  North-Central California Coast and Central Valley Overlap
-  Central Valley
-  South-Central / Southern CA Coast

Evolutionarily Significant Unit / Distinct Population Segment	ESA Status	Date of ESA Listing	Date of CH Designation
Puget Sound Recovery Domain			
Hood Canal Summer-run Chum Salmon	T	3/25/1999	9/2/2005
Ozette Lake Sockeye Salmon	T	3/25/1999	9/2/2005
Puget Sound Chinook Salmon	T	3/24/1999	9/2/2005
Puget Sound Steelhead	T	5/11/2007	2/24/2016

Interior Columbia Recovery Domain			
Middle Columbia River Steelhead	T	3/25/1999 1/5/2006	9/2/2005
Snake River Fall-run Chinook Salmon	T	4/22/1992	12/28/1993
Snake River Spring / Summer-run Chinook Salmon	T	4/22/1992	10/25/1999
Snake River Sockeye Salmon	E	11/20/1991	12/28/1993
Snake River Steelhead	T	8/18/1997 1/5/2006	9/2/2005
Upper Columbia River Spring-run Chinook Salmon	E	3/24/1999	9/2/2005
Upper Columbia River Steelhead	T	8/18/1997 1/5/2006	9/2/2005

Willamette / Lower Columbia Recovery Domain			
Columbia River Chum Salmon	T	3/25/1999	9/2/2005
Lower Columbia River Chinook Salmon	T	3/24/1999	9/2/2005
Lower Columbia River Coho Salmon	T	6/28/2005	2/24/2016
Lower Columbia River Steelhead	T	3/19/1998 1/5/2006	9/2/2005
Upper Willamette River Chinook Salmon	T	3/24/1999	9/2/2005
Upper Willamette River Steelhead	T	3/25/1999 1/5/2006	9/2/2005

Oregon Coast Recovery Domain			
Oregon Coast Coho Salmon	T	2/11/2008	2/11/2008

Southern Oregon / Northern California Coast Recovery Domain			
Southern OR / Northern CA Coasts Coho Salmon	T	5/6/1997	5/5/1999

North-Central California Coast Recovery Domain			
California Coastal Chinook Salmon	T	9/16/1999	9/2/2005
Central California Coast Coho Salmon	E	10/31/1996 (T) 6/28/2005 (E) 4/2/2012 (RE)	5/5/1999
Central California Coast Steelhead	T	8/18/1997 1/5/2006	9/2/2005
Northern California Steelhead	T	6/7/2000 1/5/2006	9/2/2005

Central Valley Recovery Domain			
California Central Valley Steelhead	T	3/19/1998 1/5/2006	9/2/2005
Central Valley Spring-run Chinook Salmon	T	9/16/1999	9/2/2005
Sacramento River Winter-run Chinook Salmon	E	11/5/1990 (T) 1/4/1994 (E)	6/16/1993

South-Central / Southern California Coast Recovery Domain			
South-Central California Coast Steelhead	T	8/18/1997 1/5/2006	9/2/2005
Southern California Steelhead	E	8/18/1997 5/1/2002 (RE) 1/5/2006	9/2/2005

Critical Habitat Rules Cited

- 2/24/2016 (81 FR 9252) Final Critical Habitat Designation for Puget Sound Steelhead and Lower Columbia River Coho Salmon
- 2/11/2008 (73 FR 7816) Final Critical Habitat Designation for Oregon Coast Coho Salmon
- 9/2/2005 (70 FR 52630) Final Critical Habitat Designation for 12 ESU's of Salmon and Steelhead in WA, OR, and ID
- 9/2/2005 (70 FR 52488) Final Critical Habitat Designation for 7 ESU's of Salmon and Steelhead in CA
- 10/25/1999 (64 FR 57399) Revised Critical Habitat Designation for Snake River Spring/Summer-run Chinook Salmon
- 5/5/1999 (64 FR 24049) Final Critical Habitat Designation for Central CA Coast and Southern OR/Northern CA Coast Coho Salmon
- 12/28/1993 (58 FR 68543) Final Critical Habitat Designation for Snake River Chinook and Sockeye Salmon
- 6/16/1993 (58 FR 33212) Final Critical Habitat Designation for Sacramento River Winter-run Chinook Salmon

ESA Listing Rules Cited

- 4/2/2012 (77 FR 19552) Final Range Extension for Endangered Central California Coast Coho Salmon
- 2/11/2008 (73 FR 7816) Final ESA Listing for Oregon Coast Coho Salmon
- 5/11/2007 (72 FR 26722) Final ESA Listing for Puget Sound Steelhead
- 1/5/2006 (71 FR 5248) Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead
- 6/28/2005 (70 FR 37160) Final ESA Listing for 16 ESU's of West Coast Salmon
- 5/1/2002 (67 FR 21586) Range Extension for Endangered Steelhead in Southern California
- 6/7/2000 (65 FR 36074) Final ESA Listing for Northern California Steelhead
- 9/16/1999 (64 FR 50394) Final ESA Listing for Two Chinook Salmon ESUs in California
- 3/25/1999 (64 FR 14508) Final ESA Listing for Hood River Canal Summer-run and Columbia River Chum Salmon
- 3/25/1999 (64 FR 14517) Final ESA Listing for Middle Columbia River and Upper Willamette River Steelhead
- 3/25/1999 (64 FR 14528) Final ESA Listing for Ozette Lake Sockeye Salmon
- 3/24/1999 (64 FR 14308) Final ESA Listing for 4 ESU's of Chinook Salmon
- 3/19/1998 (63 FR 13347) Final ESA Listing for Lower Columbia River and Central Valley Steelhead
- 8/18/1997 (62 FR 43937) Final ESA Listing for 5 ESU's of Steelhead
- 5/6/1997 (62 FR 24588) Final ESA Listing for Southern Oregon / Northern California Coast Coho Salmon
- 10/31/1996 (61 FR 56138) Final ESA Listing for Central California Coast Coho Salmon
- 1/4/1994 (59 FR 222) Final ESA Listing for Sacramento River Winter-run Chinook Salmon
- 4/22/1992 (57 FR 14653) Final ESA Listing for Snake River Spring/summer-run and Snake River Fall Chinook Salmon
- 11/20/1991 (56 FR 58619) Final ESA Listing for Snake River Sockeye Salmon
- 11/5/1990 (55 FR 46515) Final ESA Listing for Sacramento River Winter-run Chinook Salmon