

## **Attachment E**

### **Cultural and Historic Resources Documentation and Correspondence**

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U.S. Department  
of Transportation  
Federal Transit  
Administration

REGION X  
Alaska, Idaho, Oregon,  
Washington

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December 12, 2016

Dr. Allyson Brooks  
State Historic Preservation Officer  
1063 S. Capital Way, P.O. Box 48343  
Olympia, WA 98504-8343

**DAHP Log: 100611-07-FTA**

**RE: Sound Transit Lynnwood Link Extension  
Proposed Revision to Area of Potential Effect**

Dear Dr. Brooks:

On July 10, 2015, the Federal Transit Administration (FTA) issued the Record of Decision (ROD) for the Lynnwood Link Extension Project, based on the April 2015 Final Environmental Impact Statement (FEIS). The Federal Highway Administration (FHWA) issued its own ROD for on August 31, 2015. As part of the environmental documentation process, FTA determined that the project would not have an adverse effect on historic properties within the area of potential effects identified for the project. DAHP concurred with that finding on November 13, 2014.

In the last 18 months, Sound Transit has advanced the Project design while collaborating with agencies and jurisdictions in the corridor to start securing permits. As part of the final design process, Sound Transit has identified some mitigation work that would occur in two wetland areas outside the Project's Area of Potential Effect (APE).

This letter (a) describes the mitigation work and associated cultural assessment planned for each site; (b) invites your comments on a revised APE for the Project which includes these areas; and (c) invites your comments on the preconstruction testing that Sound Transit proposes at each site.

#### **Area of Potential Effect**

In June 2012, SHPO concurred with the APE for the Lynnwood Link Extension, which was defined as all areas within a 200-foot-wide buffer on either side of the center of the proposed light rail guideway alignments, including at-grade or elevated sections. As shown in the blue lines in Figure 1 (attached), it also included areas within 200 feet of the boundaries of stations, parking structures, and ancillary facilities to be constructed as part of the proposed project.

The new proposed mitigation sites are parks Ronald Bog Park, in the City of Shoreline, and Ballinger Park, in Mountlake Terrace. Figures 1 and 2 show the proposed APEs, including expected areas of potential ground disturbance, staging, and access.

### **Proposed Wetland Mitigation Sites and Work**

Ronald Bog Park: This 13.4-acre park is just west of I-5. It is a passive-use park with a small conifer arboretum, a lake, and a large grassy area north of the lake that allows easy public access to the lake from the parking area. The lake was formed when a peat bog was mined in the 1950's. In the 1960's, its northeast corner was filled with what appears to be construction debris from I-5; the fill was seeded over and is now the large grassy area. Sound Transit proposes to remove enough fill material next to the lake to establish 1.2 acres of new wetlands, and would also create a wetland buffer in the upland area north of the created wetland. To protect the mitigation site, Sound Transit would develop a new trail to the lake, east of the new wetlands.

Ballinger Park: This park lies north of Lake Ballinger between I-5 and SR 99. Purchased by the City in 2013, the 55-acre site was previously a golf course. Its western portion includes Hall Creek and numerous small ponds with adjacent wetlands. The City's 2015 Ballinger Park Master Plan includes wetlands and other natural features connected by a network of pedestrian pathways. Sound Transit proposes to remove a small area of old golf course next to the lake in the western part of the park and reestablish about 0.1 acre of wetlands, plus a wetland buffer, consistent with the City's park master plan.

### **Preliminary Cultural Assessment Review of Proposed Mitigation Sites**

On November 17, 2016, Dr. Chris Lockwood, Geoarchaeologist at Environmental Science Associates, completed a preliminary review of the DAHP WISAARD database and Statewide Predictive Model (SPM), historic photos, topographic maps, geological maps, soils surveys, and geotechnical borings previously completed near Ronald Bog Park and Lake Ballinger.

The SPM classifies Ronald Bog Park as High Risk for archaeological resources. The bog is situated on an extensive glacial till plain with near surface deposits mapped as Vashon glacial till. The bog itself, however, is within a slight depression. At the end of the Pleistocene, the depression was likely a post-glacial pond; however, during the Holocene, the area slowly filled with peat, as well as some sediment washed or blown in from surrounding uplands, creating the bog. No USDA soils data is available for this location, but natural soil types associated with similar settings include peat, and nearby geotech borings reveal up to 9 feet of buried peat. There are no recorded archaeological sites within a mile of the park. The park has not previously been subject to cultural resources assessment. Based upon the environmental and depositional setting, ESA finds this mitigation area to have a High Sensitivity for intact archaeological resources, which may be deeply buried beneath several feet of imported fill and native peat. Peat can preserve rarely-preserved organic artifacts, such as baskets, cordage, and wooden items.

The SPM classifies Lake Ballinger as High Risk to Very High Risk for archaeological resources. This glacial lake is located along a glacial upland containing various Vashon-aged deposits, including advance outwash, till, and recessional outwash. The lake itself, however, is fringed by Holocene-aged deposits of poorly drained fluvial sand and gravel with some organic-rich mud. Soils within the fringing areas consist of peat. Residential and golf course development have altered the lake margin, but historic photos and maps do not reveal the amount of filling or grading. The only archaeological site within a mile of the lake is 45-SN-531, a segment of the Seattle-Everett Interurban railway line, and it is well outside of the proposed mitigation area. The mitigation area has not previously been subject to cultural resources assessment. Based upon the



environmental and depositional setting, ESA finds the Lake Ballinger mitigation area to have a High to Very High Sensitivity for intact archaeological resources, possibly deeply buried in peat.

**Proposed Preconstruction Testing and Survey Work**

The preconstruction testing and survey work includes:

- (1) *Wetland delineation and site investigation* to determine groundwater monitoring device locations; ground disturbance will include 18-inch shovel pits to identify soil type.
- (2) *Wetland survey* (requiring no ground disturbance).
- (3) *Groundwater monitoring well installation and hazardous materials investigation* using equipment, possibly involving use of a backhoe. Piezometer groundwater wells would extend from the soil surface to below the water table – which we anticipate to be at about the elevation of surface of the adjacent waterbody.

Sound Transit will not have specific locations of disturbance and depths of disturbance until it performs the initial site investigation and wetland delineation. After the initial site visit, Sound Transit will prepare a groundwater monitoring plan that will identify the location of wells.

At Ronald Bog, Sound Transit’s consultant will use a backhoe to dig a series of test pits to explore the soil conditions throughout the mitigation area. Soils encountered in each test pit will be logged according to the material makeup, checked for the presence and types of debris, and examined for field evidence of contamination. Where evident, the logs will also indicate the demarcation between imported fill and native soils. About 8 to 12 test pit locations are planned to cover the spatial area of the mitigation area. They will likely be excavated to 10 or 12 feet or until groundwater is encountered, then backfilled with the excavated soils and compacted.

Soil samples will be collected for analysis where signs of contamination exist, if any, and at random (various depths, fill types, and random test pits) for analysis.

Sound Transit will have an Unanticipated Discovery Plan (UDP) in place for the preconstruction testing as well as the eventual mitigation work. Because of the degree of ground disturbance and the sensitivity of the site, Sound Transit will have an archaeological monitor at the Ronald Bog site during the backhoe work. After preconstruction testing at the two sites, Sound Transit will submit a cultural resources assessment report to inform decisions about actual mitigation work.

If you have any questions, please contact Dan Drais at (206) 220-4465 or [daniel.drais@dot.gov](mailto:daniel.drais@dot.gov) or Steve Kennedy at (206) 398-5302 or at [steven.kennedy@soundtransit.org](mailto:steven.kennedy@soundtransit.org). Thank you for your assistance.

Sincerely,



Daniel G. Drais

Attached: Figures 1, 2, and 3

cc (email): Steve Kennedy, Sound Transit



Allyson Brooks Ph.D., Director  
State Historic Preservation Officer

December 22, 2016

Mr. Daniel Drais  
Federal Transit Administration  
915 2nd Avenue  
Seattle, WA 98174-1002

In future correspondence please refer to:  
Project Tracking Code: 100611-07-FTA  
Property: Sound Transit's Lynnwood Link Extension Light Rail Project  
Re: Revised APE, Wetland Testing

Dear Mr. Drais:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP) and providing a description of the proposed archaeological testing at the Ronald Bog Park and Ballinger Park mitigation areas. The proposal has been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. I am fine with your intention of linking the archaeological testing with the wetland mitigation testing for both locations. I look forward to seeing the results of the testing codified in a report at the conclusion of this effort but prior to any additional testing beyond what was described in your letter.

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer (SHPO) in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR 800. Also, we appreciate receiving copies of any correspondence or comments from concerned tribes and other parties that you receive as you consult under the requirements of 36 CFR 800.4(a)(4). Should additional information become available, our assessment may be revised.

Finally, please note that in order to streamline our responses, DAHP requires that all documents related to project reviews be submitted electronically. Correspondence, reports, notices, photos, etc. must now be submitted in PDF or JPG format. For more information about how to submit documents to DAHP please visit: <http://www.dahp.wa.gov/programs/shpo-compliance>. To assist you in conducting a cultural resource survey and inventory effort, DAHP has developed guidelines including requirements for survey reports. You can view or download a copy from our website.

Thank you for the opportunity to review and comment. If you have any questions, please contact me.

Sincerely,

Matthew Sterner, M.A.  
Transportation Archaeologist  
(360) 586-3082  
[matthew.sterner@dahp.wa.gov](mailto:matthew.sterner@dahp.wa.gov)





U.S. Department  
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**Federal Transit  
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August 11, 2017

Dr. Allyson Brooks  
State Historic Preservation Officer  
Washington Department of Archaeology and Historic Preservation  
1063 S. Capital Way, P.O. Box 48343  
Olympia, WA 98504-8343

**Subject: Sound Transit Lynnwood Link Extension  
Area of Potential Effect Boundary Revision and Eligibility Determination,  
and Testing Results for Project Tracking Code: 100611-07-FTA  
DAHP Log: 100611-07-FTA**

Dear Dr. Brooks:

On July 10, 2015, the Federal Transit Administration (FTA) issued a Record of Decision (ROD) for the Lynnwood Link Extension Project (Project), based on a Final Environmental Impact Statement (FEIS) dated April 3, 2015. The Project will extend the Sound Transit Link Light Rail system from Northgate in Seattle into Shoreline, Mountlake Terrace and Lynnwood in Snohomish County. As part of the Section 106 process conducted in coordination with the FEIS for the Project, FTA identified the Area of Potential Effects (APE) for the Project to be generally one block (approximately 200 feet) on either side of at-grade or elevated project components, and a similar distance around station and maintenance facility locations. On October 8, 2014, FTA determined that the Project would have no adverse effects on historic properties. The State Historic Preservation Officer (SHPO) concurred with this determination on November 6, 2014.

**APE Boundary Revision and Eligibility Determination.** Since the 2015 FEIS and ROD, Sound Transit has collaborated with the City of Mountlake Terrace and other agencies with jurisdiction to finalize the design and secure permits. As part of this work, the Project design has been refined to include the acquisition of eight residences to create a temporary parking lot during construction at the Mountlake Terrace Station. The eight residences are located just east of the station, on 59th Place West in Mountlake Terrace. Four of the residences are within the existing APE for the Project. These four residences were surveyed during the Section 106 process, and determined by FTA to be not eligible for the National Register of Historic Places (NRHP). The other four residences are located immediately outside of the Project APE to the east, and consequently were not surveyed during the Section 106 process conducted for the Project. As a result of the Project design refinement described

August 11, 2017

Page 2

above, FTA proposes to revise the boundary of the APE to include the four additional residences. **Attachment A** to this letter depicts the existing (concurrent) APE boundary, and the proposed APE boundary revision to incorporate the four additional residences, located at 23503, 23505, 23507, and 23509 59th Place West in Mountlake Terrace. Sound Transit has prepared historic resource analysis documentation (see **Attachment B**), and Historic Property Inventory forms for the four residences, and has uploaded these forms to the Department of Archaeology and Historic Preservation (DAHP) online database. Based on a review of this documentation, FTA has determined that the four residences located within the revised APE boundary are not eligible for listing on the NRHP.

**Testing Results for Project Tracking Code: 100611-07-FTA. Archaeological.** As part of Final Design for the Project, Ronald Bog Park, located in Shoreline, Washington, has been proposed as a wetland mitigation site. On December 22, 2016, FTA revised the APE in consultation with DAHP, to include this park for potential wetland mitigation. Given that DAHP's predictive model mapping identified this park as "High Risk" with "survey highly advised" (see **Attachment C**), concurrent with this APE revision, FTA and Sound Transit committed, in consultation with DAHP, to conduct archaeological monitoring during early preconstruction geotechnical exploration work in the park. Planned early exploration work included geotechnical borings, test pits, and the use of mechanical backhoes. The intent was that data recovered from monitoring of this early preconstruction work would inform future archaeological/monitoring work once wetland mitigation site work got underway.

The early preconstruction geotechnical exploration work has since been completed. Results of archaeological monitoring of 16 geotechnical test pits revealed no evidence for archaeological remains or potential cultural indicators. Therefore, FTA recommends that no further archaeological work be conducted at the proposed wetland mitigation site at Ronald Bog Park. **Attachment D** includes the results of the archaeological testing. Pursuant to the ROD for the Project, an Inadvertent Discovery Plan (IDP) will be prepared by FTA and Sound Transit. FTA and Sound Transit will coordinate with DAHP and tribes to review the IDP prior to project construction.

We would appreciate any comments you may have concerning the APE boundary revision or the archaeological work at Ronald Bog Park within 30 days of receipt of this letter. If you have any questions, please contact Mark Assam, FTA, at (206) 220-4465 or by email [mark.assam@dot.gov](mailto:mark.assam@dot.gov) or Elma Borbe, Sound Transit, at (206) 398-5445 or by email at [elma.borbe@soundtransit.org](mailto:elma.borbe@soundtransit.org).

Thank you for your consultation on the Project.

Sincerely,

**AMY M. CHANGCHIEN**

Digitally signed by AMY M. CHANGCHIEN  
DN: c=US, o=U.S. Government, ou=DOT FTASeattleWA,  
ou=FTA FTASeattleWA, cn=AMY M. CHANGCHIEN  
Date: 2017.08.11 15:26:48 -07'00'

Amy Changchien  
Director, Office of Planning and Program Development

Cc: Elma Borbe, Sound Transit

Attachments





232nd St SW

177



236th St SW

237th St SW

237th St SW

236th Pl W

234th St SW

235th St SW

236th St SW

237th St SW

238th St SW

239th St SW

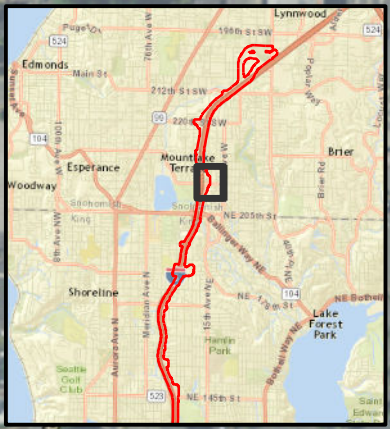
239th Pl SW

58th Ave W

58th Ave W

239th Pl W

581



Basemap: NAIP 2015

-  Parcels
-  Concurred APE
-  Revised APE



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# memorandum

date May 10, 2017

to Steven Kennedy, Senior Environmental Planner  
Sound Transit

from Alicia Valentino, Ph.D., and Chris Lockwood, Ph.D.

subject Contract No. D120673, Work Order 72 – NEPA/SEPA Support for the Lynnwood Link Extension, Mountlake Terrace Supplemental Historic Property Inventory (DAHP #100611-07-FTA)

Environmental Science Associates (ESA) was retained by Sound Transit (ST) to support the Lynnwood Link Extension by inventorying and recording four historic-aged (older than 50 years) single-family residences along 59<sup>th</sup> Place W in Mount Lake Terrace, Snohomish County, Washington. The properties are located within Township 27 North, Range 04 East, Section 33, Willamette meridian, on the Edmonds East, Washington 7.5' series topographic map (Figure 1). Sound Transit is proposing to acquire and demolish the residences to create temporary parking during construction at the Mountlake Terrace Station located adjacent to Interstate 5 at 236<sup>th</sup> Street SW. The residences were not previously recorded or evaluated during project review (DAHP Project #100611-07-FTA FTA and 2012-11-00156, Lynnwood Link 3).

## **Project Description**

The Lynnwood Link Extension Project (Project) will extend the Sound Transit Link Light rail system from Northgate in Seattle into Shoreline, Mountlake Terrace, and Lynnwood in Snohomish County. It will help implement the Puget Sound Regional Council's (PSRC) VISION 2040 (PSRC 2009, updated 2014) and the Sound Transit Regional Transit Long Range Plan (Sound Transit 2005, updated 2014) and is part of the Sound Transit 2 (ST2) Plan of regional transit investments. The 8.5-mile project corridor generally follows Interstate 5 (I-5), the major north-south freeway through the state and the primary route serving a large commuter market in one of the most densely developed urbanized areas in the Pacific Northwest.

One element of the Project is construction of temporary parking during construction at the Mountlake Terrace Station located adjacent to Interstate 5 at 236<sup>th</sup> Street SW. Proposed parking construction will require demolition of four historic-aged (older than 50 years) single-family residences along 59<sup>th</sup> Place W (Figure 2).

## **Regulatory Background**

The Project is partially funded by the Federal Transit Administration (FTA). As a federally-funded project, the Project is subject to Section 106 of the National Historic Preservation Act of 1966 (NHPA as amended) and 36 CFR Part 800. Section 106 requires that federal agencies identify and assess the effects of federally assisted

undertakings on historic resources, archaeological sites, and traditional cultural properties and to consult with others to find ways to avoid or mitigate adverse effects.

The FTA is the lead federal agency under the National Environmental Policy Act (NEPA) on the project and is responsible for required findings and determinations (36CFR 800.2(a)(3)). ST is the project proponent and the lead agency under the State Environmental Policy Act (SEPA). FTA has delegated authority to ST for examining cultural resources and communicating with the parties concerning such examinations (CFR 800.2(c)(4)). Potentially concerned parties include: Muckleshoot Indian Tribe, Suquamish Tribe, Tulalip Tribes, Snoqualmie Tribe, Duwamish Tribe, the State Historic Preservation Office (SHPO), and the FTA. The SHPO advises and assists federal agencies with complying with Section 106 responsibilities and cooperates with local agencies (800.2(c)(1)(i)).

**Methods**

On April 27, 2017, ESA photo-documented the front of each residence from public right-of-way. ESA examined property cards for each of the four residences at the Washington State Archives - Puget Sound Regional Branch in Bellevue. Evaluations are based upon review of current and historic assessor records (real property record cards), newspaper articles, University of Washington Digital Collections, Washington State Digital Archives, Snohomish County Digital Archives, and HistoryLink.org.

**Table 1. Historic-Aged Properties Inventoried for the Sound Transit Lynnwood Link / Mountlake Terrace Supplemental Historic Property Inventory.**

| Map #* | Address / Name                 | Snohomish County Assessor Parcel Number | National Register of Historic Places recommendation | DAHP Property # |
|--------|--------------------------------|---|---|-----------------|
| 1      | 23503 59th Place W / Residence | 00524100001100                          | Recommended Not Eligible                            | 220069          |
| 2      | 23505 59th Place W / Residence | 00524100001000                          | Recommended Not Eligible                            | 220070          |
| 3      | 23507 59th Place W / Residence | 00524100000900                          | Recommended Not Eligible                            | 209822          |
| 4      | 23509 59th Place W / Residence | 00524100000800                          | Recommended Not Eligible                            | 209822          |

\*Numbers key to Figure 2

**Results and Recommendation**

All four properties are Ranch-style residences constructed in 1954 by an unknown developer. ESA did not identify any associations with significant events or people (NRHP Criterion A and B). Further, none of the residences appear to be outstanding examples of the Ranch style (NRHP Criterion C). Therefore, as discussed in the attached Washington State Department of Archaeology and Historic Preservation Historic Property Inventory Forms, each of the four residences is recommended Not Eligible for listing in the National Register of Historic Places (NRHP).





**Figure 1**  
Location of the Inventoried Properties

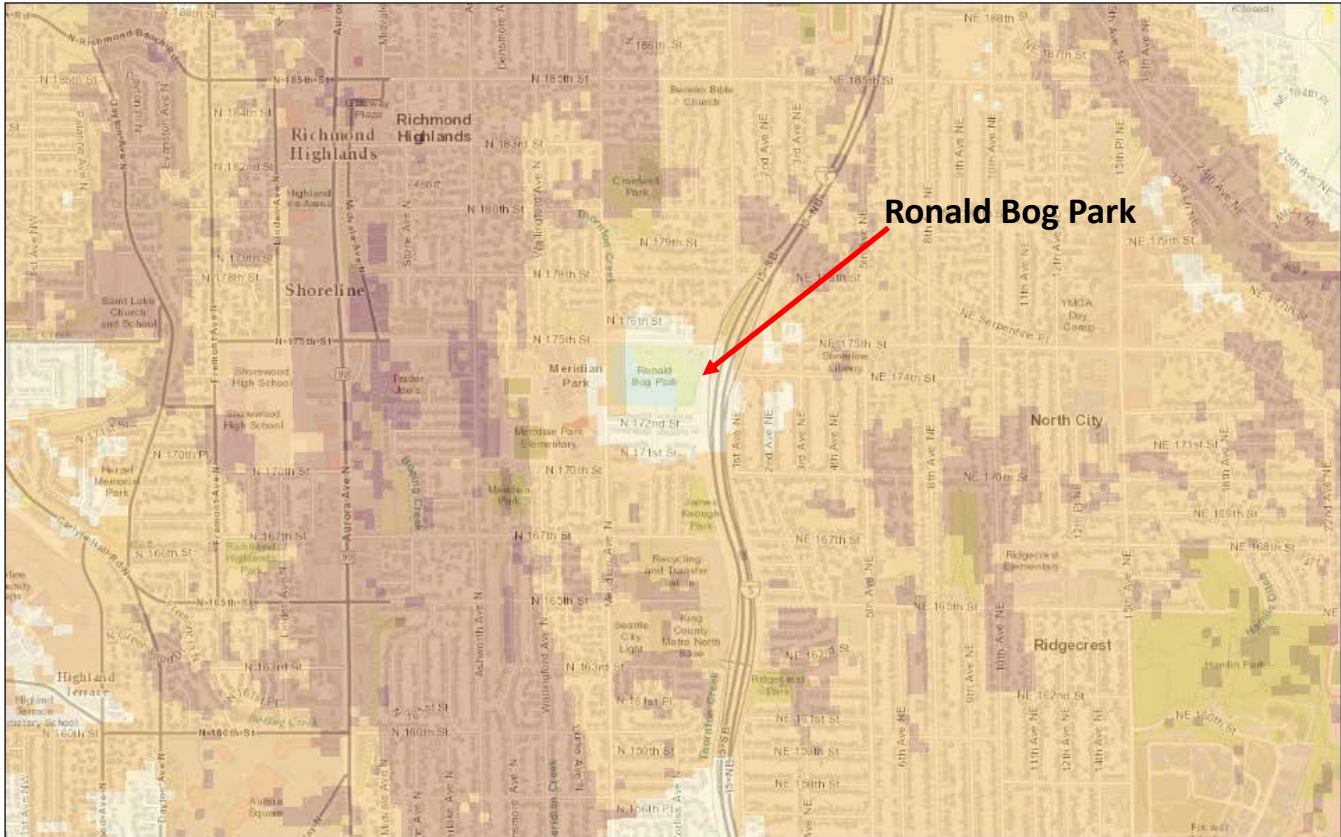


**Figure 2**  
Parcel map -- properties evaluated as part of this study denoted by yellow stars (Source: Snohomish County Online Property Information 2017)



# Attachment C: DAHP Predictability Map

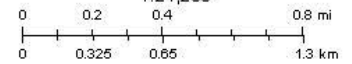
Department of Archaeology and Historic Preservation



July 25, 2017

1:24,263

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|--|---|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #8B4513; border: 1px solid black;"></span> Survey Contingent Upon Project Parameters: Low Risk            | <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFFACD; border: 1px solid black;"></span> Survey Highly Advised: High Risk      |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #D2691E; border: 1px solid black;"></span> Survey Contingent Upon Project Parameters: Moderately Low Risk | <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFFF00; border: 1px solid black;"></span> Survey Highly Advised: Very High Risk |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFD700; border: 1px solid black;"></span> Survey Recommended: Moderate Risk                              |   |



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey,



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# memorandum

date April 17, 2017

to Steven Kennedy, Senior Environmental Planner  
Sound Transit

from Chris Lockwood, Ph.D., and Tom Ostrander, M.Sc.

subject Contract No. D120673, Work Order 72 – NEPA/SEPA Support for the Lynnwood Link, Cultural Resource Monitoring of Geotechnical Testing at Ronald Bog Park Project, King County, Washington.

Environmental Science Associates (ESA) was retained by Sound Transit (ST) to support the Lynnwood Link Extension by conducting archaeological monitoring during geotechnical investigations in advance of proposed wetland mitigation at Ronald Bog Park in Shoreline, King County, Washington. Ronald Bog Park is located within Township 26 North, Range 04 East, Section 08, Willamette meridian, on the Edmonds East, Washington 7.5' series topographic map (Figure 1). Ronald Bog Park is on King County parcel # 0826049048, and is owned by the City of Shoreline.

## **Project Description**

The Lynnwood Link Extension Project (Project) will extend the Sound Transit Link Light rail system from Northgate in Seattle into Shoreline, Mountlake Terrace, and Lynnwood in Snohomish County. It will help implement the Puget Sound Regional Council's (PSRC) VISION 2040 (PSRC 2009, updated 2014) and the Sound Transit Regional Transit Long Range Plan (Sound Transit 2005, updated 2014) and is part of the Sound Transit 2 (ST2) Plan of regional transit investments. The 8.5-mile project corridor generally follows Interstate 5 (I-5), the major north-south freeway through the state and the primary route serving a large commuter market in one of the most densely developed urbanized areas in the Pacific Northwest.

One element of the Project is the construction of wetland mitigation sites. Ronald Bog Park is one proposed location for wetland mitigation, although it is not one of the mitigation sites listed in the Final Environmental Impact Statement (FEIS) (Sound Transit and Federal Transit Administration 2015). Wetland mitigation will involve removing placed fill that currently covers the park, grading to match slope, and plant restoration. To facilitate design and engineering, ST excavated ten geotechnical test pits and six piezometer (monitoring well) pits within the Area of Potential Effects (APE) (Figure 2).

## **Regulatory Background**

The Project is partially funded by the Federal Transit Administration (FTA). As a federally-funded project, the Project is subject to Section 106 of the National Historic Preservation Act of 1966 (NHPA as amended) and 36 CFR Part 800. Section 106 requires that federal agencies identify and assess the effects of federally assisted undertakings on historic resources, archaeological sites, and traditional cultural properties and to consult with others to find ways to avoid or mitigate adverse effects.

The FTA is the lead federal agency under the National Environmental Policy Act (NEPA) on the project and is responsible for required findings and determinations (36CFR 800.2(a)(3)). ST is the project proponent and the lead agency under the State Environmental Policy Act (SEPA). FTA has delegated authority to ST for examining cultural resources and communicating with the parties concerning such examinations (CFR 800.2(c)(4)). Potentially concerned parties include: Muckleshoot Indian Tribe, Suquamish Tribe, Tulalip Tribe, Snoqualmie Tribe, Duwamish Tribe, the State Historic Preservation Office (SHPO), and the FTA. The SHPO advises and assists federal agencies with complying with Section 106 responsibilities and cooperates with local agencies (800.2(c)(1)(i)).

## **Background**

The near surface geological sediments across the APE are mapped as Vashon-age glacial till and advance glacial outwash (Minard 1983), deposited during last advance and retreat of glacial ice into the Seattle area approximately 17,400 to 16,400 years ago. As glacial ice retreated, it left a depression in which silt and peat accumulated, forming Ronald Bog.

There are no recorded precontact archaeological sites within one mile of the APE. The APE is located within the traditional territory of the Duwamish, Suquamish, Snoqualmie, Snohomish, and Tulalip Tribes who are considered part of a shared Southern Coast Salish culture group. Descendants of these tribes are members of the federally-recognized: Snoqualmie Tribe, Tulalip Tribe, Suquamish Tribe, and Muckleshoot Indian Tribe (US Bureau of Indian Affairs 1996, 1997; Haeberlin and Gunther 1930; Miller and Blukis Onat 2005; Spier 1936). The Snohomish group spoke a common dialect of the Northern Lushootseed language while the Duwamish, Suquamish, Snoqualmie, and Tulalip spoke a common dialect of the Southern Lushootseed language (Suttles and Lane 1990:485). Substance patterns among the Southern Coast Salish would include seasonal plant gathering, fishing, hunting, and preserving resources in winter months. Wetland areas such as Ronald Bog would have provided wild cranberries, as well as a variety of plant resource such as rushes and reeds, for consumption, medicinal, and other uses (Shoreline Historical Museum, 2014; Berger 2008).

One of the areas earliest inhabitants of and namesake was Judge James Ronald a southerner who served as mayor of Seattle in 1892-1893 (Bagley, 1929:210,618; Seattle Times, 2006). Ronald owned a number of tracts in the area and agreed to build a small station stop on his land and give right of way to the Interurban rail line. This line first connected Ballard to North Seattle and upon completion in 1910, connected Seattle to Everett. The station stop, at North 175th and Midvale, was named for the judge against his wishes, as well as a Ronald School built in 1906, when he donated land for the building (History Link, 1999). Ronald Bog Park occupies land that was once owned by WB Wilson, H.H Hamlin, and Interurban Tracts (Anderson Map Company 1907; Kroll 1912, 1926; Metsker 1936). Online resources did not provide further detail on these land owners. A 1937 aerial shows a small structure in the vicinity of the park and by 1954 evidence of peat mining can be seen (King County 1936, 1954). Ronald Bog Park was once an open cranberry marsh, but once mining of the peat at Ronald Bog began in the 1940's and continued through the 1960's it created the pond (Shoreline Historical Museum, 2014; Landau 2010).

A records search of the Washington State Department of Archaeology and Historic Preservation database on March 2, 2017 showed no archaeological sites recorded within the APE, and no cultural resources survey has been conducted within or adjacent to Ronald Bog Park. The Department of Archaeology and Historic Preservation statewide predictive model describes the APE as High Risk, survey advised (DAHP 2010).

## **Methods**

Between February 15 and 17, 2017, ESA Archaeologist Tom Ostrander monitored mechanical excavation of ten geotechnical test pits (TP1 to TP10) and six piezometer pits (PZ1a, PZ1b, PZ2, PZ3a, PZ3b, and PZ3c) (Figure 2). Pits were excavated by a tracked mechanical excavator with a toothed bucket. Due to insufficient groundwater, PZ1a, PZ3a and PZ3b could not be used for monitoring groundwater. All pits measured approximately 1.0 meter long x 0.3 meter wide (3.3 feet x 1.0 foot) with terminal depths varying between 1.0 and 3.0 meters (3.3 to 9.9 feet) depending on groundwater levels and thickness of placed fill.

Archaeological monitoring consisted of examining pit walls and spoils for artifacts and potential cultural indicators, such as charcoal, fire-modified rocks, and burned soils. Recorded soils data include color; texture; gravel characteristics; soil structure; and presence/absence of organics, charcoal, oxidation and reduction.

## **Results and Interpretation**

No archaeological remains or potential cultural indicators were observed during monitoring.

The surface of the APE slopes gently down towards the south and west (Figure 3). Observed stratigraphy was generally consistent across the APE with approximately 1.0 to 1.2 meters (3 to 4 feet) of placed fill (gravelly silt loam and sandy loam with fragments of concrete and modern debris) overlying native soils (Figures 4 and 5; Appendix A). Native sediment layers were relatively fine-grained (silt loam) towards the south and west, but coarsened (contained more sand and gravel) towards the north and east. Only one pit (PZ3c) contained peat.

Results of monitoring appear consistent with the APE's geomorphological history. As glacial ice retreated at the end of the last Ice Age, the vicinity of the APE appeared as a depression or kettle lake within a glacial drift plain. The depression accumulated water and organic material, creating an anerobic environment and leading to the formation of peat. Agricultural activity occurred within the eastern part of the APE as early as 1937 (King County 1937); if archaeological remains had been present at that time, they may have been disturbed but not necessarily removed. By 1954 (King County 1954), however, peat mining had occurred over much of the parcel, creating a pond shoreline as far north as the vicinity of PZ2 and PZ3c, and resulting in grading as far north as North 175<sup>th</sup> Street. By this point, the potential for intact archaeological remains anywhere within the APE would have been substantially compromised. By the late 1960s, placement of construction debris reestablished the shoreline southward, approximately in its current position, and capped the landform.

## **Recommendation**

Based on the results of archaeological monitoring of 16 geotechnical test pits, which revealed no evidence for archaeological remains or potential cultural indicators, ESA recommends no further archaeological work associated with the proposed wetland mitigation at Ronald Bog Park. ESA recommends that ST continue to distribute, implement, and follow the existing inadvertent discovery plan (IDP) that has been developed for the Lynnwood Link Extension.

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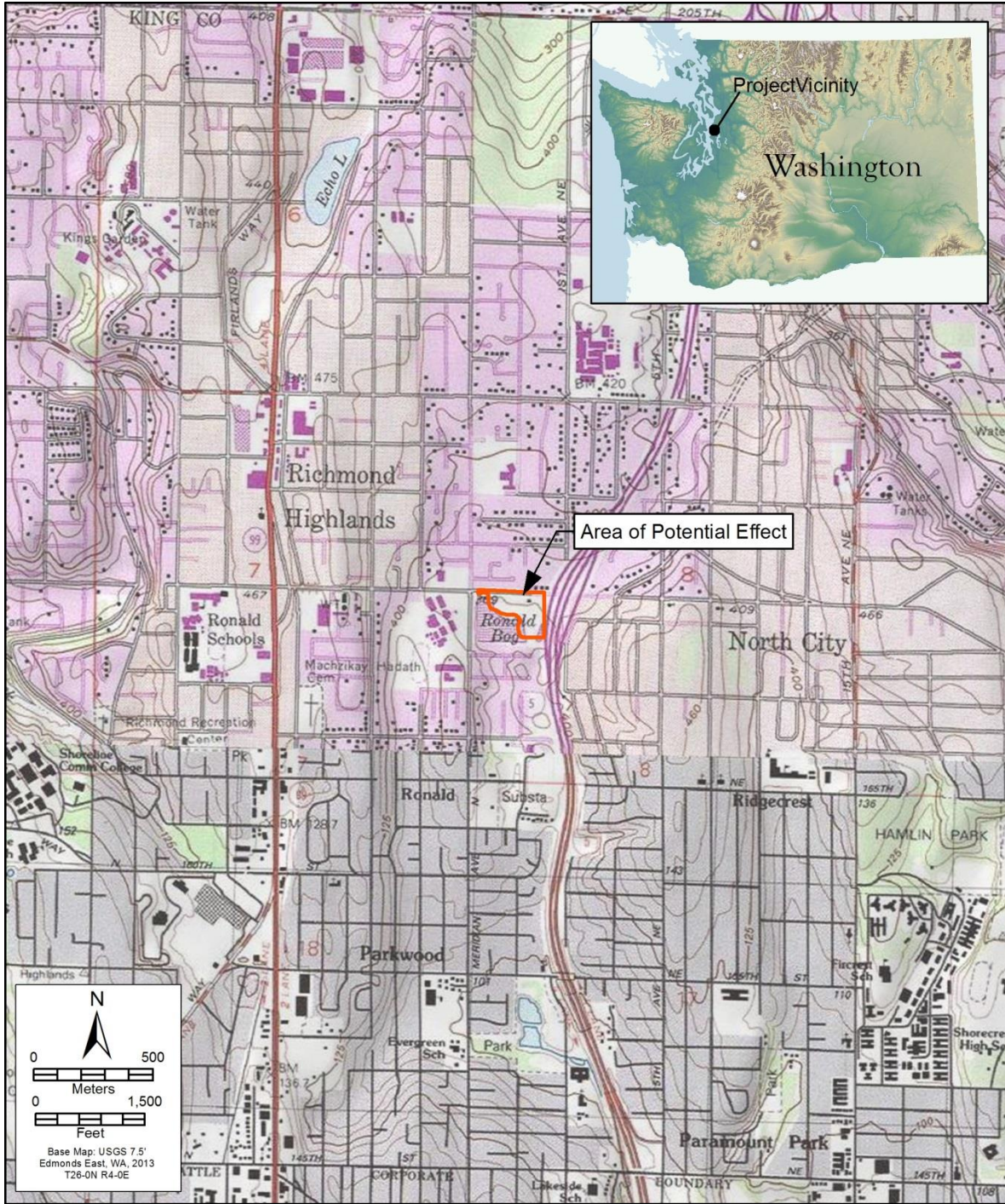
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SOURCE: USGS

**Figure 1**  
Lynwood Link Extension Ronald Bog Wetland Mitigation Project APE,  
Shoreline, Washington





SOURCE: Sound Transit, ESA

**Figure 2**  
 Location of subsurface geotechnical investigations for the Lynwood Link Ronald Bog Wetland Mitigation Project



SOURCE: ESA

**Figure 3**  
Overview of APE, view is to the southeast.





SOURCE: ESA

**Figure 4**  
Overview of TP 2, grey material is imported fill, darker material is native silt.



SOURCE: ESA

**Figure 5**  
Typical fill material containing concrete and modern debris.

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**Appendix A: Geotechnical Monitoring Table**

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| HOLE  | LAYER | DEPTH (cm) | TOOL                  | COLOR         | TEXTURE    | SAND MODE                | GRAVEL MODE                                    | CONSISTENCE     | PEDS                          | BOTTOM BOUNDARY | SOIL HORIZON        | SPECIAL FEATURES        | MODERN DEBRIS | CULTURAL | COMMENTS  |
|-------|-------|------------|-----------------------|---------------|------------|--------------------------|--|-----------------|-------------------------------|-----------------|---------------------|-------------------------|---------------|----------|---|
| PZ 1a | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | sandy loam | moderately-sorted fine   | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb      | abrupt smooth   | pedogenic A-horizon | organics                | yes           | no       |   |
| PZ 1a | 2     | 15-80      | excavator 30cm x 90cm | grayish-brown | loamy sand | poorly-sorted medium     | 15-35% coarse rounded                          | hard            | medium weak granular/crumb    | abrupt smooth   | fill                |                         | yes           | no       | Typical fill.   |
| PZ 1a | 3     | 80-135     | excavator 30cm x 90cm | brown         | sandy loam | moderately-sorted fine   | 5-15% moderately-sorted medium rounded         | hard            | fine weak granular/crumb      |                 | mixed               | trace charcoal organics | yes           | no       | Mixed native silt loam with fill contains large amounts of woody debris with concrete. Terminate on concrete.                                     |
| PZ 1b | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | sandy loam | moderately-sorted fine   | 15-35% coarse rounded-angular                  | soft            | fine weak granular/crumb      | abrupt smooth   | pedogenic A-horizon | organics                | yes           | no       |   |
| PZ 1b | 2     | 15-75      | excavator 30cm x 90cm | grayish-brown | loamy sand | moderately-sorted medium | 15-35% coarse rounded-angular                  | hard            | medium weak granular/crumb    | abrupt wavy     | fill                |                         | yes           | no       | Typical fill.   |
| PZ 1b | 3     | 75-165     | excavator 30cm x 90cm | dark brown    | silt loam  | well-sorted very fine    |  | moderately hard | medium weak subangular blocky |                 | A                   | organics                | no            | no       | Very organic silt not quite peat. 2 cm bed of fibrous woody debris at surface. Some large woody debris in layer. Appears intact.                  |
| PZ 2  | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | loamy sand | moderately-sorted fine   | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb      | clear wavy      | pedogenic A-horizon | organics                | yes           | no       |   |
| PZ 2  | 2     | 15-65      | excavator 30cm x 90cm | gray          | sand       | well-sorted fine         | 15-35% poorly-sorted medium rounded-angular    | hard            | fine weak subangular blocky   | abrupt smooth   | fill                | organics reduced        | yes           | no       | Redeposited till mixed with debris. Contains concrete and woody debris.   |
| PZ 2  | 3     | 65-120     | excavator 30cm x 90cm | brown         | loamy sand | poorly-sorted fine       | 15-35% cobble rounded                          | hard            | fine weak subangular blocky   | diffuse wavy    | mixed               | organics                | no            | no       | Mixed native silt loam with imported fill. Contains cinder block fragments.   |
| PZ 2  | 4     | 120-180    | excavator 30cm x 90cm | grayish-brown | sandy loam | moderately-sorted fine   | 5-15% moderately-sorted medium rounded         | soft            | structureless                 |                 | B                   | organics reduced        | no            | no       | Ground water makes observation difficult. Appears to be native silt loam with many fragments of large woody debris. Gravels may be from sidewall. |
| PZ 3a | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | sandy loam | moderately-sorted fine   | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb      | abrupt smooth   | pedogenic A-horizon | organics                | yes           | no       |   |

| HOLE  | LAYER | DEPTH (cm) | TOOL                  | COLOR         | TEXTURE    | SAND MODE                | GRAVEL MODE                                    | CONSISTENCE | PEDS                              | BOTTOM BOUNDARY | SOIL HORIZON        | SPECIAL FEATURES        | MODERN DEBRIS | CULTURAL | COMMENTS   |
|-------|-------|------------|-----------------------|---------------|------------|--------------------------|--|-------------|-----------------------------------|-----------------|---------------------|-------------------------|---------------|----------|--|
| PZ 3a | 2     | 15-80      | excavator 30cm x 90cm | grayish-brown | loamy sand | poorly-sorted medium     | 15-35% poorly-sorted coarse rounded            | hard        | medium weak granular/crumb        | abrupt smooth   | fill                |                         | yes           | no       |  |
| PZ 3a | 3     | 80-130     | excavator 30cm x 90cm | dark brown    | loamy sand | poorly-sorted fine       | 15-35% poorly-sorted medium rounded            | hard        | medium moderate subangular blocky | clear smooth    | mixed               | trace charcoal organics | yes           | no       | Mixed native silt with imported fill. Common fibrous organics.   |
| PZ 3a | 4     | 140-210    | excavator 30cm x 90cm | dark brown    | #N/A       | sand absent              |  | soft        | coarse weak angular blocky        |                 | A                   | organics                | no            | no       | Peat with beds of clayed sandy loam. Terminated due to no ground water.  |
| PZ 3b | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | sandy loam | moderately-sorted fine   | 5-15% moderately-sorted medium rounded-angular | soft        | fine weak granular/crumb          | abrupt smooth   | pedogenic A-horizon | organics                | yes           | no       |  |
| PZ 3b | 2     | 15-75      | excavator 30cm x 90cm | grayish-brown | loamy sand | poorly-sorted medium     | 15-35% poorly-sorted cobbley rounded-angular   | hard        | medium weak granular/crumb        | abrupt smooth   | fill                | organics                | yes           | no       | Typical fill.  |
| PZ 3b | 3     | 75-130     | excavator 30cm x 90cm | dark brown    | loamy sand | moderately-sorted fine   | 15-35% poorly-sorted coarse rounded            | hard        | medium weak granular/crumb        | abrupt smooth   | mixed               | organics                | yes           | no       | Mixed native with fill contains treated dimensional lumber.  |
| PZ 3b | 4     | 130-160    | excavator 30cm x 90cm | reddish-brown | silt       | sand absent              |  | soft        | medium weak angular blocky        |                 | A                   | organics                | no            | no       | Terminated due to no ground water.   |
| PZ 3c | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | sandy loam | moderately-sorted fine   | 5-15% moderately-sorted medium rounded-angular | soft        | fine weak granular/crumb          | abrupt smooth   | pedogenic A-horizon | organics                | no            | no       |  |
| PZ 3c | 2     | 15-70      | excavator 30cm x 90cm | grayish-brown | loamy sand | poorly-sorted medium     | 15-35% poorly-sorted coarse rounded-angular    | hard        | medium weak granular/crumb        | abrupt smooth   | fill                |                         | yes           | no       |  |
| PZ 3c | 3     | 65-180     | excavator 30cm x 90cm | brown         | sandy loam | poorly-sorted fine       | 15-35% moderately-sorted medium rounded        | hard        | medium weak granular/crumb        | abrupt smooth   | mixed               | organics                | yes           | no       | Large concrete chunks. Mixed fill with native silt.  |
| PZ 3c | 4     | 180-210    | excavator 30cm x 90cm | gleyed        | loam       | poorly-sorted fine       | <5% well-sorted fine rounded                   | very hard   | medium moderate angular blocky    | abrupt smooth   | C                   | reduced                 | no            | no       | Intact native. Reworked glacial colluvium, maybe glacially rafted material in lacustrine.                            |
| PZ 3c | 5     | 210-280    | excavator 30cm x 90cm | dark gray     | loamy sand | moderately-sorted medium |  | firm        | fine weak subangular blocky       |                 | C                   | organics reduced        | no            | no       | Contains fibrous organic with beds of darker organics which are more silty. Very plastic for a semi,met mostly sand. |
| TP 01 | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | silt loam  | moderately-sorted fine   | <5% well-sorted fine rounded                   | soft        | fine weak granular/crumb          | abrupt wavy     | pedogenic A-horizon | organics                | yes           | no       |  |

| HOLE  | LAYER | DEPTH (cm) | TOOL                  | COLOR         | TEXTURE    | SAND MODE                | GRAVEL MODE                                    | CONSISTENCE     | PEDS                            | BOTTOM BOUNDARY    | SOIL HORIZON        | SPECIAL FEATURES  | MODERN DEBRIS | CULTURAL | COMMENTS  |
|-------|-------|------------|-----------------------|---------------|------------|--------------------------|--|-----------------|---------------------------------|--------------------|---------------------|-------------------|---------------|----------|---|
| TP 01 | 2     | 15-120     | excavator 30cm x 90cm | dark gray     | sandy loam | poorly-sorted fine       | 5-15% moderately-sorted medium rounded-angular | hard            | fine weak subangular blocky     | clear wavy         |                     |                   | yes           | no       | concrete fragments; water at 110 cm   |
| TP 01 | 3     | 120-170    | excavator 30cm x 90cm | dark brown    | silt loam  | moderately-sorted medium | 15-35% poorly-sorted coarse rounded-angular    | hard            | fine weak subangular blocky     |                    | C                   | organics oxidized | no            | no       |   |
| TP 02 | 1     | 0-35       | excavator 30cm x 90cm | brown         | loamy sand | moderately-sorted fine   | 5-15% poorly-sorted medium rounded-angular     | soft            | fine weak granular/crumb        |                    | pedogenic A-horizon | organics          | yes           | no       | A-horizon developed in fill. Some concrete  |
| TP 02 | 2     | 35-110     | excavator 30cm x 90cm | grayish-brown | sand       | moderately-sorted medium | 15-35% moderately-sorted cobbley rounded       | moderately hard | structureless                   | abrupt smooth      |                     | fill              | yes           | no       | Same fill as TP1.   |
| TP 02 | 3     | 110-195    | excavator 30cm x 90cm | dark brown    | #N/A       | well-sorted very fine    |  | soft            | medium weak subangular blocky   |                    | B                   | organics reduced  | no            | no       | Wetland silts. Fibrous wood at top of layer. Gleyed beds present. Same material as dark brown silt. |
| TP 03 | 1     | 0-20       | excavator 30cm x 90cm | brown         | sandy loam | moderately-sorted fine   | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb        | abrupt wavy        | pedogenic A-horizon | organics          | no            | no       | A-horizon developed in fill.  |
| TP 03 | 2     | 20-80      | excavator 30cm x 90cm | grayish-brown | sand       | poorly-sorted medium     | 15-35% poorly-sorted cobbley rounded           | hard            | medium weak granular/crumb      |                    |                     | fill              | yes           | no       | Contains concrete.  |
| TP 04 | 1     | 0-7        | excavator 30cm x 90cm | brown         | loamy sand | well-sorted fine         | <5% moderately-sorted medium rounded-angular   | soft            | fine weak granular/crumb        | abrupt wavy        | pedogenic A-horizon | organics          | no            | no       |   |
| TP 04 | 2     | 7-85       | excavator 30cm x 90cm | grayish-brown | sand       | moderately-sorted fine   | 15-35% poorly-sorted coarse rounded            | hard            | medium weak granular/crumb      | diffuse irregular  |                     | fill              | yes           | no       |   |
| TP 04 | 3     | 85-110     | excavator 30cm x 90cm | dark brown    | #N/A       | very fine                |  | soft            | fine moderate subangular blocky | very abrupt smooth | A                   | organics reduced  | no            | no       | Very organic. Not quiet a peat though. Organics lack silt, also has beds of sand.                   |
| TP 04 | 4     | 110-180    | excavator 30cm x 90cm | reddish-brown | loamy sand | poorly-sorted fine       | 60-90%   | soft            | medium weak subangular blocky   |                    | B                   | organics oxidized | no            | no       | Contains coasts of organic silt. Strangely mixed energy. Not standard alluvium. Reworked wash?      |

| HOLE  | LAYER | DEPTH (cm) | TOOL                  | COLOR         | TEXTURE         | SAND MODE              | GRAVEL MODE                                    | CONSISTENCE     | PEDS                       | BOTTOM BOUNDARY | SOIL HORIZON        | SPECIAL FEATURES        | MODERN DEBRIS | CULTURAL | COMMENTS   |
|-------|-------|------------|-----------------------|---------------|-----------------|------------------------|--|-----------------|----------------------------|-----------------|---------------------|-------------------------|---------------|----------|--|
| TP 05 | 1     | 0-7        | excavator 30cm x 90cm | brown         | sandy loam      | moderately-sorted fine | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb   | abrupt smooth   | pedogenic A-horizon | organics                | yes           | no       |  |
| TP 05 | 2     | 7-75       | excavator 30cm x 90cm | dark gray     | sandy clay loam | poorly-sorted medium   | 15-35% poorly-sorted cobblely subrounded       | hard            | medium weak granular/crumb |                 | fill                |                         | yes           | no       |  |
| TP 06 | 1     | 0-10       | excavator 30cm x 90cm | dark brown    | sandy loam      | moderately-sorted fine | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb   | abrupt wavy     | pedogenic A-horizon | organics                | yes           | no       |  |
| TP 06 | 2     | 10-75      | excavator 30cm x 90cm | grayish-brown | sand            | poorly-sorted medium   | 15-35% poorly-sorted coarse rounded            | hard            | medium weak granular/crumb | diffuse smooth  | fill                | organics                | yes           | no       | Contains large fragments of concrete and common bricks and large woody debris.   |
| TP 06 | 3     | 75-95      | excavator 30cm x 90cm | gray          | sand            | moderately-sorted fine | 15-35% poorly-sorted coarse rounded            | hard            | structureless              | clear smooth    | fill                | organics                | yes           | no       |  |
| TP 06 | 4     | 95-180     | excavator 30cm x 90cm | brown         | sandy loam      | poorly-sorted medium   | 15-35% poorly-sorted cobblely rounded-angular  | moderately hard | fine weak granular/crumb   |                 | mixed               | organics                | yes           | no       | Mixed native silts with imported fill material. Contains concrete. Many small fibrous organics.                            |
| TP 07 | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | sandy loam      | moderately-sorted fine | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb   | abrupt wavy     | pedogenic A-horizon | organics                | yes           | no       |  |
| TP 07 | 2     | 15-65      | excavator 30cm x 90cm | grayish-brown | loamy sand      | poorly-sorted medium   | 15-35% poorly-sorted coarse rounded            | hard            | medium weak granular/crumb | clear smooth    | fill                |                         | yes           | no       |  |
| TP 07 | 3     | 65-150     | excavator 30cm x 90cm | brown         | loamy sand      | moderately-sorted fine | 15-35% moderately-sorted coarse rounded        | moderately hard | structureless              |                 | fill                | trace charcoal organics | yes           | no       | Clasts of clayed silt loam. Mix of native material with imported fill. Contains large chunks of concrete and modern glass. |
| TP 08 | 1     | 0-25       | excavator 30cm x 90cm | dark brown    | sandy loam      | moderately-sorted fine | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb   | diffuse wavy    | pedogenic A-horizon | organics                | yes           | no       | 0  |
| TP 08 | 2     | 25-45      | excavator 30cm x 90cm | grayish-brown | loamy sand      | poorly-sorted fine     | 15-35% coarse rounded-angular                  | hard            | fine weak granular/crumb   |                 | fill                |                         | yes           | no       | Typical fill found across the site with modern metal and plastic.  |
| TP 09 | 1     | 0-15       | excavator 30cm x 90cm | dark brown    | sandy loam      | moderately-sorted fine | 5-15% moderately-sorted medium rounded-angular | soft            | fine weak granular/crumb   | clear wavy      | pedogenic A-horizon | organics                | yes           | no       |  |



| HOLE  | LAYER | DEPTH (cm) | TOOL                  | COLOR         | TEXTURE    | SAND MODE              | GRAVEL MODE                                    | CONSISTENCE | PEDS                            | BOTTOM BOUNDARY | SOIL HORIZON        | SPECIAL FEATURES        | MODERN DEBRIS | CULTURAL | COMMENTS   |
|-------|-------|------------|-----------------------|---------------|------------|------------------------|--|-------------|---------------------------------|-----------------|---------------------|-------------------------|---------------|----------|--|
| TP 09 | 2     | 15-70      | excavator 30cm x 90cm | grayish-brown | loamy sand | poorly-sorted medium   | 15-35% poorly-sorted cobbley rounded           | hard        | medium weak granular/crumb      | abrupt smooth   | fill                | organics                | yes           | no       | Contains concrete and woody debris. Same fill.   |
| TP 09 | 3     | 70-90      | excavator 30cm x 90cm | gray          | sand       | moderately-sorted fine | 15-35% poorly-sorted medium rounded-angular    | very hard   | medium strong subangular blocky | abrupt smooth   | fill                | reduced                 | yes           | no       | Till used as fill.   |
| TP 09 | 4     | 90-12      | excavator 30cm x 90cm | brown         | loamy sand | poorly-sorted medium   | 5-15% poorly-sorted medium rounded             | hard        | fine weak granular/crumb        |                 | mixed               | trace charcoal organics | yes           | no       | Mixed native silts with fill. Contains class of brown native silt loam. Contains asphalt chunks. No intact native observed. Also contains woody debris and dimensional lumber. |
| TP 10 | 1     | 0-15       | excavator 30cm x 90cm | brown         | sandy loam | moderately-sorted fine | 5-15% moderately-sorted medium rounded-angular | soft        | fine weak granular/crumb        | clear wavy      | pedogenic A-horizon | organics                | yes           | no       |  |
| TP 10 | 2     | 15-140     | excavator 30cm x 90cm | grayish-brown | loamy sand | poorly-sorted medium   | 15-35% poorly-sorted coarse rounded-angular    | hard        | medium weak granular/crumb      | abrupt smooth   | fill                |                         | yes           | no       | Typical fill.  |
| TP 10 | 3     | 140-145    | excavator 30cm x 90cm | dark brown    | silt       | sand absent            |  | soft        | medium weak angular blocky      |                 | A                   | organics                | no            | no       | Fine peat. Almost no fibrous material. Almost an organic silt.   |