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CITY OF MUKILTEO

Wetland Mitigation Plan

Harbour Pointe Boulevard Widening Project
City of Mukilteo Public Works Department
Mukilteo, Washington

for
City of Mukilteo

December 19, 2017

GeoEngineers

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1.0 INTRODUCTION

GeoEngineers, Inc. (GeoEngineers) was contracted by Tuttle Engineering and Management (TEAM) to develop a mitigation plan to compensate for unavoidable impacts to wetlands during the construction of the City of Mukilteo's proposed Harbour Pointe Boulevard Widening Project (Road Project).

The proposed Road Project is located within the City of Mukilteo on tax parcel numbers 004413-00004700, 004413-00004600, 004413-00001200 and 004412-00002800, within Section 27 of Township 28 North and Range 4 East of the Willamette Meridian (W.M.) (Figure 1 – Vicinity Map). The proposed mitigation site is located northeast of the 76th Street SW and 44th Avenue West intersection within the City of Everett, Washington (Figure 1). The mitigation work (Mitigation Project) is proposed to occur within the southeast corner of parcel No. 0631400000001 within Section 10 of Township 28 North and Range 4 East of the WM. Both the Road Project and Mitigation Project are located in WRIA 7 (Snohomish), within basins that drain directly to Puget Sound.

The purpose of this mitigation plan is to present the proposed development plans, to document measures taken by Mukilteo during development of the project to avoid and minimize impacts to wetlands and associated buffers, and to present proposed mitigation measures to compensate for the unavoidable impacts resulting from construction of the Road Project. Project permit drawings are included in Appendix A and site photographs are included in Appendix B.

2.0 PROJECT DESCRIPTION, PURPOSE AND NEED

Mukilteo is proposing to widen Harbour Pointe Boulevard SW and upgrade the operational components of the Harbour Pointe Boulevard SW/Cyrus Way intersection within the City of Mukilteo, Washington. The Road 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. The project will extend along Harbour Pointe Boulevard from State Route 525 (SR 525) to approximately 450 feet west of Cyrus Way (Appendix A – Sheets 4 and 5 of 8).

Left turn pockets with left turn sign phases will be added to all four legs at the intersection of Cyrus Way allowing left turn movements to be protected/permissive. An elevated, 8-foot wide shared-use path and 5-foot wide planter strip will be constructed on the south side of the boulevard to complete the sidewalk and bike path gap that currently exists. Adjacent to Wetland C, the planter strip will be eliminated, and the sidewalk narrowed to avoid impacts to the wetland.

Sidewalks along the east and west sides of Cyrus Way will be designed to draw pedestrians closer to the existing traveled way. At the intersection, proposed sidewalks will match against the back of curb. This is a standard design provision and is being done to minimize pedestrian crosswalk lengths, impacts to existing critical areas, and to avoid acquisition of new right-of-way. Roadway lane widths have been designed to best accommodate semi-truck turning movements as well as to minimize environmental impacts. Proposed paving limits have been minimized to reduce impacts on stormwater and downstream critical areas. Stormwater management will address both flow control and water quality in one combined wet vault/detention facility and a water quality structure which will contain Contech filters.

Project elements will provide comprehensive safety improvements that accommodate expected increases in traffic within the corridor. Overall outcomes will include increased corridor safety and capacity, reduced

- Excavators
- Rollers
- Pickup trucks
- Pavement cutters
- Pavement grinders
- Paving machines
- Concrete trucks
- Striping machines
- Cranes

2.2. Impact Avoidance, Minimization Measures, and Best Management Practices

Permitting conditions are expected to include requirements that will directly or indirectly control temporary and permanent impacts to the project area and surrounding vicinity. Temporary erosion and sedimentation control (TESC) measures, such as straw wattles or silt fencing, will be utilized during the project to avoid impacts to Endangered Species Act (ESA) listed species. Provided that TESC measures are selected and implemented properly, it is expected that no sediment laden runoff will leave the site and that there will be no impacts to ESA-listed species resulting from construction stormwater.

The contractor will install TESC best management practice (BMP) measures prior to project initiation, as needed. TESC BMP measures will be inspected, maintained and augmented if necessary, to prevent impacts to ESA-listed species. After completion of the project, TESC controls will be removed from the area for off-site disposal. The contractor will produce a Storm Water Pollution Prevention Plan (SWPPP) that will address spill prevention, fuel storage, if needed and erosion control.

3.0 REGULATORY REQUIREMENTS

The proposed Project will require authorization from multiple local, state and federal agencies. Anticipated environmental and land use authorizations include, but may not be limited to the following:

- City of Mukilteo
  - Land Disturbance Permit/Critical Areas Review
  - State Environmental Policy Act (SEPA) determination
- City of Everett
  - Land Use Application/Critical Areas Review
- Washington State Department of Ecology
  - Section 401 Water Quality Certification (likely issued with Nationwide Permit)
  - National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit coverage

See the Wetland and Stream Delineation Report (GeoEngineers, 2017a) and Critical Area Study and Buffer Averaging Plan by others (Wetland Resources, Inc., 2016) for more information on site wetlands.

5.0 WETLAND IMPACTS

Completion of the proposed Project will result in 1,016 square feet of wetland fill (Appendix A, Sheet 4 of 8). The project was designed to avoid wetland impacts where possible. Adjacent to Wetland C the planter strip was eliminated, and a retaining wall has been designed to reduce road prism fill and avoid impacts to Wetland C (Appendix A, Sheet 5 of 8). In addition, a large portion of the fill that is occurring within Wetland A is impacting a cattail and reed canary grass dominated ditch. A new ditch will be constructed on the southwest side of the new sidewalk, thereby replacing some of the conveyance and habitat on-site. Buffer areas of Wetland A that will be impacted to create the sidewalk are dominated by grassy areas of gravel, reed canary grass and Himalayan blackberry.

6.0 PROPOSED MITIGATION

Unavoidable wetland impacts associated with the Harbour Pointe Boulevard Widening Project will be compensated for through wetland creation, wetland enhancement, buffer creation and buffer enhancement at the Japanese Gulch Mitigation site located northeast of the 76th Street SW and 44th Avenue West intersection within the City of Everett, Washington (Appendix A, Sheets 1, 3, 6 and 8 of 8). Japanese Gulch has been identified by the City of Mukilteo in their Critical Areas Mitigation Program (CAMP) as an area for wetland and buffer mitigation (Appendix C – Background Maps). The Japanese Gulch property consists of several parcels owned by the City of Mukilteo that total approximately 7.45 acres (Parcel Nos. 00628500000001, 00631400000001, 00491200000101, 28041000201400). The property is in the southwest portion of the City of Everett, adjacent to the Mukilteo city limits. The proposed mitigation site is located in the southeast corner of parcel No. 0631400000001 (Appendix C).

6.1. Existing Conditions at Japanese Gulch Mitigation Site

A community garden is located on the west end of the Mukilteo property (within parcel No. 00628500000001) and public formal and informal hiking trails are located in the east end of the Mukilteo property (within parcel No. 0631400000001). A paved roadway extends east/west across the southern portion of the Mukilteo property and is used by mountain bikers and hikers to access the trails. The proposed mitigation site is located in an approximately 55-acre area consisting of 11 parcels owned by the City of Mukilteo, west of Japanese Gulch Creek. The parcels containing the mainstem of Japanese Gulch Creek are owned by the BNSF railway company (Parcel Nos. 28041000200600 and 28040300300300). A railway line extends along the eastern edge of Japanese Gulch Creek.

Sheet 3 of Appendix A depicts wetlands identified within the proposed Japanese Gulch mitigation area. The vast majority of the Mukilteo-owned parcels in Japanese Gulch are dominated by a mature mixed coniferous and deciduous forest of western red cedar (*Thuja plicata*) and red alder (*Alnus rubra*) with salmonberry (*Rubus spectabilis*) and sword fern (*Polystichum munitum*) in the understory. The portions of the Japanese Gulch CAMP parcels identified by Mukilteo for mitigation, are dominated by weedy species including non-native weeds such as Himalayan blackberry (*Rubus armeniacus*) and some reed canary grass, as well as native aggressive species including trailing blackberry (*Rubus ursinus*) and fireweed (*Chamerion angustifolium*). Trees within the CAMP areas identified for wetland and buffer mitigation include hawthorn (*Crataegus* sp.), red alder, cottonwood and young western red cedar. Additional descriptions of the

- Create buffer habitat where pavement currently exists
- Enhance wetland and buffer habitat at the mitigation site

Based on the stated goals above, the mitigation plan objectives are:

- Replace lost wetland functions of the permanently impacted wetland at the project site.
- Create additional wetland habitat by lowering the grade of the area immediately south of Wetland A at Japanese Gulch, and by removing existing pavement and lowering the grade of the pavement removal area.
- Restore more natural hydrology to the site by decommissioning a catch basin on the existing access road and by removing a man-made berm south of the access road that currently blocks surface water flowing south.
- Increase cover and diversity of native plant species within the wetland and buffer mitigation areas by installing native tree, shrub and emergent plant species.
- Restore any temporarily impacted buffer areas at the project site and at the mitigation site by restoring grades and seeding with a native seed mix. Any shrubs that are impacted in the new wetland buffer area, will be replaced at a 3:1 ratio.

Permanent fill impacts to 1,016 square feet of the Category III wetland (Wetland A) at the Harbour Pointe Boulevard Widening Project site will be offset by 2,105 square feet of wetland creation at the Japanese Gulch Mitigation Site (slightly larger than a 2:1 ratio). Per Everett Municipal Code (EMC) 19.37.120(C)(5) and per Mukilteo Municipal Code (MMC) 17.52B.130(B)(2) the standard wetland compensation ratio for impacts to a Category III wetland is 2:1 for re-establishment or creation.

6.3. Mitigation Work Plan for Off-Site Mitigation

6.3.1. Site Modifications and Wetland Functions Provided at the Mitigation Project Site

Hydrologic, water quality, and ecological processes and functions will be increased at the Japanese Gulch Mitigation Project site by redirecting surface flows into naturally occurring pathways, creating areas of temporary ponding, and re-establishing forest, scrub-shrub and emergent habitat within wetlands and uplands.

The following is a summary of proposed grading and planting activities at the site (see attached JARPA drawings in Appendix A):

- Enhance approximately 315 square feet of existing wetland habitat (Wetland A) by:
    - Removing reed canary grass and scraping off the top 6 to 10 inches of soil to remove the rhizomes and seed source.
    - Top-dress the area with 6 inches of topsoil and seed with native wetland seed mix.
    - Install native trees and shrubs per the attached JARPA drawings.

construction season (summer of 2018 or summer of 2019), and construction sequencing will therefore follow a 1-year/1-season construction approach. Potential effects of the Road Project and the Advance Mitigation Project on species listed under the ESA are discussed in the project Biological Evaluation No Effects Letter (GeoEngineers, 2017c).

Below is a general outline of the construction sequence anticipated for the proposed mitigation project. Construction sequencing may change based on final designs.

- Site Preparation
- Mobilize to site
  - Establish site survey control and project layout staking.
  - Install Erosion Control BMPs in accordance with the site SWPPP, to be developed in accordance with Ecology's 2012 Stormwater Management Manual for Western Washington, as amended in December 2014 (Ecology, 2014).
  - No clearing or grubbing is anticipated.
- Construct created wetland area (4,850 square feet)
  - Remove asphalt (2 inches thick) and rock subgrade (6 to 10 inches thick) within the wetland creation area shown on the JARPA drawings and excavate to subgrade.
  - Decommission the catch basin in the existing road.
  - Weed whack reed canary grass within the buffer area south of Wetland A.
  - Lower the grade of the buffer area south of Wetland A and southeast of pavement removal area excavating to subgrade.
  - Stockpile topsoil from all reed canary grass areas separately for later disposal.
  - Stockpile all other topsoil in adjacent upland areas for later reuse.
  - Remove earthen berm along southern edge of mitigation area and grade to match adjacent grades.
  - Install imported and stockpiled topsoil to design grade as shown on the JARPA drawings including creation of eight topsoil mounded areas with approximate dimensions of 2½ to 3 feet diameter and 10 inches above finished grade.
  - Apply 4 inches of wood chip mulch within areas of the wetland that match adjacent grades and within all disturbed upland areas.
  - Seed created wetland depression areas with a native wetland seed mix (no mulch should be applied in areas where temporary ponding is anticipated).
  - If straw is used to stabilize areas of disturbed soil as a temporary BMP, only certified weed-free straw will be used.
- Control reed canary grass within the wetland enhancement area (Wetland A) and portions of the buffer enhancement areas
  - Weed whack reed canary grass.
  - Scrape off the top 6 to 10 inches of soil to remove the rhizomes and seed source.
  - Top-dress the area with 6 inches of topsoil, stabilize and seed with native wetland seed mix.

Observations to be recorded during each monitoring event will include:

- individual plant counts during the Year-0 and Year-1 monitoring events, by species, of native plants along each transect/within each monitoring station;
- estimated combined total percent aerial cover of all native plant species (visual estimate) within each transect/station during monitoring events for Years 2, 3, and 5;
- condition of native plants along each transect/within each station (alive, stressed, or dead);
- estimated cover of invasive plant species along each transect/within each station;
- within wetland creation areas (not including paper buffer areas) observations of wetland hydrology including surface water, high water table, and/or saturation (a soil pit is required for observing a high water table and saturation);
- observation of wildlife or signs of wildlife use;
- observations of damage to the restoration plantings and maintenance needs; and
- photographs of each transect/station.

Data collected during the Year zero event will be used as a baseline to compare with data collected during Years 1, 2, 3, and 5. Survival of the restoration plantings will be identified by comparing Year-zero counts to counts documented during subsequent monitoring years.

6.4.1. Performance Standards

Survival and percent aerial cover statistics generated from data collected during monitoring events will be compared to performance standards to check if the site is meeting the goals and objectives of the restoration plan.

Performance standards for the site, estimated along transects/within stations, are:

- Native plant species will have a minimum of 100 percent survival after Year-1.
- Native plant aerial cover shall achieve the following:
    - A minimum of 10 percent by the end of Year-2.
    - A minimum of 30 percent by the end of Year-3.
    - A minimum of 50 percent by the end of Year-5.
- Invasive, exotic and undesirable species shall be represented by less than 10 percent coverage in the buffer restoration area, or observations shall support the conclusion that invasive, exotic and undesirable species are not competing with native plants in a way that is inhibiting their growth.

Monitoring reports with a photographic log will be submitted by December 31 after the Year-zero event and after the Year-1, -2, -3, and -5 events. After Year-1, all observed dead plants will be replaced. If the percent aerial cover performance standards are not met during the Year-2, -3 or -5 events, additional plants will be installed throughout the mitigation area to achieve the aerial cover performance standard. Maintenance needs such as trash removal, vandalism, invasive species removal and watering of plants will also be noted in the monitoring report.

The applicant is advised to contact all appropriate regulatory agencies (local, state and federal) prior to design or construction of any development to obtain necessary permits and approvals.

9.0 REFERENCES

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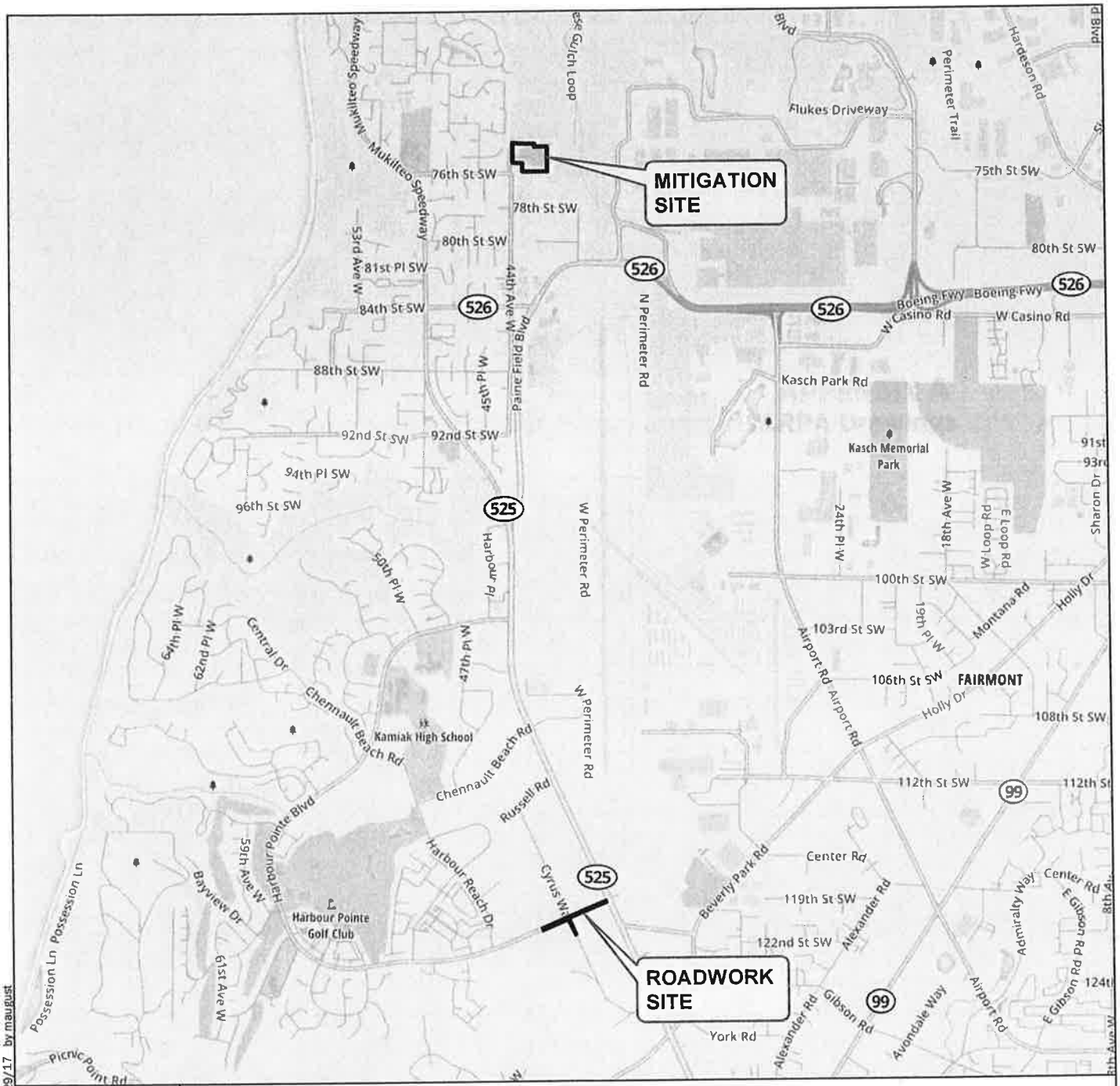

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Feet

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

Vicinity Map

Harbour Pointe Boulevard Widening Project
Mukilteo, Washington

GEOENGINEERS

Figure 1

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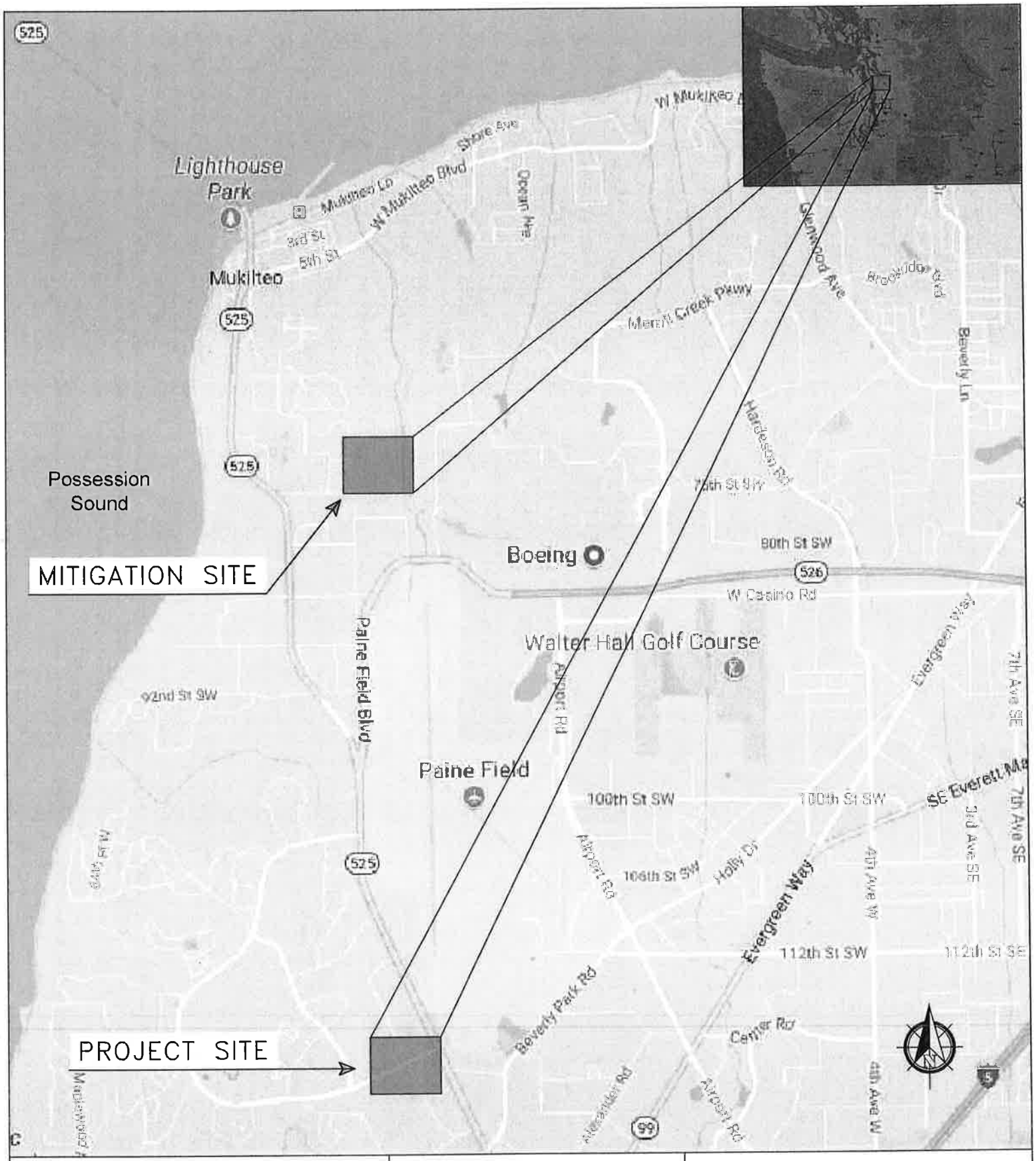


APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT

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

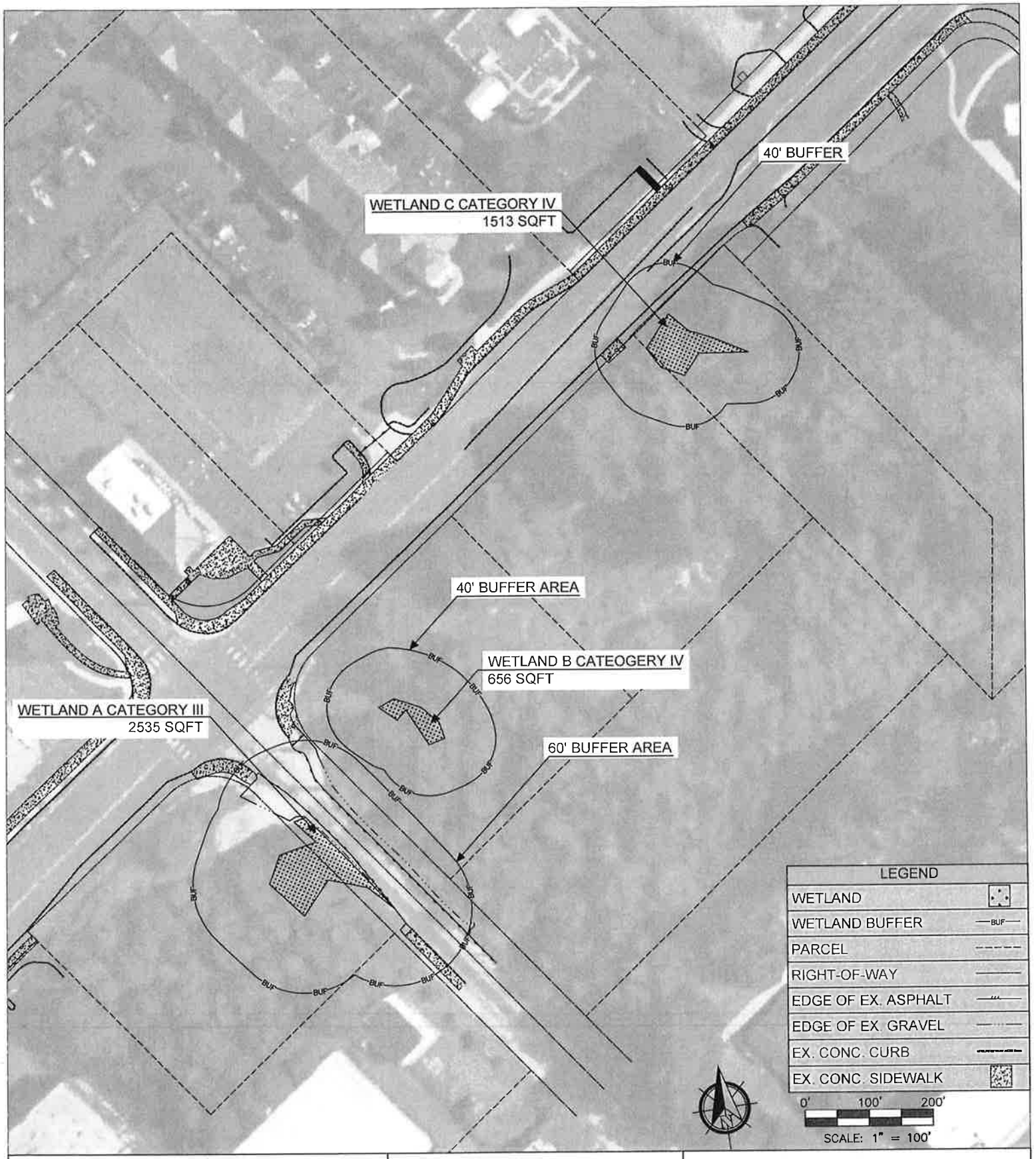
FIGURE 1 –VICINITY MAP

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

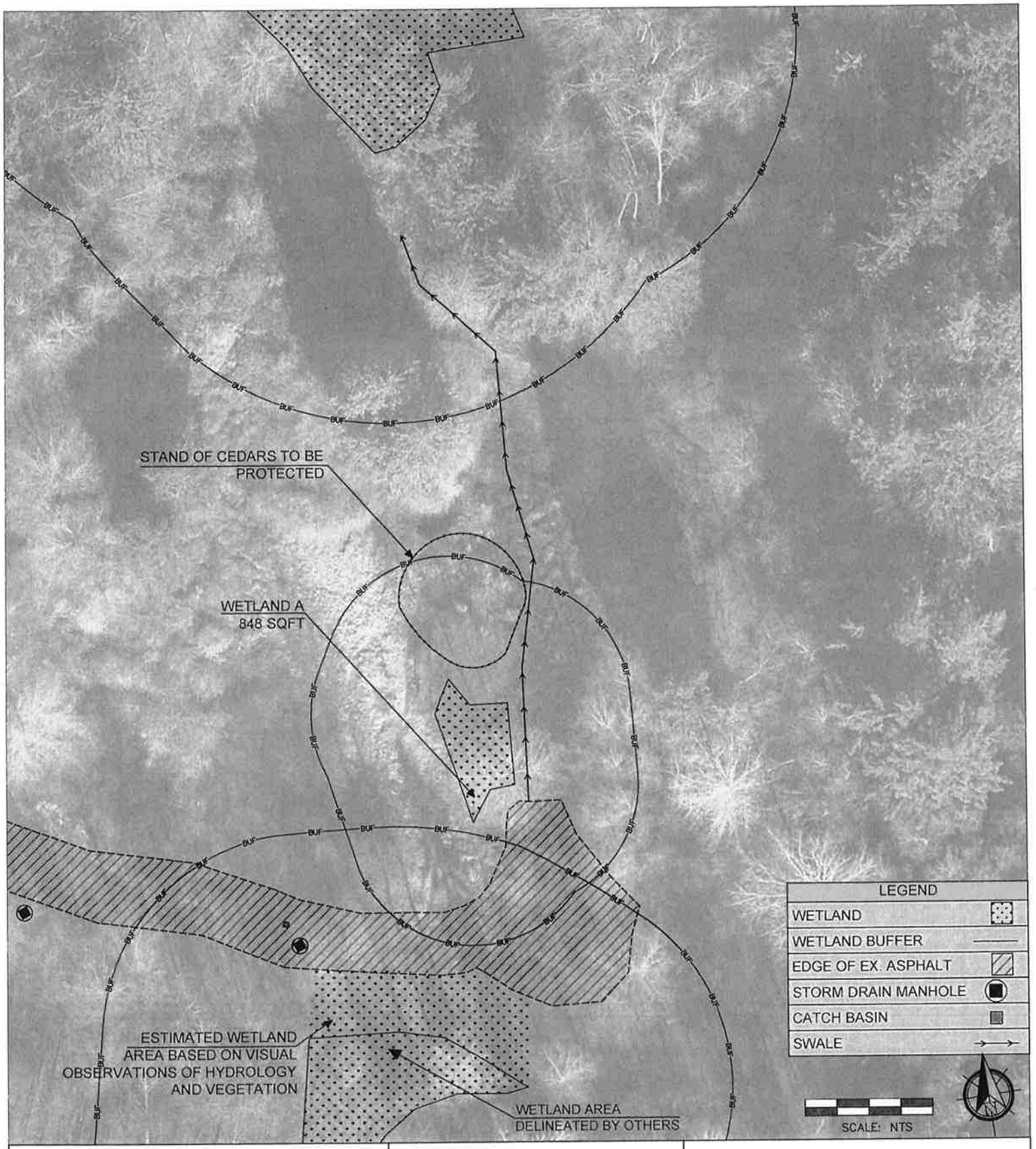
FIGURE 2 –ON SITE EXISTING CONDITIONS

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

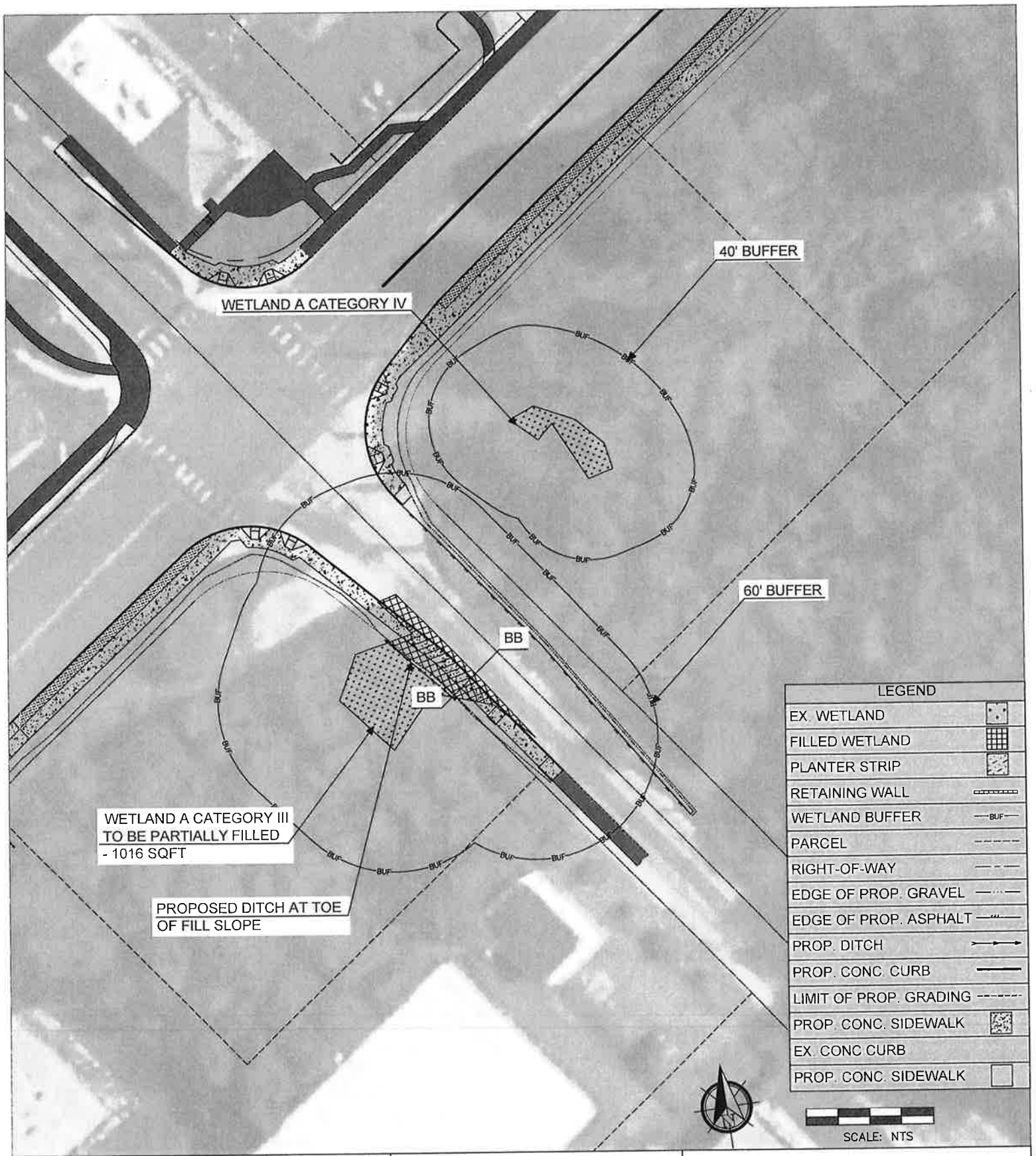
FIGURE 3 –OFF SITE EXISTING CONDITIONS

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

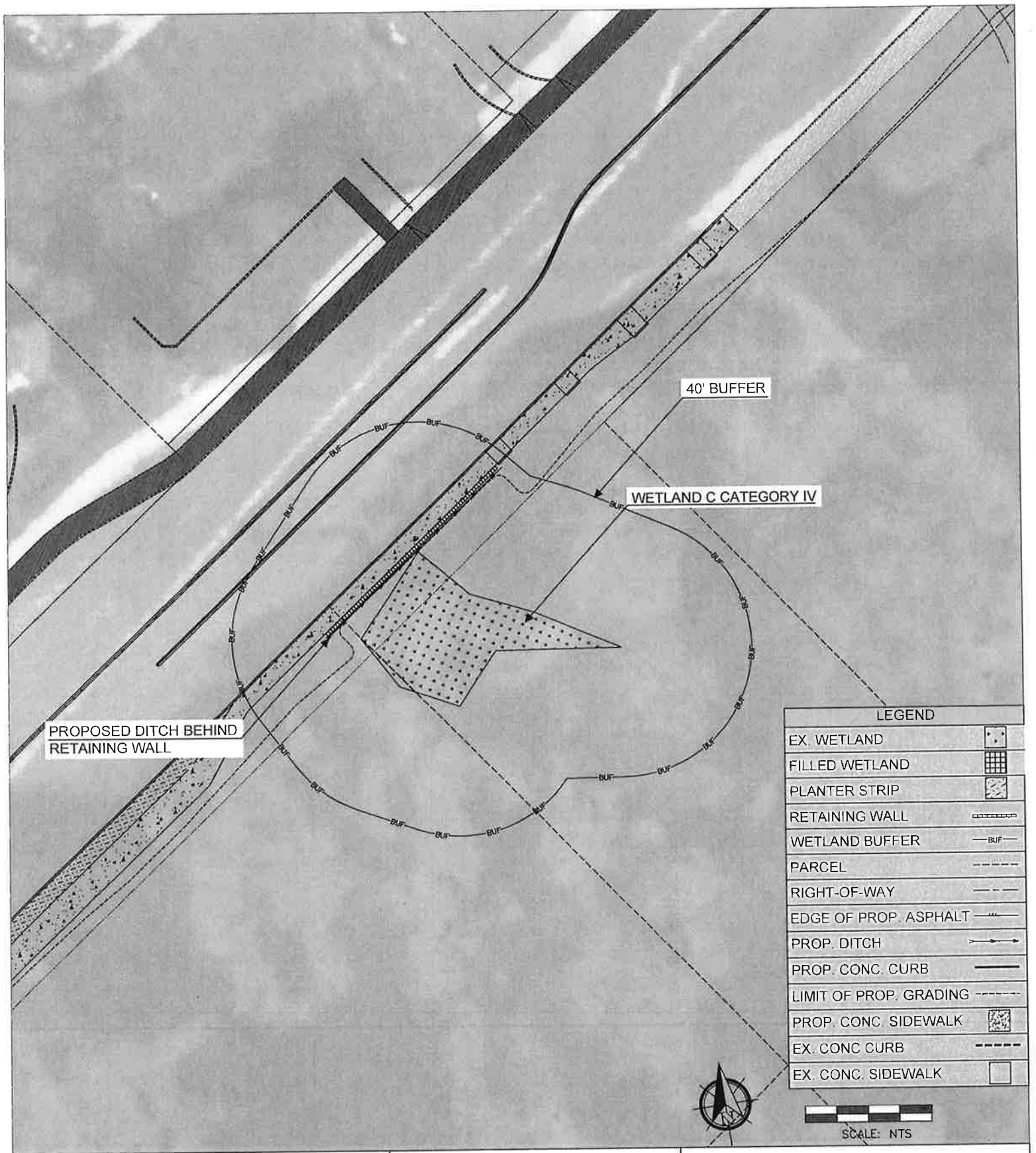
NEAR: MUKILTEO COUNTY: SNOHOMISH

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

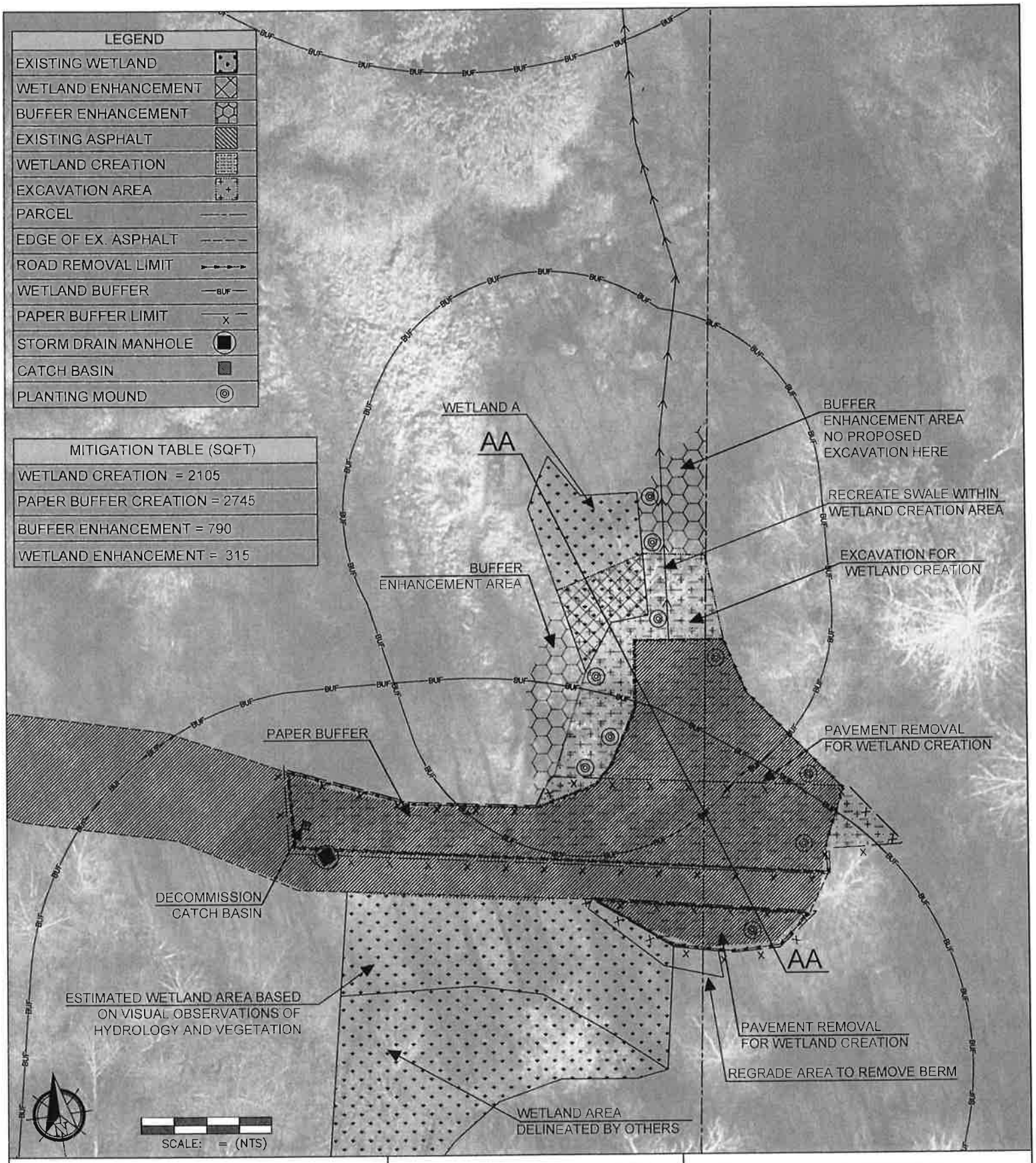
FIGURE 5 –ON SITE PROPOSED CONDITIONS

PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

STATE: WASHINGTON

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 6 OF 8

FIGURE 6 –OFF SITE PROPOSED CONDITIONS

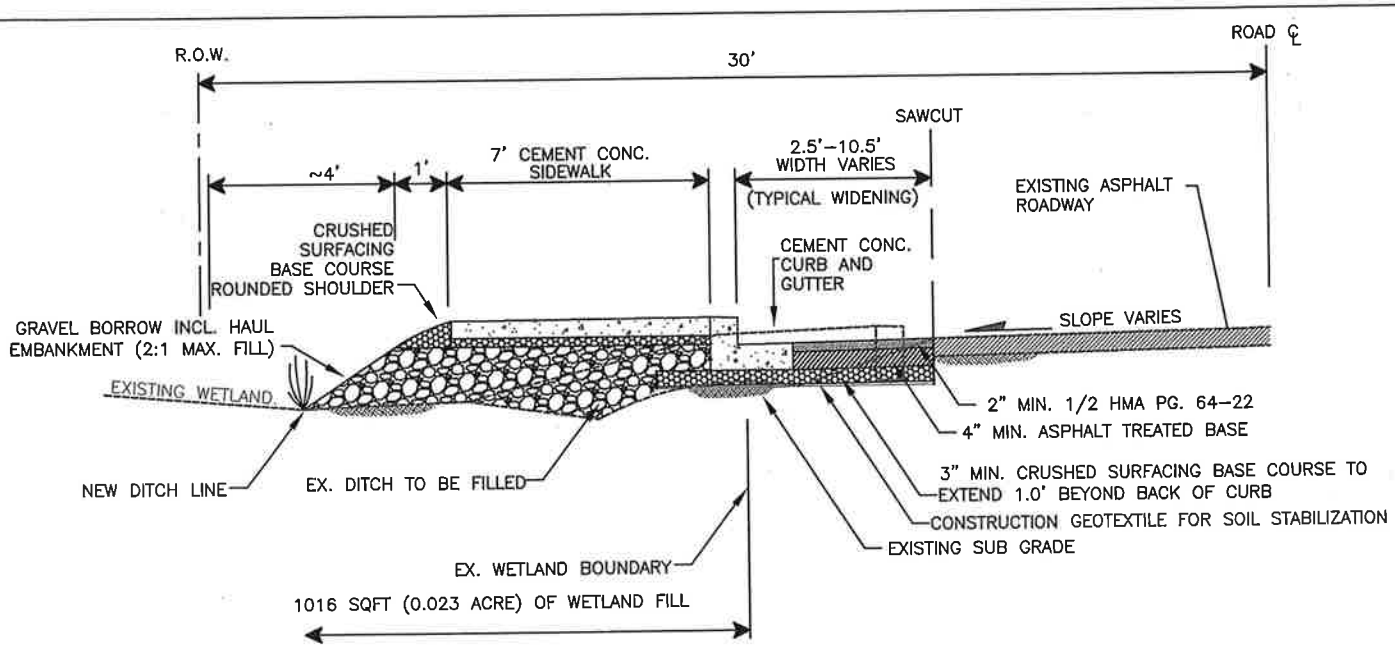
PROPOSED PROJECT: HARBOUR POINTE BOULEVARD WIDENING

NEAR: MUKILTEO COUNTY: SNOHOMISH

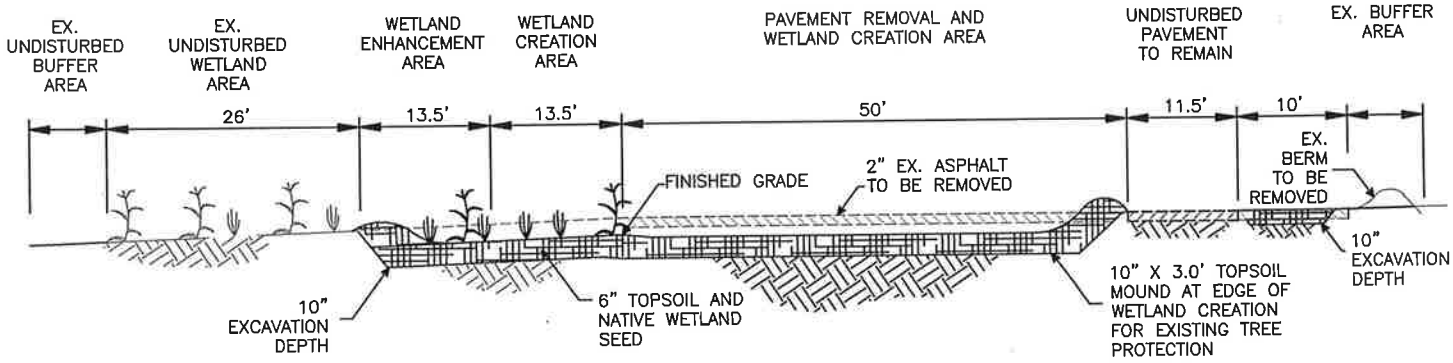
STATE: WASHINGTON

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

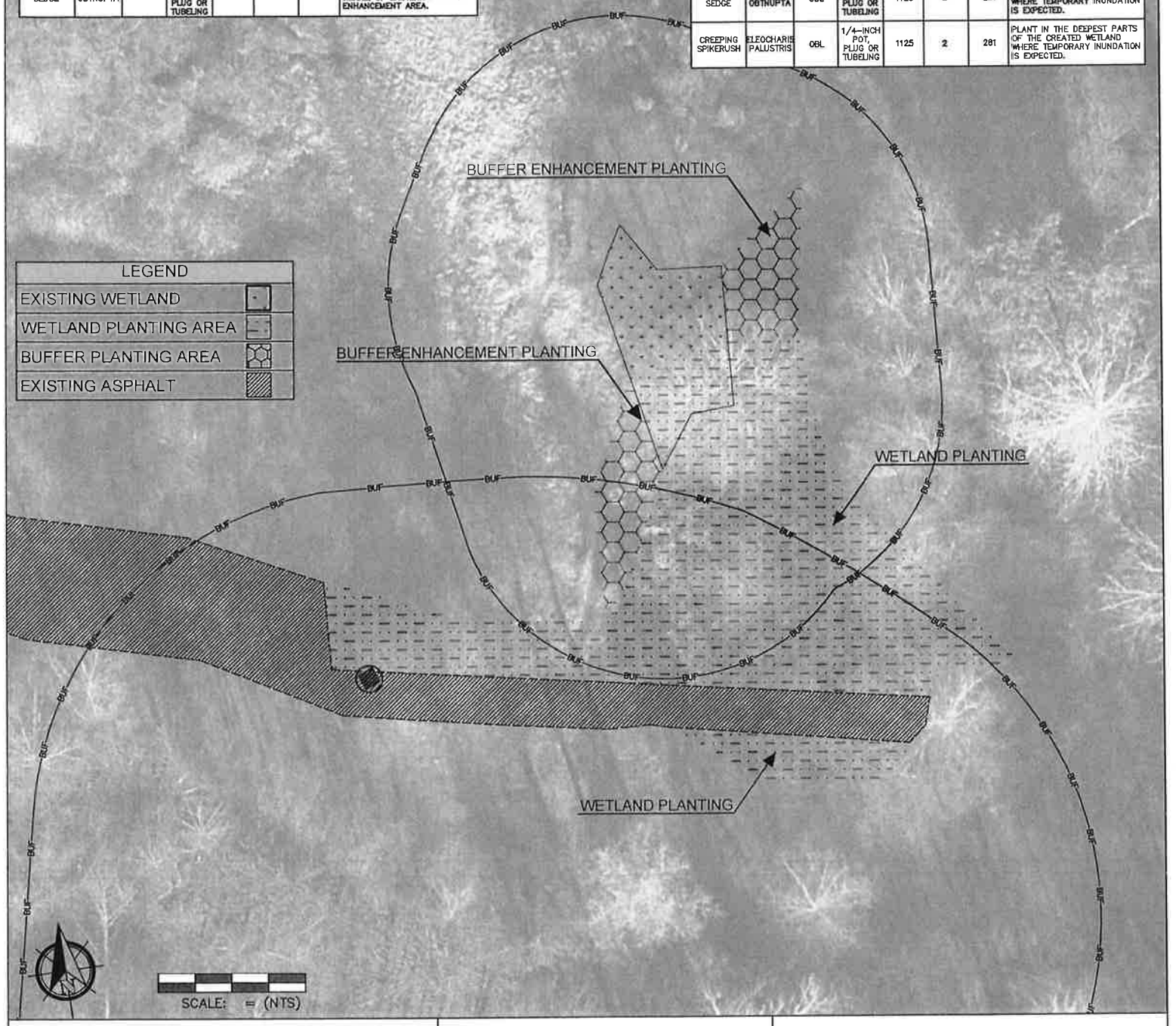
APPLICANT: CITY OF MUKILTEO, PUBLIC WORKS DEPARTMENT PURPOSE: WIDEN HARBOUR POINTE BOULEVARD TO ACCOMMODATE TRUCK ACCESS REFERENCE NUMBER: (TO BE DETERMINED) ADJACENT PROPERTY OWNERS:	LOCATION: NA LAT/LONG: NA DATUM: NA DATE: 11/30/17 SHEET 7 OF 8	FIGURE 7 –PROPOSED WETLAND FILL AND WETLAND ENHANCEMENT 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	NOTES
TREES							
WESTERN HEMLOCK	TSUGA HETEROPHYLLA	FACU	1 GALLON	60	6	2	PLANT IN UPLAND, DRIER AREAS ONLY
WESTERN REDCEDAR	THUJA PLICATA	FAC	1 GALLON	60	6	2	PLANT ON MOUNDED AREAS AND ADJACENT TO DRIER AREAS
SHRUBS							
REDOSIER DOGWOOD	CORNUS SERICEA	FACW	1 GALLON	200	6	6	PLANT NEXT TO SWALE AND IN WETTER AREAS. CAN TOLERATE SATURATION.
BLACK HAWTHORNE	OEMLERIA CERASIFORMIS	FAC	1 GALLON	100	6	3	PLANT ADJACENT TO UPLAND DRY AREAS.
INDIAN PLUM	MALUS FUSCA	FACU	1 GALLON	150	4	9	PLANT IN UPLAND, DRIER AREAS ONLY
PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	FACW	1 GALLON	200	6	6	PLANT NEXT TO SWALE AND IN WETTER AREAS. CAN TOLERATE SATURATION.
EMERGENT							
SLOUGH SEDGE	CAREX OBTNUPTA	OBL	1/4-INCH POT, PLUG OR TUBELING	22	1	22	PLANT IN THE SWALE IN THE MIDDLE OF EASTERN BUFFER ENHANCEMENT AREA.

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	NOTES
TREES							
CASCARA	FRANGULA PURSHIANA	FAC	1 GALLON	300	6	8	PLANT ON MOUNDED AREAS AND ADJACENT TO DRIER AREAS
WESTERN REDCEDAR	THUJA PLICATA	FAC	1 GALLON	300	8	5	PLANT ON MOUNDED AREAS
SHRUBS							
REDOSIER DOGWOOD	CORNUS SERICEA	FACW	1 GALLON	500	4	31	PLANT ADJACENT TO/UPSLOPE FROM SEDGE. CAN TOLERATE SATURATION.
BLACK HAWTHORNE	CRATAEGUS SUKSDORFII	FAC	1 GALLON	500	8	14	PLANT IN DRIER AREAS ALONG THE EDGE OF THE CREATED WETLAND.
WESTERN CRABAPPLE	MALUS FUSCA	FACW	1 GALLON	500	8	14	PLANT ADJACENT TO/UPSLOPE FROM SEDGE. CAN TOLERATE SATURATION.
SITKA WILLOW	SALIX SITCHENSIS	FACW	1 GALLON	500	6	14	PLANT ADJACENT TO/UPSLOPE FROM SEDGE. CAN TOLERATE SATURATION.
EMERGENT							
SLOUGH SEDGE	CAREX OBTNUPTA	OBL	1/4-INCH POT, PLUG OR TUBELING	1125	2	281	PLANT IN THE DEEPEST PARTS OF THE CREATED WETLAND WHERE TEMPORARY INUNDATION IS EXPECTED.
CREEPING SPIKERUSH	ELEOCHARIS PALUSTRIS	OBL	1/4-INCH POT, PLUG OR TUBELING	1125	2	281	PLANT IN THE DEEPEST PARTS OF THE CREATED WETLAND WHERE TEMPORARY INUNDATION IS EXPECTED.



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

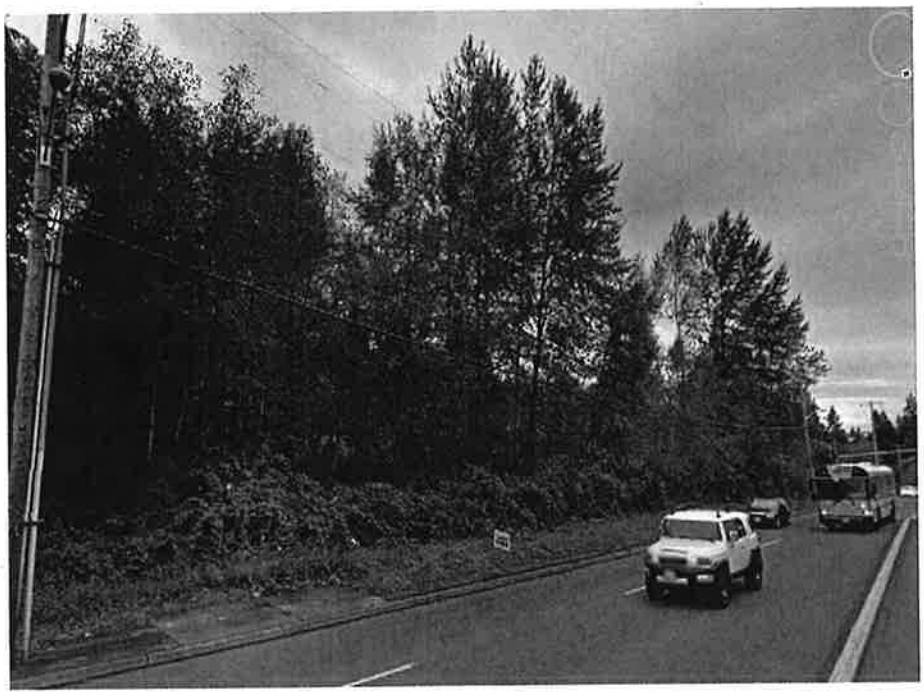
NEAR: MUKILTEO COUNTY: SNOHOMISH

STATE: WASHINGTON

TUTTLE ENGINEERING AND MANAGEMENT

APPENDIX B
Site Photographs

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 B-2

5790-004-00 Date Exported: 12/12/17

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
B-4

5790-004-00 Date Exported: 12/12/17

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	
GeoEngineers	Appendix B-5

5790-004-00 Date Exported: 12/12/17

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 B-6

5790-004-00 Date Exported: 12/12/17

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 B-7

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 B-8

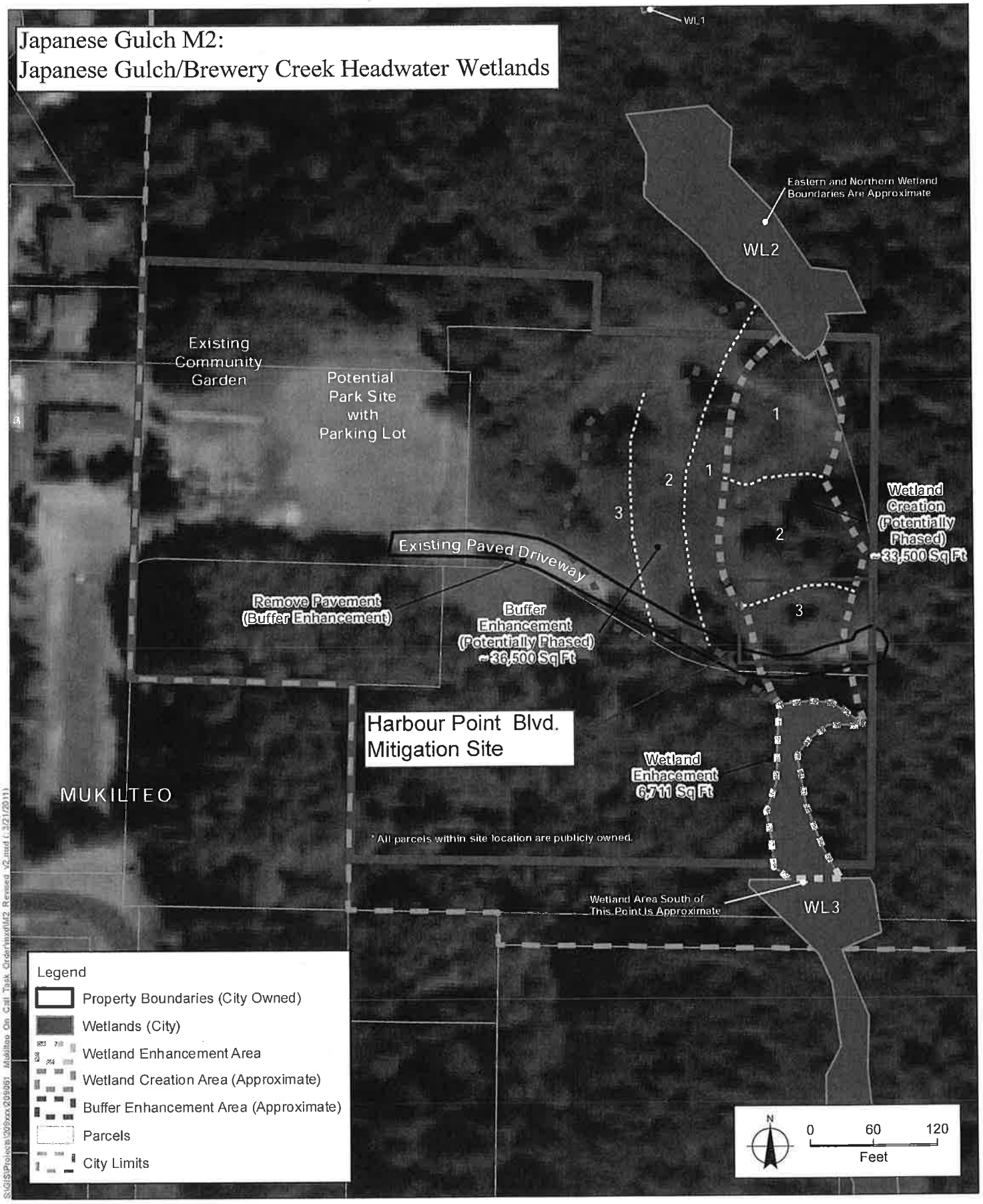
5790-004-00 Date Exported: 12/12/17

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 B-9

APPENDIX C
Background Maps



Mukilteo Critical Areas Mitigation Program. 209061.03

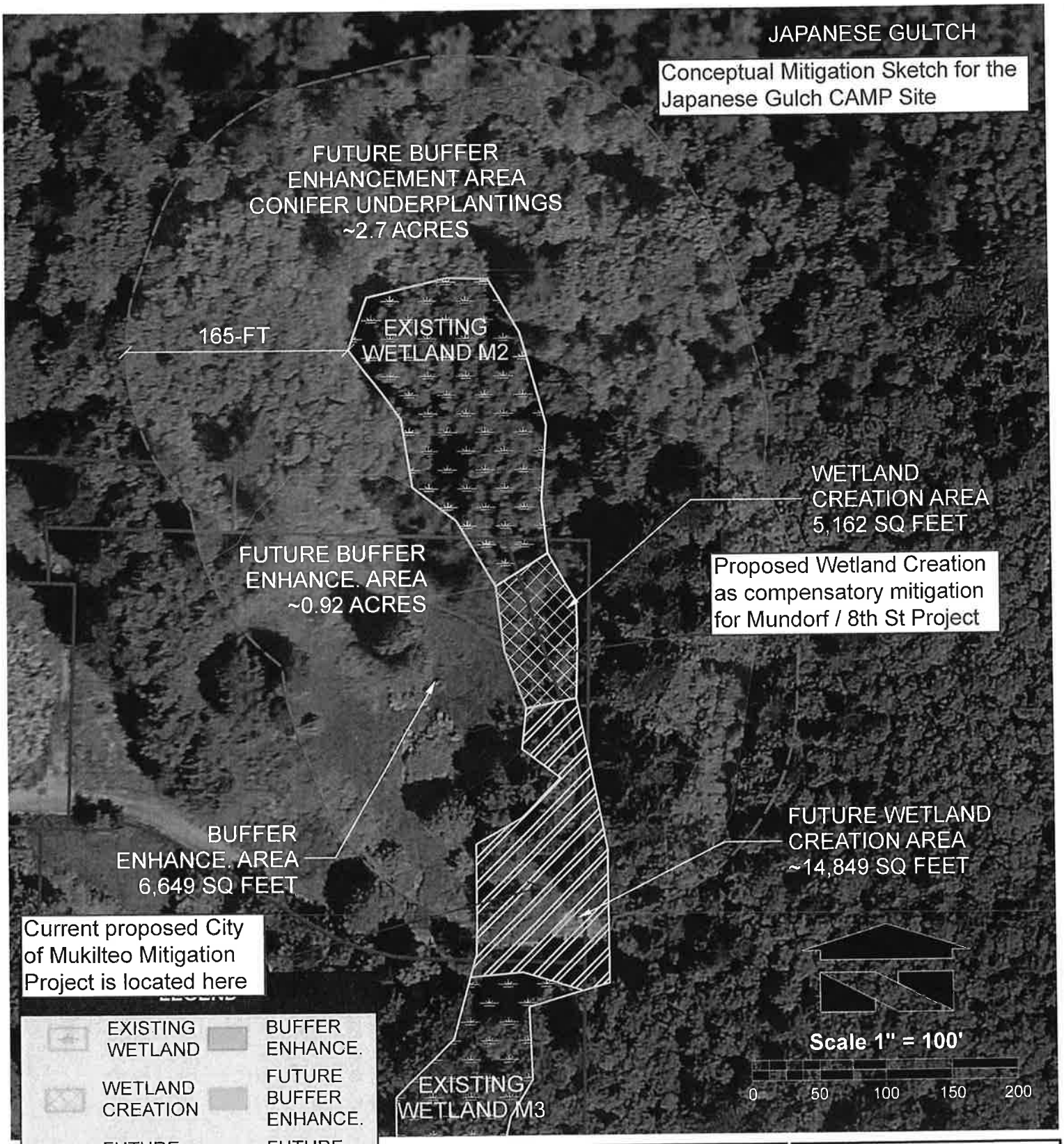
SOURCE: City of Mukilteo, 2009; Snohomish County, 2008; NAIP (USDA), 2009 (Aerial)

Figure 8
Off-Site Mitigation: Conceptual Mitigation Opportunities (M2)
Mukilteo, Washington

CONCEPTUAL MITIGATION PLAN

Mundorf - 8th St

PORTION OF SECTION 4, TOWNSHIP 28N, RANGE 4E, W.M.



Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

EXISTING CONDITIONS MAP
Mundorf - 8th St
Mukilteo, Washington

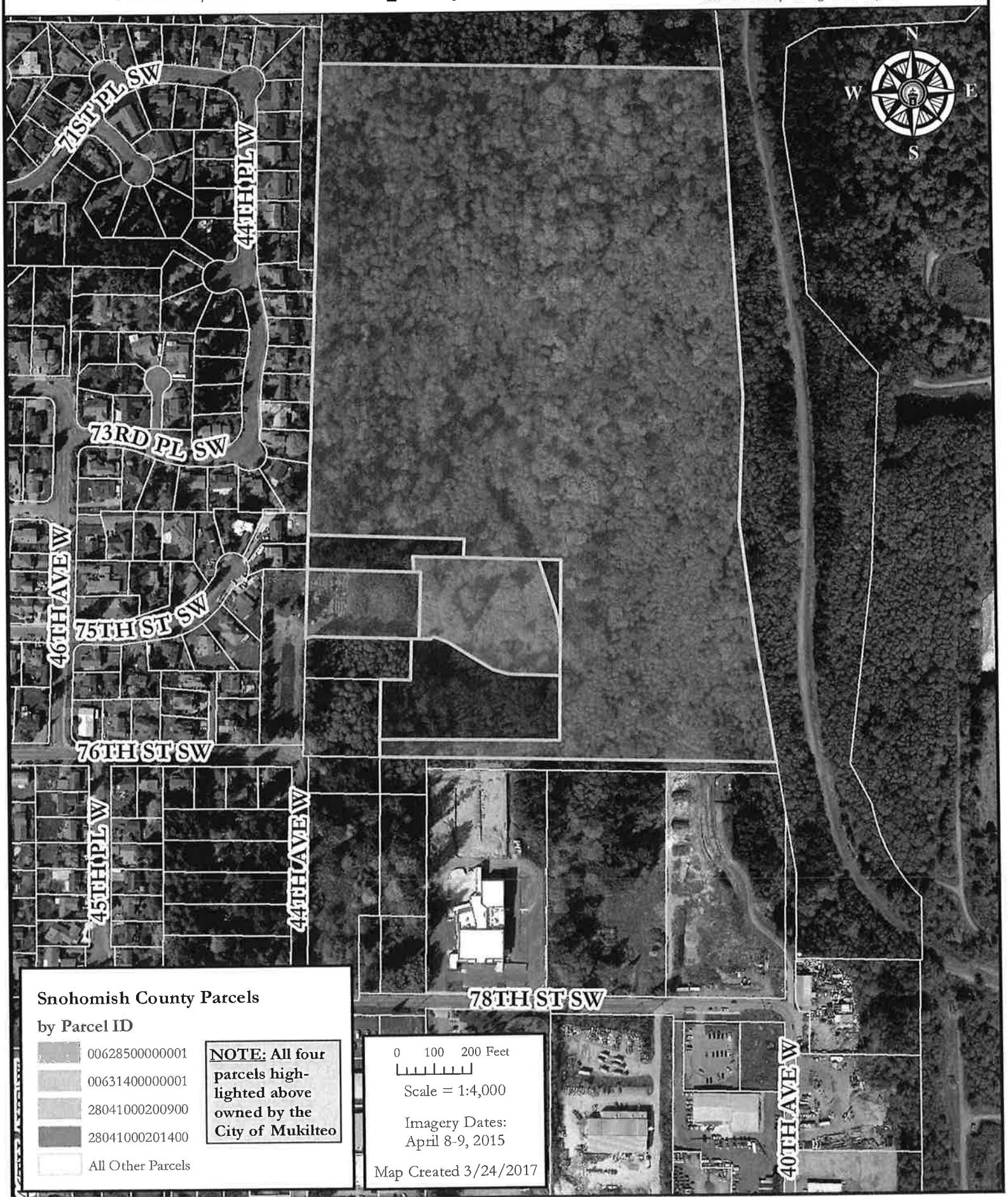
Terry Mundorf
9824 NE Rose Trail Lane
Bainbridge Island, WA 98110

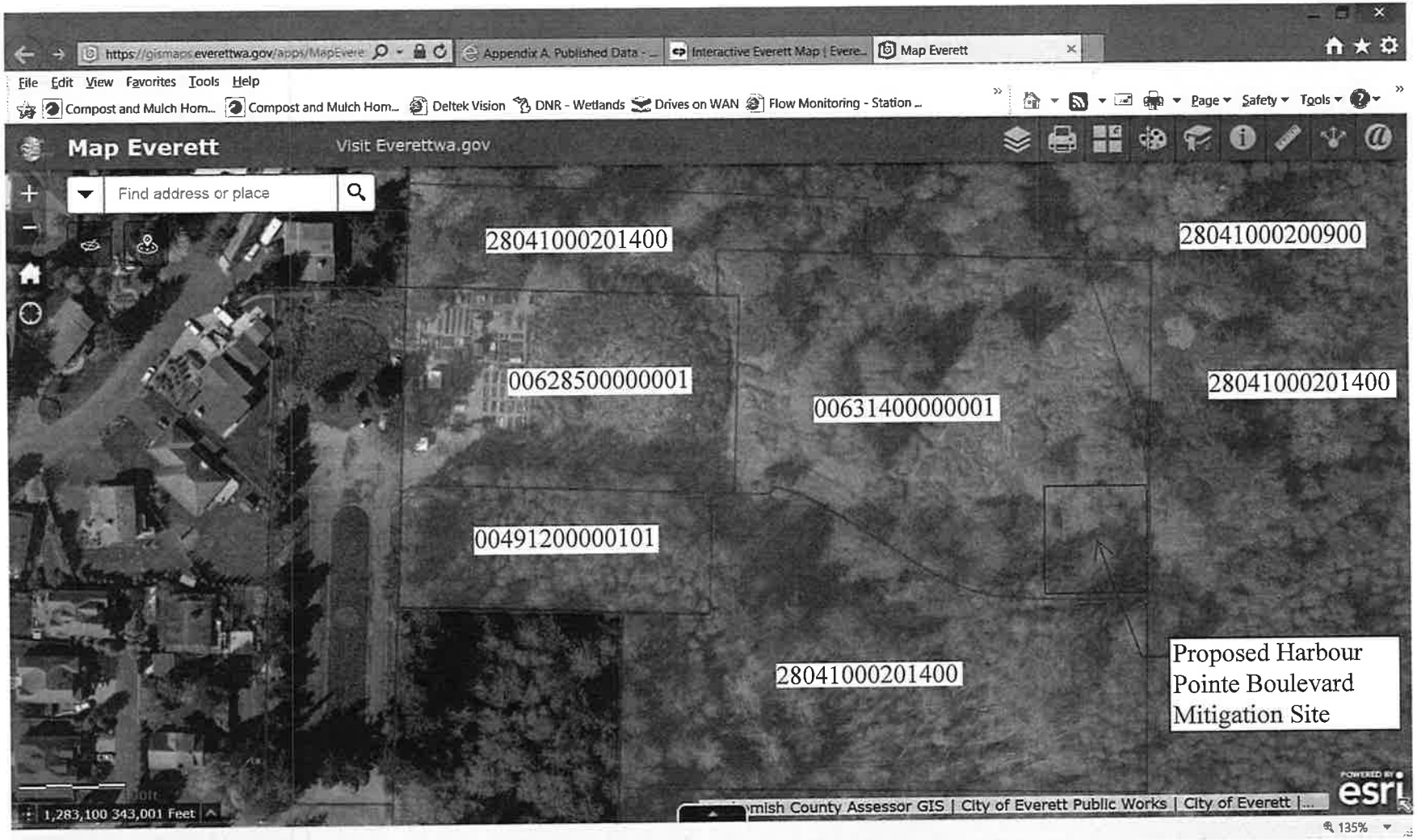
Sheet 1/1
WRI Job # 16233
Drawn by: JM
Date: April 14, 2017

CITY OF MUKILTEO
Public Works Department

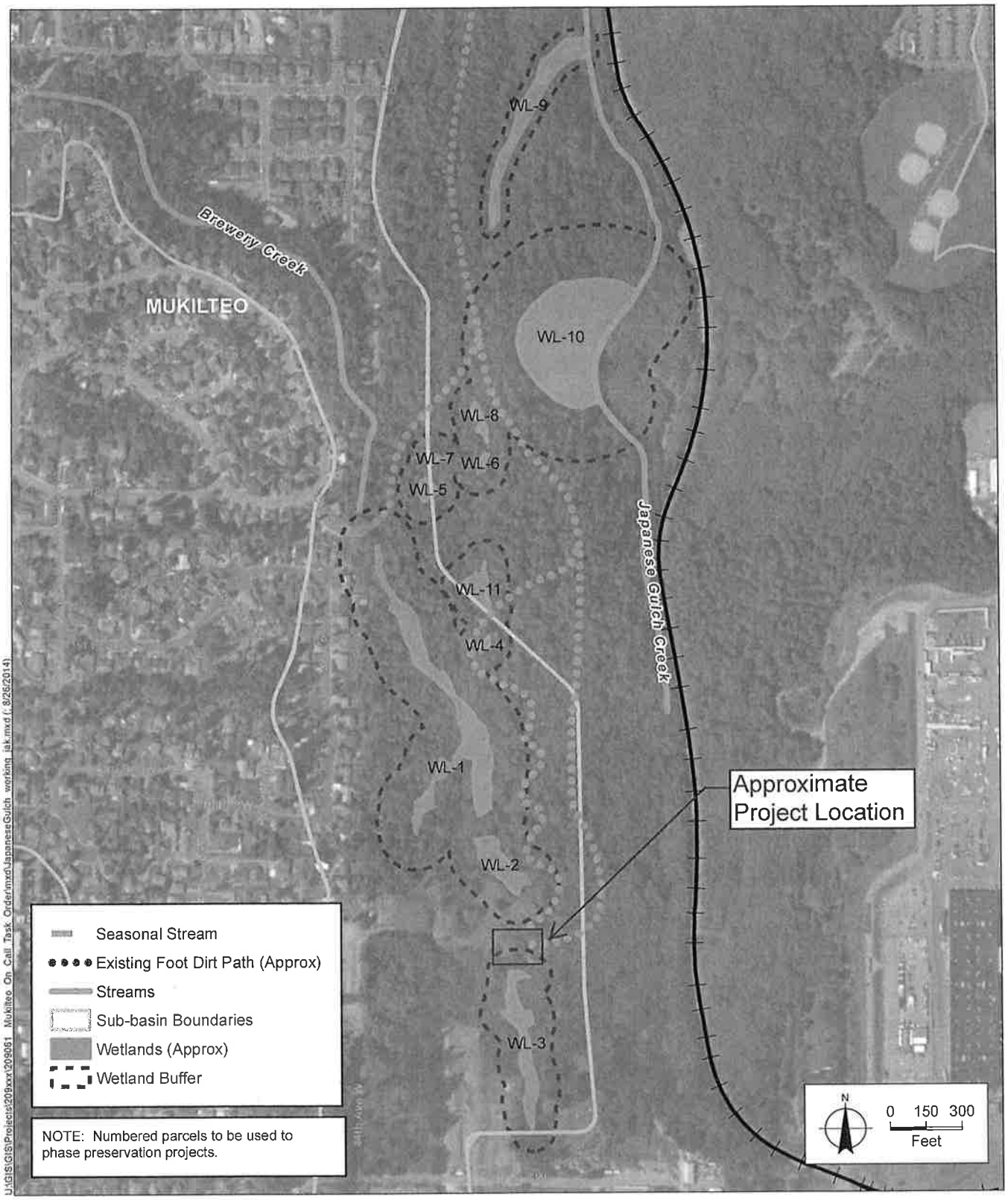
CAMP Mitigation Property Ownership

The City of Mukilteo disclaims any warranty of merchantability or warranty of fitness of this map for any particular purpose, either expressed or implied. No representation or warranty is made concerning the accuracy, completeness, or quality of data depicted on this map. Any user of this map assumes all responsibility for the use thereof, and further agrees to hold the City of Mukilteo harmless from and against any damages, loss or liability arising from any use of this map.





Japanese Gulch Mitigation Site Parcels



SOURCE: City of Mukilteo, 2009; Snohomish County, 2008; ESRI, 2014 (Aerial)

Mukilteo Critical Areas Mitigation Program. 209061.10

Figure 1

Japanese Gulch Wetland Buffers
Mukilteo, Washington