Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E.
Suite 106
Everett, Washington 98208
(425) 337-3174
Fax (425) 337-3045

August 4, 2020

Theresa De La Osa and Craig Welch
6420 E Mercer Way
Mercer Island, WA 98040

RE: Critical Areas Determination Report for King County Tax Parcel 3024059120, Located at 6420 E Mercer Way, in the City of Mercer Island

Introduction

The applicant seeks to permit and construct a residential addition within the 0.41-acre property located at 6420 E Mercer Way in the city of Mercer Island. Wetland Resources, Inc. was hired to conduct a field investigation and provide a regulatory analysis of the proposed project in the context of critical area regulations and compliance. This letter is intended as supporting documentation for a Critical Area Determination for the project.

Field delineation occurred on June 15, 2020, and included detailed physical inspection within the subject property, and visual inspection from the edge of legal access (rights-of-way and subject property). The purpose of the visit was to identify regulated wetlands, FWHCAs, and watercourses, both on and near the subject property. All other critical areas are outside the scope of this work.

In summary, no wetlands, fish and wildlife habitat conservation areas (FWHCAs), watercourses (piped or above ground), or wetlands were observed on or near the subject property. Any development of the subject property, including the proposed residential addition, will not result in alteration to critical areas or buffers. For this reason, the applicant requests that planning staff waive the critical area study requirement as provided in Mercer Island City Code (MICC) section 19.07.110(C).

Site Description and Project Description

The subject property is located in southeast Mercer Island, in low position on the hillslope that separates the plateau from Lake Washington. The lake shoreline is over 300 feet away. Access is from the west via E Mercer Way. The property is a moderately steep east-aspect slope with a single-family residence located in the center. Vegetation is a mix of ornamental landscaping, lawn area, native trees and shrubs, and non-native shrubs. A shared driveway that provides access to a waterfront property (6418 E Mercer Way) east of the subject property is located along the north property line. A detached shed and uncovered parking area are located to the west of the primary structure.

The applicant's proposal will result in demolition of the shed, a rock retaining wall, and removal of the existing parking area. A new detached structure will be placed in approximately the footprint of existing impervious surfaces. As previously stated, this work will occur without impacts to regulated critical areas or their buffers due to their absence from the project area.

Review of Existing Information

The City of Mercer Island Development Services Group relies on data compiled in the City of Mercer Island GIS Portal to approximate critical areas presence and locate stormwater features (among many other things). This resource was used by WRI staff prior to the site investigation to determine potential critical areas on and in the vicinity of the subject property. This resource depicts three features of interest on or near the subject property, all of which are shown on the enclosed *Critical Area Determination Map*:

- One 12-inch diameter concrete culvert beneath E Mercer Way; the feature outlets at the northwest corner of the subject property (labeled SD-GM-03442)
- Open Watercourse/Type Ns stream; the feature flows through subject property (labeled SD-GM-03367)
- Storm Main – Private; feature is similar to the alignment of the Open Watercourse, but slightly to the south (also labeled SD-GM-03367)

Based on GIS data visually depicted in the Mercer Island GIS Portal, the Open Watercourse feature originates along the west property line of 6419 E Mercer Way. The concrete culvert appears to be designed to convey flows from the nearby properties located at 6419 and 6421 E Mercer Way, and from four catch basins along the east and west side of E Mercer Way.

The GIS features labeled Open Watercourse and Storm Main – Private both appear to convey flows from the mapped culvert outlet in the northwest corner of the subject property to the east along the north side of the shared driveway that provides access to 6418 E Mercer Way. In the eastern one-third of the property, both features cross the shared driveway and continue off-site from approximately the southeast corner of the site.

On-Site Critical Area Delineation Findings

Based on review of City-mapped critical areas in advance of the site investigation, it seemed probable that regulated features would be found within the subject property. As stated, physical inspection occurred on June 15, 2020. 0.18 inches of precipitation was recorded at Sea-Tac International Airport during the day of the site visit. In the seven days prior to the site visit, exactly one inch of precipitation was recorded.

Site delineation included general inspection of the entire property, and thorough physical examination of the ground surface from the GIS-mapped culvert outlet in the northwest corner along the entire alignment of the GIS-mapped Open Watercourse and Storm Main – Private features. Inspection also consisted of visual observation of the GIS-mapped Open Watercourse on the west side of E Mercer Way, from the edge of the right-of-way.

A surface channel was not observed in off-site areas to the west of E Mercer Way, which was due to lack of legal access and sight-obscuring groundcover consisting of English ivy along the topographic low point. The existence of a channel cannot be confirmed or denied in this area.

General inspection of the subject property did not indicate the presence of any wetlands or streams.

Thorough physical inspection of the ground surface along the GIS-mapped watercourse did not result in identification of a wetland or stream. No surface or shallow sub-surface water was observed, and no indication of regularly occurring surface flow was observed, including bed, bank, or side, sorted material, bending of groundcover vegetation, debris wracking, etc. It is the assertion of WRI staff, based on thorough site investigation, that no above-ground critical areas are present on or near the subject property.

The following specific observations were made regarding the area mapped as an Open Watercourse, which further supports the determination that open watercourses are absent from the subject property:

- Leaf litter that presumably fell in fall 2019 was evenly distributed throughout the site, including along the topographic low point,
- No erosion of mineral soil was observed, or detritus found, along the topographic low point, and no defined bank or side was present,
- Surface soils were dry sandy loam, and did not indicate the regular occurrence of water in the soil profile,
- Bed material within the topographic low point was indistinct from surrounding areas, and
- Upland plants were observed rooted along the topographic low point.

Furthermore, no wetlands were observed within the subject property. Soils were excavated and recorded (Data Site S1) where wetland conditions could most likely be expected, at the toe of slope in the northwest corner of the site. Subsoils exhibited high chroma (10YR 3/3) and lacked redoximorphic features. Soils did not meet hydric indicators as defined by the NRCS. Dominant vegetation communities were distinctly upland, and evidence of wetland hydrology was not observed within 24 inches of the ground surface. Data Site S1 is provided as an enclosure.

Critical Areas Regulatory Discussion

MICC 19.16.010 provides the basis for identifying and classifying watercourses. Relevant to this discussion is the definition of watercourse, and classifications of the mapped Open Watercourse and mapped Storm Main – Private; Type Ns and piped, respectively based on the GIS Portal.

Watercourses are defined as follows:

> *Watercourses: A course or route, formed by nature and generally consisting of a channel with a bed, banks, or sides throughout substantially all its length, along which surface waters, with some regularity (annually in the rainy season), naturally and normally flow in draining from higher to lower lands. This definition does not include irrigation and drainage ditches, grass-lined swales, canals, storm water runoff devices, or other courses unless they are used by fish or to convey waters that were naturally occurring prior to construction.*

Type Ns watercourses are classified as follows:

> *4. Type Ns, which include all segments of natural waters within the bankfull width of the defined channels that are not Type S, F, or Np waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any*

stream reach that is a Type Np water. Ns waters must be physically connected by an aboveground channel system to Type S, F, or Np waters.

Piped watercourses are mapped as follows:

5. Piped watercourses, which are pipes or other conveyances through which surface waters, with some regularity (annually in the rainy season), naturally and normally flow in draining from higher to lower lands. This definition does not include irrigation and drainage ditches, grass-lined swales, canals, storm water runoff devices, or other courses unless they are used by fish or to convey waters that were naturally occurring prior to construction.

As previously stated, no surface water was observed, and no evidence of a watercourse meeting the definition above was observed within the subject property. The lack of a surface channel was most apparent in the eastern portion of the property, and in nearby off-site areas, where the ground surface was most visible. A Type Ns watercourse requires a physical connection by an aboveground channel system to Type S, F, or Np waters. No such connection was observed. Therefore, anywhere upstream of the subject property would not meet the definition of a watercourse, including the culvert that is mapped as a piped watercourse beneath E Mercer Way.

Based on the absence of an observed surface channel, and the presence of the feature labeled Storm Main – Private, WRI staff sought to determine if a buried pipe was located within the subject property. A recent survey of the property did not identify a buried pipe or a stormwater easement. To determine the source of the City's mapped feature, the applicant made a public records request (#20-358). The specific request was for all information known about private and public stormwater infrastructure within the subject property.

The City's response to that request included a detailed analysis by Mike Helten (Mercer Island GIS Analyst) indicating that the feature labeled Storm Main – Private is a map error, and that no such feature is known by the City to exist within the subject property. Furthermore, the letter indicates that the original source of the Open Watercourse record was from "existing CAD data and contours from the 60's, 70's, and 80's." The City's records request response letter is provided as an enclosure.

The City letter continues to state that the recent effort by Herrera to merge all previous natural resource and stormwater information retained the mapped Open Watercourse by default. The draft Herrera report (title: City of Mercer Island Watercourse Inventory and Typing and GIS Wetland Modeling, date: 4.10.20) notes that:

No watercourses were verified on private property. Watercourse mapping was assumed to be correct when both the GIS desktop analysis and previous mapping were consistent.

The report continues to state that:

as the City receives new critical areas reports, the watercourse mapping should be updated both at the survey site as well as both upstream and downstream to maintain accurate and continuous watercourse mapping.

Regulatory Conclusions

The June critical areas delineation finds that no wetlands or above-ground watercourses are present on or near the subject property.

The public records request indicates that the data source that led the City to depict a regulated critical area on the subject property is based on data from over 40 years ago, and which was likely not field verified as part of more recent inventory efforts because it is on private property.

The public records request and site survey indicate that there is no buried pipe (or easement) that conveys flows through the subject property.

The applicant asserts that, based on thorough physical inspection of the ground surface, and the absence of any indication that a pipe conveys stormwater beneath the subject property, that no regulated wetlands or watercourses are present within the subject property. Any proposed development of the subject property would not alter critical areas or buffers, and for these reasons the applicant request that the City waive the requirement to submit a critical area study, as allowed by MICC 19.07.110(C). Furthermore, any future development of the subject property should not require critical area review, and the City should eliminate the mapped Open Watercourse from all areas upstream of the subject property.

Use of This Report

This report is supplied to Theresa De La Osa and Craig Welch as a means of determining the presence of on-site critical areas as required by the City of Mercer Island during the permitting process. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

This report conforms to the standard of care employed by ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.

Niels Pedersen, PWS
Senior Ecologist

Enclosures:

Army Corps Wetland Determination Data Form (S1)
6.26.20 City of Mercer Island Letter to Applicant -Watercourse GIS Information (Sheets 1/2-2/2)
Critical Area Determination Map (Sheet 1/1)

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Enclosure 1

Army Corps Wetland Determination Data Form
(S1)

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

Project/Site: De La Osa/Welch - 6420 E Mercer Way Addition City/County: Mercer Island/King County Sampling Date: 6/15/20

Applicant/Owner: Craig Welch/Same State: WA Sampling Point: S1

Investigator(s): NP, AR Section, Township, Range: S30 T24N R5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR): LRR-A Lat: 47.5452763 Long: -122.2117392 Datum: NAD83

Soil Map Unit Name: Kitsap silt loam, 15 to 30 percent slopes NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tsuga heterophylla	10	Y	FACU
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m^2)			
1. Oemleria cerasiformis	30	Y	FACU
2. Rubus armeniacus	15	Y	FAC
3. Fallopia japonica	10	N	
4.			
5.			
	55	= Total Cover	
Herb Stratum (Plot size: 1m^2')			
1. Hedera helix	30	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 3m^2)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 70

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	15	x 3 =	45
FACU species	70	x 4 =	280
UPL species		x 5 =	0
Column Totals:	85 (A)		325 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: S1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					Sandy loam	
7-24	10YR 3/3	100					Sandy loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

No hydrology present/ surface water present

Enclosure 2

6.26.20 City of Mercer Island Letter to Applicant
Watercourse GIS Information

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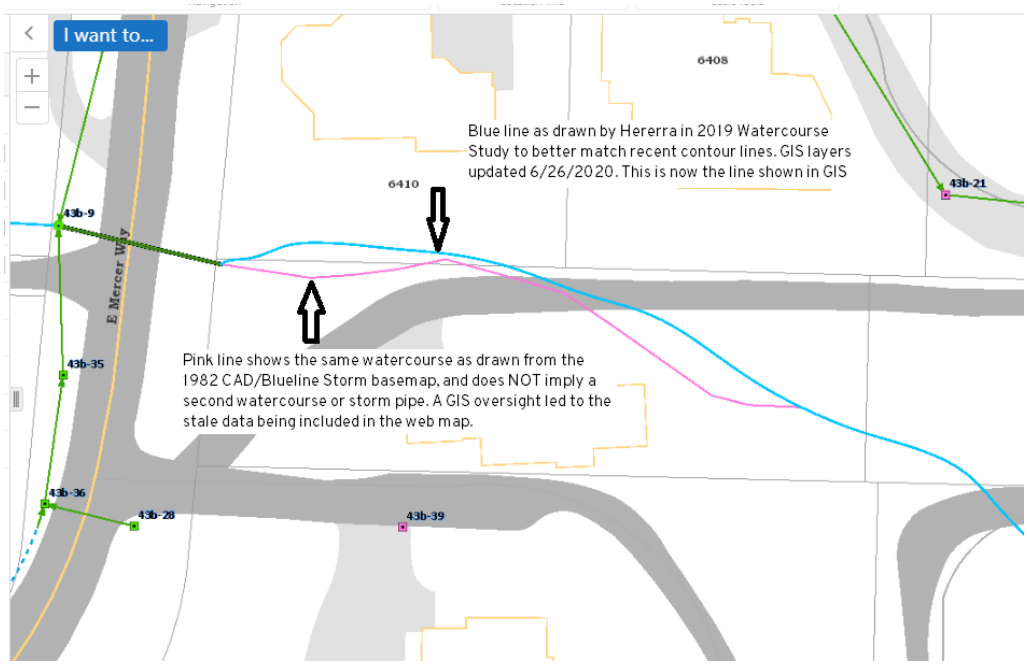
WATERCOURSE GIS INFORMATION, 6420 E MERCER WAY

June 26, 2020

To: Niels Pedersen, Wetland Resources Inc.

RE: Mercer Island Public Request #20-358- Mapped watercourse cutting across the north and east parts of the property at 6420 E Mercer Way.

- The public GIS website showed two separate lines running nearly parallel to each other. This was an error on our part, as we failed to reconcile the older and newer data sources. The two lines represented the same feature, and edits have since been made to correct the issue.



- The original source of this watercourse record is an old island base map which was assembled from existing CAD data and contours from the 60's, 70's and 80's. I don't have the full story on its history, but it served as the starting point for all the GIS storm layers. (See attached pages)

- In 2019, Herrera Environmental performed an island wide analysis of watercourses based largely on contours and the existing GIS data. The study retained this line as a likely Type-NS watercourse, with a slight change in alignment. (See attached file for summary- note this is still the draft version, but the methodology should be valid.)

- Based on a correspondence in our records, the existence of this

watercourse was also questioned in 2007 during the permit process for a house addition (0506-284) which was later canceled. I couldn't find any resolution, though.

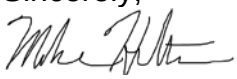
- Plan sets for the canceled permit were stored by the city and are included with the request. There is no evidence that any of the features were ever built (our permit files are filled with preliminary and unconstructed plan sets) but it could help in locating?

- As far as our records show, there is no easement for storm drainage or a watercourse on this property.

- There is no mention of storm drainage in the subdivision files.

I can't find any existing documentation which says this watercourse *doesn't* exist. Make sure to check with the CPD Department for your options- permitting and regulations aren't my area of expertise!

Sincerely,



Mike Helten
GIS Analyst
(206) 275-7774
mike.helten@mercergov.org
City of Mercer Island- IGS
9611 SE 36th St
Mercer Island, WA 98040

Enclosure 3

Critical Area Determination Map
(Sheet 1/1)

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CRITICAL AREA DETERMINATION MAP

DE LA OSA/WELCH - 6420 E MERCER WAY ADDITION

EXISTING CONDITIONS - PUBLICLY AVAILABLE INFORMATION

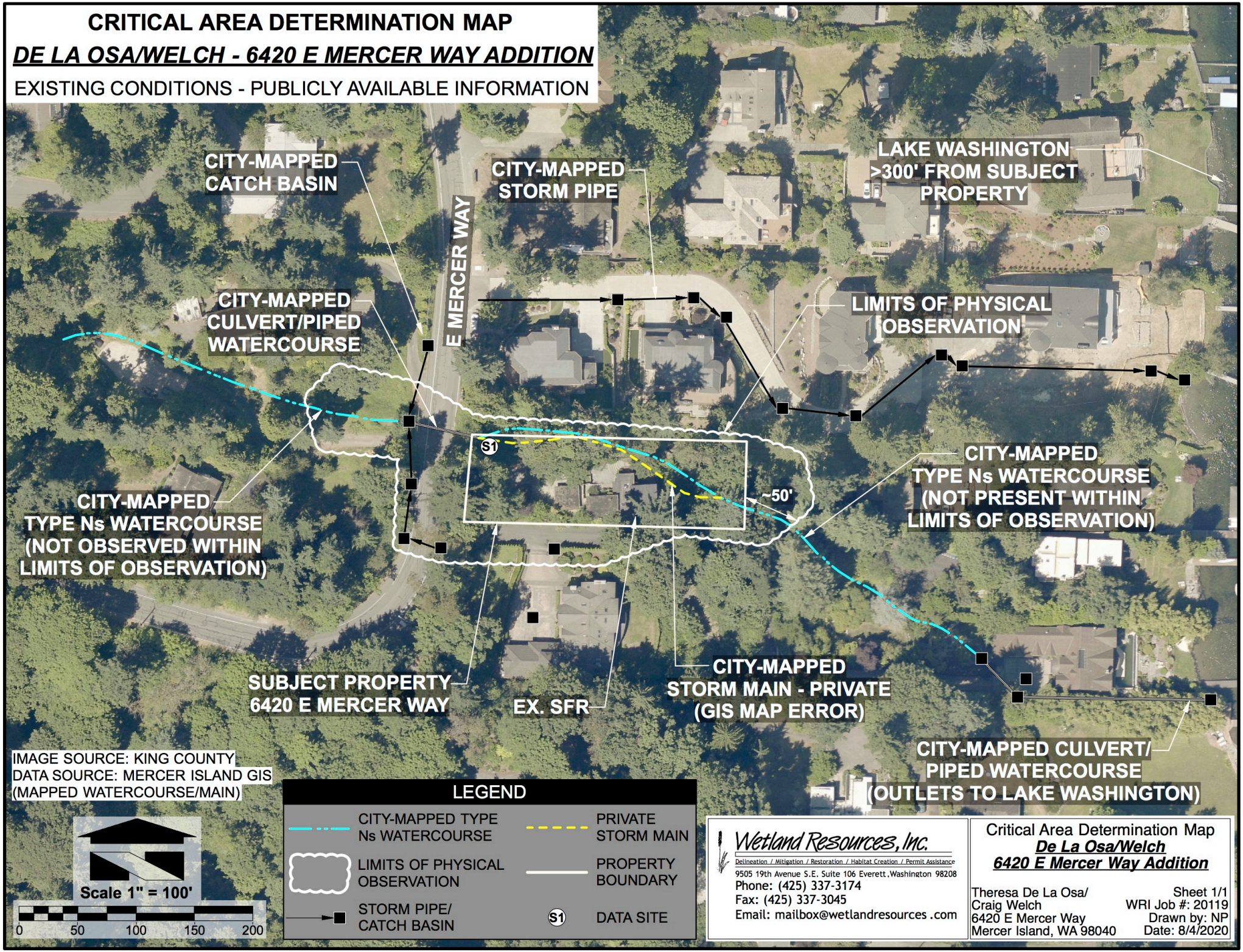

IMAGE SOURCE: KING COUNTY
DATA SOURCE: MERCER ISLAND GIS (MAPPED WATERCOURSE/MAIN)

Scale 1" = 100'

0 50 100 150 200

LEGEND

- CITY-MAPPED TYPE Ns WATERCOURSE
- PRIVATE STORM MAIN
- LIMITS OF PHYSICAL OBSERVATION
- PROPERTY BOUNDARY
- STORM PIPE/ CATCH BASIN
- S1 DATA SITE

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Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources .com

Critical Area Determination Map
De La Osa/Welch
6420 E Mercer Way Addition

Theresa De La Osa/
Craig Welch
6420 E Mercer Way
Mercer Island, WA 98040

Sheet 1/1
WRI Job #: 20119
Drawn by: NP
Date: 8/4/2020

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