Bridge Rehabilitation and Replacement Program (BRRP)

WETLANDS

TECHNICAL MEMORANDUM

NE 45th Street Viaduct Project

Phase 1 – Type, Size and Location (TS&L) Report

Seattle Department of Transportation

January 13, 2010

Prepared for Exeltech Consulting, Inc. by:

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1. EXECUTIVE SUMMARY

1.1 Project Background

The NE 45th Street bridge is located along NE 45th Street in Seattle, Washington (Figure 1). This roadway provides a direct route from Interstate 5 to the University Village and Laurelhurst district. In addition, NE 45th Street serves the University of Washington campus and the Seattle Children's medical center.

The existing bridge is a multi-span structure attached to east and west approach structures. The bridge was originally built in 1938, and over the years, several partial retrofit or replacement activities have occurred. The existing bridge is 42-feet 4-inches wide, conveying three 12-foot lanes (two westbound and one eastbound), and a single 5-foot sidewalk.

The main span superstructure is 730 feet long and is composed of nine spans, two of which are cantilever-spans located at either end of the main structure. The west approach structure is composed of timber stringers with cast-in-place concrete deck supported by timber trestles. The structure has 24 19-foot 6-inch spans, for a total length of 468 feet. Concrete spread footings support the west approach structure. The east approach structure consists of a 4-cell cast-in-place concrete box girder supported on a pile foundation system. The total length of the rebuilt east approach superstructure is 286 feet long.

The NE 45th Street corridor experiences severe vehicle congestion and creates a hazardous environment for pedestrians and bicycles. There are no facilities for pedestrians or bicycles in the westbound direction. There is a five-foot sidewalk for pedestrians in the eastbound direction, but no bicycle lane. In addition, the existing west approach wood structure has been found to have structural deficiencies. The NE 45th Street Viaduct Project is being conducted to address these issues. The project is funded through the City of Seattle's Bridging the Gap (BTG) program (SDOT, 2008).

The purpose of this technical memorandum is to evaluate the potential impacts to wetlands from the West Approach Replacement Project, referred to here as the NE 45th Street Viaduct Project.

1.2 Corridor

After reviewing several corridor alternatives for the NE 45th Street Viaduct Project, the project team decided that development of the project will remain within the existing corridor: NE 45th Street, between 20th Avenue and Union Bay Place NE (Figure 2). This corridor provides limited opportunity for improvements beyond the replacement of the existing west approach structure.

On the basis of preliminary engineering assessments, this alternative is the preferred alternative of the Seattle Department of Transportation (SDOT).

The project terminus has been defined as NE 45th Street, between 20th Avenue and the easterly limits of the west approach.

1.3 Project Description

In addition to corridor alternatives, the project team also looked at structural alternatives for the design of the West Approach Replacement. The preferred alternative is a combination of retaining walls and pre-stressed girder structures.

The mechanically stabilized flowable fill (MSFF) design retaining wall will have a maximum height of approximately 30 feet and would require three feet of excavation for the wall and a two-foot wide trench around the perimeter. The total grading and fill amounts are estimated to be 15,000 cubic yards over an area of 20,000 square feet.

A temporary access road would be constructed to provide contractor access from the north along Ravenna Avenue, to the south of and below the existing bridge for construction access and staging.

The project will require total closure of the NE 45th Street Viaduct during construction of the West Approach Replacement to shorten the construction timeframe.

2. AFFECTED ENVIRONMENT

2.1 Site Description

The site is located in the City of Seattle, in the Cedar-Sammamish Watershed (WRIA 8).

The site includes paved and developed urban areas, grassy lawns, Kincaid Ravine and its associated forest, and other pockets of forest (Figure 1). Lake Washington is located to the south of the project area.

2.2 Methodology

Methods defined in the Washington State Wetlands Identification and Delineation Manual (Ecology, 1997) were used to determine the presence and extent of wetlands on the subject property. Washington State and all local governments must use the state delineation manual to implement the Shoreline Management Act and/or the local regulations adopted pursuant to the Growth Management Act.

The Washington state manual is consistent with the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). The Corps has been working with states, federal agencies, and others to develop supplemental regional criteria to refine the 1987

delineation manual. Two regions fall within the state of Washington: The Arid West (dry lands west of the Continental Divide, from Idaho and eastern Washington south to the U.S. - Mexico border) and the Western Mountains, Valleys, and Coast. Interim Regional Supplements to the Corps of Engineers 1987 Wetlands Delineation Manual have been completed by the Corps for both regions in Washington, and the appropriate supplement is now used, along with the Washington State Delineation Manual, when conducting delineations in those regions (Corps, 2008).

The methodology outlined in the manuals is based upon three essential characteristics of wetlands: (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology (Cowardin, et al., 1979). Field indicators of these three characteristics must all be present in order to determine that an area is a wetland (unless problem areas or atypical situations are encountered).

The "routine on-site determination method" was used to determine the wetland boundaries. The routine method is used for areas equal to or less than five acres in size, or for larger areas with relatively homogeneous vegetative, soil, and hydrologic properties.

Formal data plots were established where information regarding each of the three wetland parameters (vegetation, soils, and hydrology) was recorded. This information was used to distinguish wetlands from non-wetlands. If wetlands were determined to be present on the subject property, the wetland boundaries were delineated. Wetland boundaries were identified with sequentially numbered colored flagging imprinted with the words WETLAND DELINEATION. Data plot locations were also marked with colored flagging. Streams were flagged along the ordinary high water mark (OHWM) with blue and white striped flagging.

Visual observations were made of off-site areas from site boundaries, public roads, and public trails to determine if wetlands potentially occur within 100 feet of the site, as required by the City of Seattle.

Wetland functions were assessed using the Washington State Department of Ecology's Wetland Rating System for Western Washington (Hruby, 2004). Although this system is designed to rate wetlands, it is based on whether a particular wetland performs a certain function and the relative level to which the function is performed. An assessment of wetland functions is inherent in the rating system. This system was developed by Ecology to differentiate wetlands based on their ecological functions, their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the beneficial functions they provide to society.

2.3 Wetland Descriptions

Two wetlands were identified in the project area. Wetland D is located beneath the 45th Street Viaduct, and Wetland E is located in Kincaid Ravine to the south of the viaduct (Figure 3).

2.3.1 Wetland D

Wetland D is a ditch feature located west of the Burke Gilman Trail (Figure 3). The wetland begins to the south of the NE 45th Street Viaduct and extends to the north along the ditch, with 2,014 square-feet (0.05 acre) of wetland delineated in the project area. The wetland is located at the base of a slope, which rises to the west. A small seep on the slope was identified at the southern end of the wetland; however, the wetland is classified as a depressional system. Wetland D continues following the ditch to the north, extending out of the project area. The wetland is estimated to be less than one acre in size. Data plot DP-8 characterizes the wetland.

A single palustrine emergent vegetation class was identified in the wetland. Dominant vegetation included water parsley (*Oenanthe sarmentosa*), giant horsetail (*Equisetum telmateia*), bitter nightshade (*Solanum dulcamara*), and morning glory (*Convolvulus* sp.)(Hitchcock and Cronquist, 1973).

Problematic hydric soils were observed at the southern end of the wetland, due to a concrete lining approximately 10 inches below the soil surface. Soil above the concrete lining was very dark gray (10 YR 3/1), with no redoximorphic features. The wetland may have developed recently (not enough time for redoximorphic features to form) or alkaline soil conditions resulting from the concrete below may have inhibited redoximorphic feature formation (Munsell Color, 2000; NRCS, 2006; Vepraskas, 1999).

Primary water sources to Wetland D include seepage from the southern portion of the wetland and surface flows from the compacted slope surface to the west and the Burke Gilman Trail to the east. One inch of surface water was present in the slope area of the wetland, with soil saturated to surface. Six to eight inches of standing water was present in the ditch during the August field visit. Water flowed out of the seep along the south portion of the wetland, and continued flowing northward along the ditch.

2.3.2 Wetland E

Wetland E is a 14,228 square-foot (0.33 acre) wetland located on the floor of Kincaid Ravine to the south of the NE 45th Street Viaduct (Figure 3). Using hydrogeomorphic classification, the wetland is a slope wetland, which slopes down to the east towards

the Burke Gilman Trail. Data plots DP-11, DP-13, DP-15, and DP-17 characterize the Wetland E.

Palustrine scrub-shrub and forested vegetation classes were identified in the wetland. Dominant vegetation included red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*), Indian plum (*Oemleria cerasiformis*), salmonberry (*Rubus spectabilis*), giant horsetail, skunk cabbage (*Lysichiton americanus*), cherry laurel (*Prunus laurocerasus*), rhododendron (*Rhododendron* sp.), English ivy, and lady fern (*Athyrium felix-femina*). Much of the wetland was covered with aggressive, non-native vegetation (e.g., holly (*Ilex aquifolium*), English ivy, and cherry laurel) (Hitchcock and Cronquist, 1973).

Soil in Wetland E met hydric indicators for Depleted Below Dark Surface (A11), Sandy Redox (S5), and Redox Dark Surface (F6). Indicator A11 was met at DP-11 and DP-15, with ten-inch to fourteen-inch dark gray (2.5 Y 4/1) depleted sand and loamy sand layer starting within twelve inches of the soil surface. Light olive brown (2.5 Y 4/4), yellowish brown (10 YR 5/8), and dark yellowish brown (10 YR 4/4), distinct redoximorphic features occupied over five percent of the depleted soil layer. Very dark grayish brown (10 YR 3/2) silt loam characterized the top soil layer, which was six inches thick. Indicator S5 was met at DP-17, with a ten-inch dark gray (10 YR 4/1) loamy sand layer starting within six-inches of the soil surface. Very dark grayish brown (10 YR 3/2), distinct redoximorphic features occupying forty percent of the ten-inch layer. Indicator F6 was met at DP-13, with a five-inch black (10 YR 2/1) silt loam layer starting at the soil surface. Dark yellowish brown (10 YR 4/4), distinct redoximorphic features occupied five percent of the five-inch layer (Munsell Color, 2000; NRCS, 2006; Vepraskas, 1999). Loamy sand and sandy loam characterized soil in the first layer, with gravelly sand and sandy loam below (Snyder, et al., 1973).

Primary water sources to Wetland E include surface flows from stormwater runoff through Kincaid Ravine and seeps from slopes to the north and south of the wetland. Soils were saturated within 12 inches of the surface, with free water below. A drainage feature was observed, beginning in the middle portion of the wetland and continuing to the south. This drainage feature was approximately one to two feet wide and one to two feet deep. Small puddles of surface water were present, with no above-ground, channelized flow visible. The feature dissipated at the eastern end of the wetland.

3. REGULATORY CONSIDERATIONS FOR WETLANDS AND WETLAND BUFFERS,

3.1 Federal Regulatory Requirements

The Corps regulates discharges of dredged or fill materials into waters of the United States, including wetlands, under Section 404 of the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." A Section 404 permit may be required if a proposed project involves filling wetlands or altering streambeds or other waters of the U.S. The Corps has established two types of permit programs under Section 404: nationwide and individual. Nationwide permits are issued when a proposed activity will have minimal adverse impacts to wetlands. All other projects are evaluated under the individual permitting process. The Corps determines which permitting process is used for a proposed project. The Corps requires that wetland impacts be avoided or minimized to the extent practicable, and mitigation would likely be required for unavoidable wetland impacts. The Corps will determine if wetlands are jurisdictional under Section 404 based upon the presence of a "significant nexus" to navigable waters (EPA and Corps, June 5, 2007).

The project will impact the buffers of Wetlands D and E but will not result in direct impacts to wetlands. Therefore the Corps would not initiate Section 404 permitting for this project.

3.2 State Regulatory Requirements

The state water quality certification process under Section 401 of the federal Clean Water Act is usually triggered through a Section 404 permit application. Section 401 directs each state to certify that proposed in-water activities will not adversely affect water quality or violate state aquatic protection laws. In Washington State, Ecology is responsible for administering the state certification program. Ecology may issue approval, approval with conditions, denial, or a request for delay due to lack of information. Any conditions attached to the 401 certification become part of the Section 404 permit. The project will impact the buffers of Wetlands D and E but will not result in direct impacts to wetlands. Therefore Ecology would not initiate Section 401 permitting for this project.

King County is one of the 15 coastal counties in Washington regulated under the Washington State Coastal Zone Management (CZM) Program. Activities that would affect coastal resources and involve approvals from the federal government (such as a Section 404 permit) must be evaluated for CZM compliance through a process called "federal consistency." The Washington State Department of Ecology administers the CZM program in this state.

3.3 Local Regulatory Requirements for Wetlands and Wetland Buffers

3.3.1 Wetland Ratings and Buffer Requirements

Seattle Municipal Code (SMC), Chapter 25.09—Regulations for Environmentally Critical Areas contains guidelines for classifying wetlands (City of Seattle, 2009). The SMC wetland classes and their buffer requirements are described in SMC 25.09.160.C.1(b), and are determined using the Washington Department of Ecology's Wetland Rating System (Hruby, 2004).

Wetland	Size (sq. ft.)	Category	Habitat Score	Buffer Required (feet)
D	2,014*	4	9	50
E	14,228	3	16	60

* Represents the area (square feet) of wetland within the project area.

3.3.2 Local Development Standards for Wetland and Wetland Buffers

SMC 25.09.060.B requires that development projects should be conducted in a manner that avoids critical areas and buffers. Where impacts cannot be avoided, efforts should be taken to minimize and mitigate the amount of area impacted. However, the Environmentally Critical Areas regulations allow exemptions for certain types of public projects where the intrusion into the environmentally critical area or buffer benefits the public and for remodeling or repair activities that do not result in substantial disturbance of the environmentally critical areas or buffers (City of Seattle, 2009).

4. POTENTIAL IMPACTS

Potential wetland and wetland buffer impacts are described below.

4.1 Potential Wetland Impacts

As shown on the Wetland Impacts and Proposed Maintenance Corridor Figure (Figure 4), approximately 18,700 square feet of temporary wetland buffer impacts are expected from construction activities. The proposed maintenance corridor will impact approximately 3,900 square feet of buffers to Wetlands D and E.

Water enters the wetland E from seeps located in the hillsides to the south and north of the wetland, outside the project area, so the construction of the new MSFF wall is not anticipated to disrupt the hydrological inputs to Wetlands D and E.

The existing wetland buffer underneath and immediately adjacent to the bridge is highly degraded, consisting primarily of invasive plants such as ivy. The ground is barren and trampled, especially underneath the viaduct, due to informal pathways that have been created by pedestrians cutting through the area. In consideration of the existing conditions, the project is not expected to result in substantial disturbance to wetland buffer areas.

The temporarily impacted buffer areas will be restored to their existing conditions, as described in Section 5 below. The MSFF wall will have the same footprint over the wetland buffer as the existing bridge. While approximately 3,900 square feet of buffer will be permanently impacted due to the maintenance road, this equals approximately 2 percent of the total wetland buffer area. Further, the maintenance road will be constructed of a permeable material, such as rock to permit infiltration of stormwater.

5. PROTECTION AND RESTORATION

Wetland, riparian watercourse, and buffer mitigation is described below.

5.1 Wetland and Wetland Buffer Protection and Restoration

Project work will avoid and minimize impacts to wetlands and buffers by restricting all construction activities to existing paved areas and a temporary construction easement to the south of the NE 45th Street Viaduct. This will effectively avoid wetland impacts and result in minor impacts to buffers of wetlands D and E.

Protection measures will include the identification and delineation of the wetland buffer areas with high visibility fencing. Ground surface will be protected with a 4- to 6-inch layer of coarse mulch to guard against soil compaction for all construction areas except those subject to permanent alteration.

A reforestation plan will be implemented by the project under the direction of the SDOT Landscape Architect based on standards outlined in the City of Seattle Client Assistance Memo 331 for Restoration of Environmentally Critical Areas. Restoration strategies for temporary impacts to wetland buffers include removing invasive species and replanting buffer areas with native vegetation.

If impacted, slopes to the north and south of Wetland E will be carefully restored to pre-existing grades to avoid hydrologic impacts to Wetland E. As part of the restoration efforts, soil in the restored areas will also be amended with organic material to prevent erosion and promote infiltration.

Information obtained from geotechnical investigations performed for MSFF wall installation will be evaluated to consider whether other restoration measures might be necessary.

The project will be required to obtain a grading permit from the Seattle Department of Planning and Development (DPD). As part of the permit review process, DPD may add additional provisions to further protect or enhance the wetland buffer environmentally critical areas.

References

City of Seattle. 2009. Seattle Municipal Code. Current through November 2009. Accessed at http://clerk.ci.seattle.wa.us/~public/code1.htm.

Corps (U.S. Army Corps of Engineers). 2008. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region. Wetlands Regulatory Assistance Program. April 2008. ERDC/EL TR-08-13.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. U.S. Fish and Wildlife Service.

Ecology (Washington State Department of Ecology). 1997. Washington State Wetlands Identification and Delineation Manual. Publication No. 96-94. Olympia, Washington.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Massachusetts.

EPA (Environmental Protection Agency) and Corps (US Army Corps of Engineers). June 5, 2007. Clean Water Act Jurisdiction Following the US Supreme Court's Decision in Rapanos v.United States & Carabell v. United States.

Hitchcock, C.L., and A. Cronquist. 1973. Flora of the Pacific Northwest: An Illustrated Manual. University of Washington Press, Seattle, Washington.

Hruby, T. 2004. Washington State Wetland Rating System for Western Washington – Revised. August 2004. Ecology publication number 04-06-025. Olympia, WA.

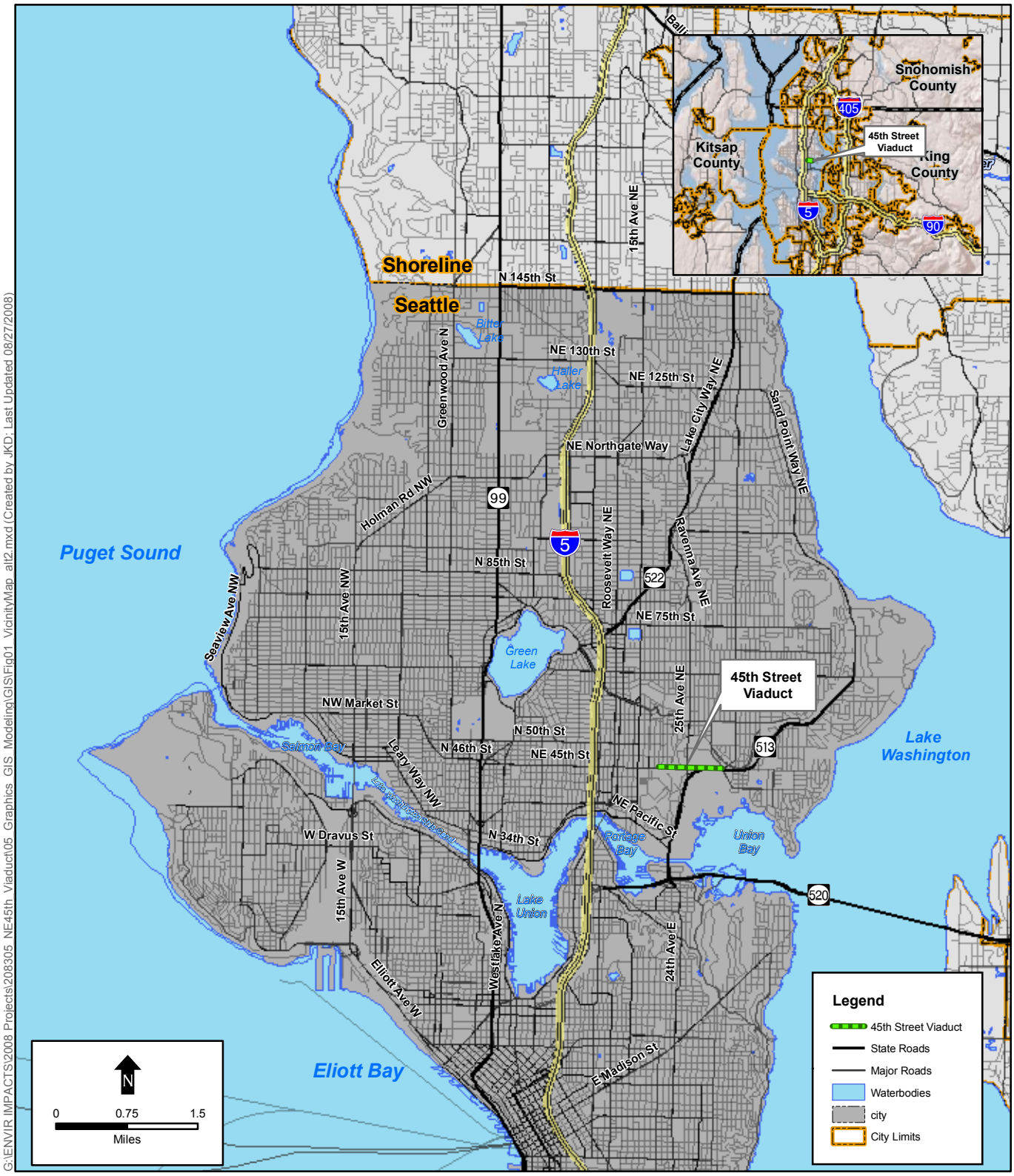
Munsell Color. 2000. Munsell Soil Color Charts. GretagMacbeth, New Windsor, New York.

NRCS (Natural Resources Conservation Service). 2006. Field Indicators of Hydric Soils in the United States, Version 6.0. G.W. Hurt and L.M. Vasilas (eds.), United States Department of Agriculture, Ft. Worth, Texas.

SDOT (Seattle Department of Transportation). 2008. Bridging the Gap program information. Accessed August 2008 from http://www.seattle.gov/transportation/BridgingtheGap.htm.

Snyder, D.E., P.S. Gale, and R.F. Pringle. 1973. Soil Survey of King County Area, Washington. U.S. Soil Conservation Service, Washington, DC.

Vepraskas, M.J. 1999. Redoximorphic Features for Identifying Aquatic Conditions. Technical Bulletin 301. North Carolina Agricultural Research Service, North Carolina State University, Raleigh, North Carolina.



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SOURCE: ESRI, 2005; King County, 2007

NE 45th Street Viaduct. 208305

Figure 1

Vicinity Map

Seattle, Washington

SOURCE: ESRI, 2005; King County, 2007 (2002 Aerial Photo)

NE 45th Street Viaduct. 208305

Figure 2

Project Limits

Seattle, Washington

REGION NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.
10	WA	?	1

WETLAND D EXTENDS NORTH, BEYOND PROJECT LIMITS

WETLAND D

PROPOSED MSFF WALL

NE 45TH ST VIADUCT

24TH AVE NE

24TH AVE NW

WETLAND E

DP8 DP9 DP13 DP15 DP16 DP17 DP11 ~DP10

LEGEND

- WETLAND
- WETLAND BOUNDARY
- WETLAND BUFFER
- DP# ⊕ DATA PLOT LOCATION
- ~DP# ⊕ APPROX. DATA PLOT LOCATION

FIGURE 3 WETLANDS AND BUFFERS

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VAULT SERIAL NO. ?
REVISIONS
MARK | DATE | CHK'D'BY | REV'D | DESCRIPTION

exeltech
Lacey, WA • Seattle, WA • Portland, OR

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APPROVED FOR ADVERTISING
FRED PODESTA
DEPARTMENT OF EXECUTIVE ADMINISTRATION
SEATTLE, WASHINGTON . . . . . 20 . .

BY: . . . . . DIRECTOR, CONTRACTING SERVICES

NAME OR INITIALS AND DATE	INITIALS AND DATE
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ALL WORK DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.	

City of Seattle
Seattle Department of Transportation

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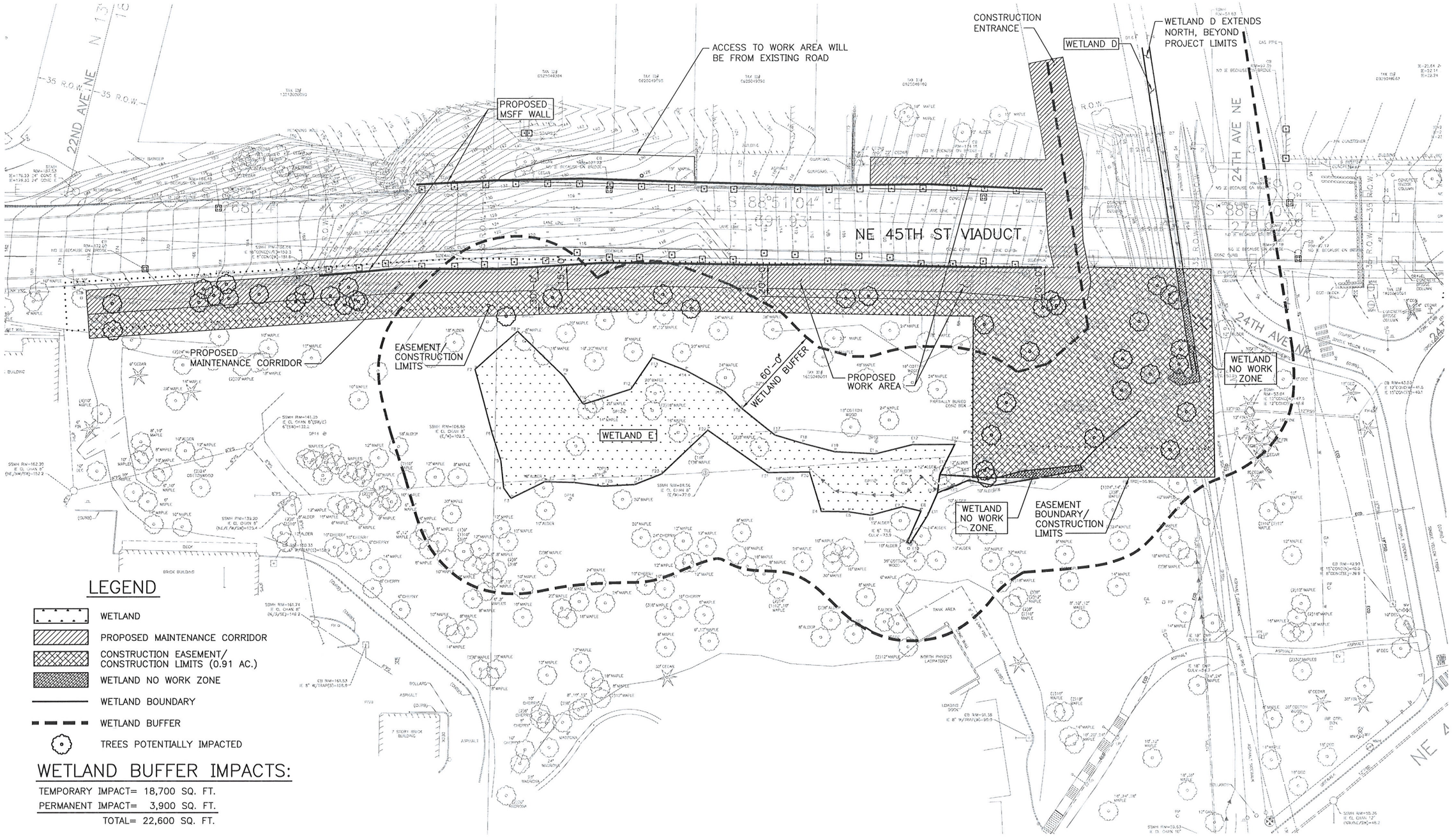
FUND: . . . . . .
SCALE: H. 1"=20', V. 1"=10' INSPECTOR'S BOOK . . . . . .

NE 45TH STREET VIADUCT WEST APPROACH REPLACEMENT ALTERNATIVE 3B

JOB NO.	
PC	TS4280A
R/W	?
CO	?
VAULT PLAN NO.	?
SHEET	OF

REGION NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.
10	WA	?	1



LEGEND

- WETLAND
- PROPOSED MAINTENANCE CORRIDOR
- CONSTRUCTION EASEMENT/ CONSTRUCTION LIMITS (0.91 AC.)
- WETLAND NO WORK ZONE
- WETLAND BOUNDARY
- WETLAND BUFFER
- TREES POTENTIALLY IMPACTED

WETLAND BUFFER IMPACTS:

TEMPORARY IMPACT=	18,700 SQ. FT.
PERMANENT IMPACT=	3,900 SQ. FT.
TOTAL=	22,600 SQ. FT.

FIGURE 4 WETLAND BUFFER IMPACTS AND PROPOSED MAINTENANCE CORRIDOR

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NE 45TH STREET VIADUCT WEST APPROACH REPLACEMENT ALTERNATIVE 3B

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VAULT PLAN NO.	?
SHEET	OF