Summary

The Washington State Department of Transportation (WSDOT) is undertaking a series of substantial road, bridge, and interchange improvements along Interstate 405 (I-405) between the cities of Tukwila and Renton called the I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2), referred to as the Tukwila to Renton Project. The proposed project is located in Sections 22, 23, and 24 of Township 23 North, Range 4 East, and Sections 17, 19, 20, 30, and 31 of Township 23 North, Range 5 East, within the cities of Tukwila and Renton.

The National Historic Preservation Act requires federal agencies to consider the effects of their undertakings on historic properties. Historic properties can be prehistoric or historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). This document assists WSDOT and the Federal Highway Administration (FHWA) in identifying, evaluating, and assessing effects on historic properties.

Portions of the Area of Potential Effects (APE) are not currently available for archaeological study due to lack of funding and private property access. Standing structures were evaluated for the entire project APE, and archaeological resources only for the funded portion near SR 515 (Talbot Road). The remaining archaeological studies will be completed when funding and access are secured under the terms of a Section 106 Programmatic Agreement developed for the project under 36 CFR 800.14 (Appendix E).

The I-405 team evaluated eighty buildings, two bridges, and four archaeological sites. Of the historic buildings and structures evaluated in the entire APE, two are eligible for listing in the NRHP: the Renton Fire Station (Renton History Museum, 45KI209) and the James Nelsen House (45KI596). Neither will be affected by the project.

No NRHP-eligible archaeological sites were found in the funded portion of the APE near SR 515. Three archaeological sites, the Renton Civic Dump (45KI766), the Renton Coal Mine (45KI211), and the Talbot Road Dam and Retaining Walls (45KI767), are within the funded portion of the APE. These sites were evaluated, but were determined not eligible for listing in the NRHP.

Four known archaeological sites occur in the unfunded portion of the APE. These sites are: the Green River shell midden (45KI6); the Henry Moses Aquatic Center site (45KI686); the Puget Sound and Shore Railroad grade (45KI768), and an unnamed historic debris scatter (45KI452). The historic railroad grade is above ground and accessible, and was evaluated. It was determined to be not eligible for listing in the NRHP. Eligibility and effects to the remaining sites will be determined under the terms of the I-405 Programmatic Agreement when funding and access are secured.

The project will have no adverse effects on historic structures. Work in the funded and accessible portion will have no adverse effects on NRHP-eligible archaeological sites. Work in the remainder of the APE will be evaluated under the terms of the I-405 Programmatic Agreement.

Introduction

WSDOT is proposing to construct the Tukwila to Renton Project to relieve congestion for public and freight vehicles. Relieving congestion will benefit the public by:

- Lowering the number of accidents, thus improving safety.
- Increasing overall speeds through this section of freeway.
- Improving response times for emergency service vehicles using I-405.
- Improving access to and from I-405 and local circulation.

The Tukwila to Renton Project extends approximately four and one half miles along I-405, from I-5 to SR 169, and approximately two miles along SR 167, from I-405 to SW 43rd Street.

Project Description

The project adds capacity to both I-405 and SR 167; improves the SR 181 and SR 169 interchanges; reconstructs the SR 167 interchange consisting of general-purpose direct-connector ramp from southbound I-405 to southbound SR 167, HOV direct-connector ramps from northbound SR 167 to northbound I-405 and from southbound I-405 to southbound SR 167, and a split-diamond interchange at Lind Avenue and Talbot Road with connecting one-way frontage roads. These improvements represent the second phase of the I-405 Corridor Program for this portion of I-405. The first phase consists of improvements in the Renton Nickel Improvement Project, which is considered as the baseline condition for the Tukwila to Renton Project.

The analysis in this technical memorandum describes the baseline conditions, how the project may affect those conditions, and what measures will be taken to mitigate effects. To understand what improvements are being proposed as part of this project, the following presents the main features of the Build Alternative followed by a brief explanation of the No Build Alternative.

Build Alternative

The Tukwila to Renton Project improvements from west to east (northbound) along the study area are as follows:

I-405 from I-5 to SR 181 Interchange

- Remove the existing northbound I-405 Tukwila Parkway on-ramp.
- Realign I-405 mainline slightly to the south beginning just west of the existing northbound I-405 Tukwila Parkway on-ramp to the SR 181 interchange.
- Improve the SR 181 interchange:
    - Remove the existing SR 181 on-ramp to northbound I-405.
    - Extend Tukwila Parkway from the intersection with 66th Avenue east over the Green River to SR 181.

- Construct new northbound I-405 on-ramp from Tukwila Parkway just east of the new crossing over the Green River (replaces the two existing on-ramps).
  - Reconstruct the 66th Avenue S bridge over I-405 on a new alignment to the west and reconstruct the intersections with Southcenter Boulevard and Tukwila Parkway.
  - Reconstruct the off-ramp from northbound I-405 to SR 181.
  - Improve local arterials within the interchange area such as Southcenter Boulevard and Interurban Avenue.
- Reconstruct five bridges and build one new bridge over the Green River.
- Lower the Duwamish-Green River Trail.
- Reconstruct the I-405 structures over SR 181.
- Realign the Interurban Trail.

I-405 from East of SR 181 to SR 167 Interchange

- Realign I-405 to provide a smooth transition onto the new Springbrook Creek/Oakesdale Avenue bridge that was constructed under the Renton Nickel Improvement Project.
- Construct one additional general-purpose lane in each direction on I-405 from SR 181 through SR 167.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along I-405.
- Reconstruct the I-405 structures over the Burlington Northern Santa Fe (BNSF) and Union Pacific railroads.
- Stripe the bridges over Springbrook Creek/Oakesdale Avenue for five lanes in both directions.

SR 167 from I-405 to SW 43rd Street On-ramp

- Construct an auxiliary lane on northbound SR 167 from SW 43rd Street to I-405.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along SR 167.
- Reconstruct SR 167 between SW 27th Street and I-405 to accommodate the reconstructed SR 167 interchange.
- Reconstruct East Valley Road to the west of its current alignment between SW 23rd Street and SW 16th Street to accommodate the reconstructed SR 167 interchange.

I-405 Interchange with SR 167

The interchange improvements affect both freeway to freeway access and local access.

Freeway to Freeway Access

- Construct a general-purpose direct-connector ramp from southbound I-405 to southbound SR 167, replacing the existing loop ramp.

- Reconstruct exterior ramps from northbound I-405 to southbound SR 167 and from northbound SR 167 to northbound I-405, replacing the existing ramps. This project will also add a general-purpose lane to both ramps.
- Construct HOV direct-connector ramps from southbound I-405 to southbound SR 167 and from northbound SR 167 to northbound I-405.
- Maintain existing loop ramp from northbound SR 167 to southbound I-405.

Local Access

Shift local access between I-405 and Renton from SR 167 to the Lind Avenue/Talbot Road split diamond interchange. WSDOT will:

- Construct a new half-diamond interchange at Lind Avenue.
- Construct a new half-diamond interchange at SR 515 (Talbot Road).
- Construct southbound and northbound frontage roads connecting Lind Avenue to Talbot Road.
- Remove exterior ramps to/from SR 167 north of I-405 and loop ramps south of I-405.
- Reconstruct the Lind Avenue bridge over I-405.
- Reconstruct I-405 structures over Talbot Road.
- Improve local street intersections.
- Provide new connection to Grady Way from S Renton Village Place.

I-405 from East of SR 167 Interchange to North of SR 169

- Construct two additional general-purpose lanes in each direction on I-405 from SR 167 through SR 169.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along I-405.
- Reconstruct S 14th Street south of its existing location.
- Cantilever the I-405 structures over Main Avenue.
- Reconstruct three bridges over the Cedar River: southbound and northbound I-405 and a pedestrian bridge.
- Relocate the BNSF railroad bridge over the Cedar River west of its current alignment.
- Close off Houser Way as a cul-de-sac just south of the Cedar River and remove the bridge over the river. Northbound traffic will be rerouted via Bronson Way, which will be striped to accommodate the new traffic pattern. Two options are being considered for northbound traffic between Houser Way and Bronson Way. The first option stripes Mill Avenue as a one-way street to provide two lanes northbound from the intersection of Houser Way and Mill Avenue to Bronson Way. Emergency vehicles will still be allowed to travel southbound on Mill Avenue from 2nd Street to Houser Way. The second option leaves Mill Avenue as a two-way street up to the intersection with 2nd Street where it will be striped

for one-way traffic northbound and reconfigures Main Avenue, a one-way street southbound, for two-way traffic. Main Avenue would be widened and striped for two-way traffic to provide access from the south to Bronson Way.

- Reconstruct the two local street accesses to Renton Hill. Two local access points will be maintained by reconstructing the Renton Avenue bridge over I-405 and reconstructing Mill Avenue as a stacked structure that also provides access to Renton Hill. The existing Cedar Avenue bridge will be removed.
- Construct a pedestrian pathway from Renton Hill to City parks and trails.

No Build Alternative

The No Build Alternative assumes that the improvements associated with the Renton Nickel Improvement Project are constructed as does the baseline condition. Only routine activities such as road maintenance, repair, and safety improvements would be expected to take place between 2014 and 2030. This alternative does not include improvements that would increase roadway capacity or reduce congestion beyond baseline conditions. For these reasons, it does not satisfy the project's purpose to reduce congestion on I-405 between I-5 in Tukwila and SR 169 in Renton. The No Build Alternative has been evaluated in this technical memorandum as a comparison for the effects associated with the Build Alternative.

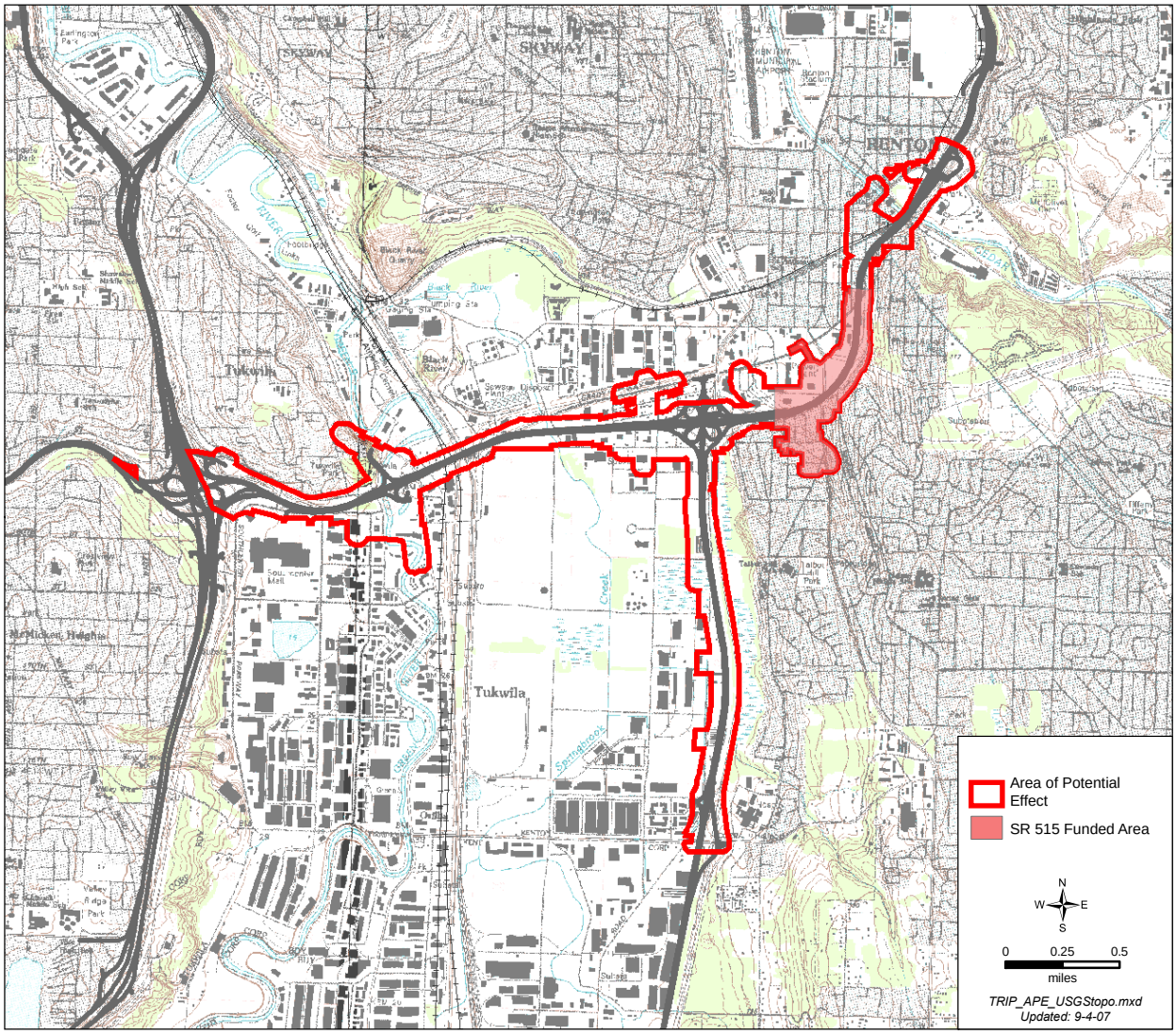
Project Location

The proposed project is located in Sections 22, 23, and 24 of Township 23 North, Range 4 East, and Sections 17, 19, 20, 30, and 31 of Township 23 North, Range 5 East, in the cities of Renton and Tukwila. Exhibit 1 shows the general study area and project limits for this project.

Area of Potential Effects

The Area of Potential Effects (APE), as defined under 36 CFR 800.16(d), includes areas where archaeological resources may be affected during construction by ground disturbance and where historic structures or buildings may be directly or indirectly affected by the construction and operation of the project. Direct effects may occur where grading, clearing and grubbing, excavating, or other ground disturbance is planned, or when buildings, structures, or objects are altered or removed. Indirect effects may include increased noise or vibration, or changes to the viewshed. The I-405 Team, in consultation with the State Historic Preservation Officer and interested and affected tribes, has determined that indirect effects may occur within one tax lot or 200 feet, whichever is less, of the I-405 and SR 167 rights-of-way and connector street margins. Exhibit 1 shows the APE for the Tukwila to Renton Project.

Exhibit 1: Tukwila to Renton Project, Area of Potential Effects



Regulatory Context and Purpose of Investigation

Federal Regulations

Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800) require federal agencies to assess the effects of federally assisted undertakings on historic properties. These properties can be prehistoric or historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion in, the NRHP.

An historic property is eligible for listing in the NRHP if it is more than 50 years in age, retains integrity, and meets the following criteria (36 CFR 60.4):

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association, and:
>
> *a) that are associated with events that have made a significant contribution to the broad pattern of our history; or*
>
> *b) that are associated with the lives of persons significant in our past; or*
>
> *c) that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
>
> *d) that have yielded, or may be likely to yield, information important in prehistory or history.*

Because the proposed construction date for the project is projected to be 2015, the I-405 Team evaluated resources in this investigation that would reach 50 years in age by that time; that is, we evaluated those buildings or structures constructed in 1965 or before.

State Regulations

Construction of the Tukwila to Renton Project also requires environmental compliance at the state level through Washington's State Environmental Policy Act (SEPA). Because of this requirement, project effects on cultural resources must be considered in weighing the overall effect of the project on the environment, as stipulated in WAC 197-11-960. SEPA requires that significant environmental impacts to cultural and historic resources be considered; be taken into account during the threshold determination process (WAC 197-11-330); and be considered in the final EIS (WAC 197-11-440). SEPA also stipulates that historic and cultural preservation is included as an element of the environment (WAC 197-11-444). All these requirements are satisfied within the NEPA process by compliance with Section 106 of the National Historic Preservation Act.

Native American burials are protected under RCW 27.44, and effects to archaeological sites are regulated by RCW 27.53. The Washington Heritage Register (WHR) is the Washington State version of the NRHP and follows similar criteria. The Washington State Department of Archaeology and Historic Preservation (DAHP) rather than the National Park Service (NPS) administers the WHR. It emphasizes local and statewide significance and has a lower threshold for eligibility than the NRHP. Any building or site listed in the NRHP is automatically listed on the WHR.

Baseline Conditions

Natural Setting

Geology affects the topography, hydrography, soils, and biotic communities of any given area. Thus it is a significant factor in determining resource structure and the prehistoric and historic site distributions on the landscape. The complex physiography of the Puget Basin has produced a mosaic of landform settings, from upland meadows and forest to riverine and coastal environments, which produced rich biotic communities. Both ethnographic and archaeological data attest to the diversity of floral and faunal resources that were locally available for procurement and that were used for shelter, food, medicines, tools, and adornment.

Geology and Geomorphology

The earliest geologic formation in the project APE consists of outcrops of Eocene-aged volcanic-derived sandstones, siltstones, and shales, with igneous sills that occur in the hills along the eastern edge of the I-405 corridor within the vicinity of the study area (Dragovich et al. 2002). The Renton Formation consists of middle to late Eocene-age sandstones, siltstones, conglomerates, and coal that were deposited in a deltaic environment (Dragovich et al. 2002). The area's system of folds, specifically the Renton Anticline and Talbot Syncline, and east-to-west-aligned faults and coal seams provided the geologic foundation upon which Renton based its primary formative economy, the mining industry.

Oceanic oxygen isotope records demonstrate a drop in global temperatures beginning 1.5 million years ago, marking the onset of the Pleistocene. The cooling trend in climate formed extensive continental ice sheets and triggered drops in worldwide sea levels. In the Puget Sound area of Western Washington, at least four successive advances of ice descended southward from the Canadian Cordilleran ice sheet, coalescing with montane glaciers and impounding a series of glacial lakes, which diverted drainages southwest as far away as the present-day Chehalis River valley (Wright and Frey 1965). During the Vashon Stade of the Fraser Glaciation 18,000 to 14,000 years ago, the Puget Lobe reached a maximum thickness of 1,300 feet and a width of 62 miles in the vicinity of Seattle and moved at a rate of 328 to 525 feet per year, eventually extending as far south as Olympia. Following the Vashon Stade, warming climates triggered glacial recession, which was accompanied by the formation of extensive outwash plains, with those previously impounded drainages resuming their north-trending courses into Puget Sound and the Strait of Juan de Fuca (Wright and Frey 1965).

In the project vicinity, the most extensive glacial deposit evident in local topography is Vashon Drift undifferentiated outwash, which consists of recessional and proglacial stratified sands, gravels, and cobbles with interbedded silts and clays. This deposit underlies the higher hills in the project vicinity and varies in color and compactness (Dragovich et al. 2002; Luzier 1969). Recessional sedimentary layers are usually not as thick as advance deposits and finer sands are higher in the sequence in a profile attributable to the retreat of the glacial front, although the difference can be difficult to define in the absence of a compacted till layer (Dragovich et al.

2002; Luzier 1969; Petersen et al. 1983; Thorson 1980; Wright and Frey 1965; Wright and Porter 1983).

Geologic investigations in Puget Sound indicate that the waning of the last ice age in the region may have triggered a period of pronounced aridity during the last 10,000 years known to geologists as the Holocene or recent period (Bradley 1985; Petersen et al. 1983; Pielou 1991). The Duwamish River embayment was created by an influx of marine water into Puget Sound in the wake of the retreating ice front. Significant changes occurred to local drainage patterns over the last 5,000 years encompassing the Green River, as well as Black River, Cedar River, Duwamish River, and White River (Luzier 1969). The embayment was subsequently raised above sea level by alluvial aggradation beginning with the redeposition of 4,800-year-old Osceola mudflow sediments by the White River up to the time of Euro-American settlement (Collins and Sheikh 2005; Courtois et al. 1998; Dragovich et al. 1994; Luzier 1969; Snowden 1909).

Holocene deposits consist of colluvium along the bases of hillslopes and alluvium in the Green River and Cedar River valleys (Dragovich et al. 2002). Other local Holocene deposits consist of marshes and peat along the local river valley bottoms and near lakes (Dragovich et al. 2002; Waldron 1962). Moreover, the early Holocene warming trend also contributed to the formation of prairies (Leopold and Boyd 1999).

Due to its proximity to an active subduction zone between the Juan de Fuca, Pacific, and American tectonic plates, the Puget Trough is susceptible to volcanism and pronounced seismicity. Up to 100 earthquakes occur each year in the region and are attributable to three factors: subduction, north-south compressional stress, and isostatic rebound created by the retreat of the aforementioned ice lobe (Gower et al. 1985). Seismic activity is also associated with a series of faults throughout Puget Sound. The nearest fault to the study area is the Seattle fault, which terminates near the Fauntleroy Ferry terminal about 7.5 miles northwest of the study area (Gower et al. 1985).

The cities of Renton and Tukwila exhibit fill or modified land, although not all these deposits are identified on recent geologic maps due to the map scale (Dragovich et al. 2002; Luzier 1969; Snyder et al. 1973). These deposits are described as sediments that have been locally reworked to modify topography (Dragovich et al. 2002; Luzier 1969; Snyder et al. 1973). The deposits include areas where natural land surfaces have been disturbed or graded by construction equipment.

Soil distributions are described on the basis of shared traits such as parent material, organic content, landform, texture, color, slope, aspect, and moisture (Birkeland 1974; Snyder et al. 1973). Although the study area is overlain by thick Pleistocene deposits consisting primarily of lacustrine sediments and undifferentiated drift, the Renton Formation underlines parts of the study area (Dragovich et al. 2002). While the majority of the study area is urban land with soil that has been modified by adding fill material, portions of the area include moderately to well-drained upland soils of Alderwood gravelly sandy loam and well-drained soil underlain by sandstone of Beausite gravelly sandy loam (Snyder et al. 1973).

Ecology

The ecology of the study area is defined with respect to environmental conditions including hydrology, flora and fauna, and climate.

The study area is situated primarily in a relatively flat, alluvial valley bottom flanked by forested hillslopes and lies within the Puget Trough, a physiographic province dominated by Puget Sound and bounded by the Olympic Range to the west and the Cascade Range to the east (Franklin and Dyrness 1988; Weaver 1937). The interior areas of the Puget Trough are characterized by forested north-to-south-trending upland plateaus of subdued relief dissected by numerous drainages. Elevations are generally less than 400 feet in the study area.

Glacial scouring during the Vashon Stade of the Fraser Glaciation 12,000 years ago created generally north- or south-trending drainages and lakes, including Lake Washington which is approximately 2 miles to the north of the study area. The primary drainage in the study area is the northward-flowing Cedar River, which flows into Lake Washington. The meandering Green River, which becomes the Duwamish Waterway near Boeing Field and opens up into Elliott Bay, runs through the study area.

The dominant vegetation province in the Puget Lowland is the forest province. Local vegetation in the study area consists of Douglas fir (*Pseudotsuga menziesii*), Western red cedar (*Thuja plicata*), Western hemlock (*Tsuga heterophylla*), red alder (*Alnus rubra*), and big-leaf maple (*Acer macrophyllum*) with an understory of bracken fern (*Pteridium aquilinum*), sword fern (*Polystichum munitum*), Oregon grape (*Berberis nervosa*), salal (*Gaultheria shallon*), and berry vines (*Rubus spp*.) (Franklin and Dyrness 1988).

Historically, deer (*Odocoileus spp*.), elk (*Cervus canadensis*), black bear (*Ursus americanus*), cougar (*Felis concolor*), and coyote (*Canis latrans*) lived in the vicinity of Renton and Tukwila. These mammals have extensive ranges and were at one time common in both bottomland and uplands. Riverine, estuarine, and upland habitats within and near the study area also supported a diverse array of smaller mammals, fish, shellfish, and birds (Dalquest 1948).

The climate of the study area is characterized by dry summers and wet winters. The presence of maritime and continental air masses contributes to mild temperatures and moderate-to-heavy precipitation (Franklin and Dyrness 1988). The following specific data were derived for the study area from a local weather station. Between 1931 and 2006, average maximum recorded temperatures ranged from 75°F in July to 35°F in January. The average annual precipitation recorded at this weather station was 38 inches (Western Regional Climate Center 2007). Regionally, rainfall averages between 30 and 35 inches annually, although the presence of the Olympic Range to the west creates a rain shadow effect for the western part of Puget Sound (Franklin and Dyrness 1988; Luzier 1969).

Cultural Setting

Prehistory

Cultural change in Northwest Coast prehistory is reflected in archaeological assemblages, subsistence, and settlement patterns. The prehistoric record for Puget Sound is divided into

three broad chronological periods: the early (15,000-5,000 years Before Present [BP]), middle (5,000-1,000 BP), and late (1,000-250 BP).

The early period is characterized by chipped stone tools such as fluted projectile points, leaf-shaped projectile points, and cobble tools with associated core and blade industries. Subsistence patterns exhibit a reliance on inland hunting supplemented with fishing and marine invertebrate procurement in riverine and littoral contexts. Settlements are typically found on upland plateaus, on ridgelines overlooking valley bottoms, or river terraces, although the archaeological record may be biased by sea level rise which would have inundated any littoral occupations dating to the early Holocene.

The middle period presents a dramatic increase in tool type diversity within regional assemblages. Notched stone projectile points decrease in size relative to early period points, and toolkits were supplemented with groundstone, bone, and antler industries. Subsistence practices showed an increased orientation toward marine and riverine habitats; shellfish, salmon, and sea mammals became more important resources during this period. Shell middens appear in the archaeological record during this period. Occupation areas expanded to include modern shorelines and islands in Puget Sound, characterized by the earliest evidence of seasonal village sites.

The late period is characterized by assemblages containing small side-notched and triangular stone projectile points, which signal introduction of bow-and-arrow technology, and exotic trade goods imported from indigenous populations in the Columbia Plateau. Also, there is an increased emphasis on bone and antler tools. Salmon became a major staple, indicated by the construction and maintenance of elaborate fish weirs and substantial, year-round occupations at confluences of main river channels with tributary streams. Aquatic subsistence practices were supplemented by terrestrial hunting and plant procurement. Permanent, ethnographically described village sites were established and persisted into the historic period (Carlson 1990; Kidd 1964; Nelson 1990; Wessen and Stilson 1987). Ethnohistoric assemblages often contain metal arrowheads, and trade beads manufactured in Europe.

Ethnohistory

Traditional Territories and Treaties

During late historic times, Southern Coast Salish Indians occupied the Puget Sound area, from the Skagit River in the north to the Deschutes River near Olympia in the south, reaching inland to the Cascade Range crest. The project vicinity is located in the traditional territory of the Duwamish (Dxwdewabs) Tribe, a coast Salishan group that oriented their settlement-subsistence systems toward the saltwater, riverine, and inland environments (Ruby and Brown 1986; Suttles and Lane 1990; Swanton 1952). The Duwamish lived in winter villages of cedar plank houses and seasonally harvested shellfish and anadromous fish runs, supplemented by upland game hunting and plant gathering.

The Southern Lushootseed-speaking Duwamish Tribe's territory included the drainage areas of the Black, Cedar, Green, and White Rivers, extending from Puget Sound to the foothills of the Cascades. The name Duwamish is said to mean "inside the bay people" (Ruby and Brown

1986). The Sammamish (Scababs) were an autonomous subdivision of the Duwamish that spoke a similar dialect (Ruby and Brown 1986; Suttles and Lane 1990; Swanton 1952; Wessen and Stilson 1987).

Isaac Stevens, the first governor of Washington Territory, negotiated several treaties with Indian groups between 1854 and 1856. The study area falls within the ceded territory of the Duwamish and Muckleshoot tribes, who signed the Point Elliott and Medicine Creek Treaties (Ruby and Brown 1986). The Duwamish are currently a non-federally recognized tribe whose ancestors greeted the first white settlers that arrived in what was to become the city of Seattle (Ruby and Brown 1986; Swanton 1952).

Tribes ceded the majority of their territories in exchange for reservations. The Point Elliott Treaty created the Suquamish, Port Madison, and Tulalip Reservations in 1855. The Medicine Creek Treaty established the Nisqually Reservation. Although the Sammamish were assigned to the Tulalip Reservation, historical accounts differ as to whether or not they went (Marino 1990; Ruby and Brown 1986).

Upon the signing of the Point Elliot Treaty, the Duwamish were assigned to the Port Madison Reservation, lands reserved for the exclusive use of tribal members, on the Kitsap Peninsula. However, the Port Madison Reservation was in the traditional homeland of the Suquamish who felt the Duwamish were infringing on their territory (Ruby and Brown 1986). By the winter of 1856, many of the Duwamish had returned to their homeland. Some settled on the Muckleshoot Reservation while other Duwamish chose not to live on the reservation (Ruby and Brown 1986). The Duwamish that chose not to settle onto various reservations have tried repeatedly to gain federal recognition, but after briefly attaining such recognition in 1999 they were once again denied by the United States government.

The tribes that make up the Muckleshoot Reservation and signed the Medicine Creek Treaty included the Skipahmish [Skopamish] or Green River Indians; the Stakamish, or White River Indians; and the Smulkamish, whose traditional territory encompasses present day Enumclaw (Ruby and Brown 1986). After signing the Medicine Creek Treaty, the Green and White River Indians were relocated to the Nisqually Reservation with a provision that they could be moved to a more suitable place. In 1856, Governor Stevens established the Muckleshoot Reservation, located on Muckleshoot Prairie between the White and Green Rivers (Ruby and Brown 1986).

Lifeways

The focus of the Duwamish, Sammamish, and Muckleshoot yearly cycles was the permanent winter village, which consisted of one or more cedar plank longhouses where several related families resided (Noel 1980; Suttles and Lane 1990). At other times of the year, they used temporary pole and mat structures that were easily transported. Winter villages were not completely abandoned during the warmer months, although most residents moved to summer camps that were located in various environmental zones where abundant resources could be harvested, processed for storage, and transported to the permanent village (Noel 1980; Suttles and Lane 1990).

The Southern Coast Salish conducted subsistence activities in the saltwater, riverine, and inland environments in their territories. As with other western Washington groups, the Duwamish,

Sammamish, and Muckleshoot tribes relied on salmon as a staple resource. They established fishing stations along area rivers and streams, and trolled in deeper waters (Haeberlin and Gunther 1930; Suttles and Lane 1990). Subsistence revolved around seasonal harvests of coho and chinook salmon and shellfish, including butter clams, littleneck clams, horse clams, geoduck, Olympia oysters, mussels, snails, and barnacles (Haeberlin and Gunther 1930; Noel 1980; Suttles and Lane 1990). Fish were caught using wooden weirs, woven nets, and rakes (Haeberlin and Gunther 1930; Suttles and Lane 1990). Hunting land mammals provided a large share of food for these groups; men specialized in the pursuit of deer, elk, bear, and beaver (Haeberlin and Gunther 1930; Noel 1980; Suttles and Lane 1990).

Plants provided sustenance and building materials, and they also were used for medicinal purposes. Local tribes used parts of red cedar for canoes, baskets, mats, and clothing. White pine gum served as cough medication, and an infusion made from its bark ameliorated stomach problems and rheumatism. Red alder provided a dye that camouflaged fishnets. Big-leaf and vine maple fiber was used in basketry, and the leaves were used as containers for cleaned fish. Sword fern leaves were used as food containers, bedding, and berry drying racks; the rhizomes were sometimes baked and eaten. Camas, hazelnuts, red elderberry, dandelion roots, wild carrot, onion, wapato, huckleberries, salal berries, and blackberries were eaten raw or processed for later use. Oceanspray wood was made into canoe paddles and its seeds were used as a blood purifier (Gunther 1945; Haeberlin and Gunther 1930; Noel 1980; Moerman 1998).

The earliest effects of Euro-American contact appeared in Northwest Indian populations well before the Euro-Americans themselves arrived. Researchers have not yet determined when epidemic diseases first emerged, but Meriwether Lewis and William Clark estimated that smallpox predated their 1805-1806 voyage to the mouth of the Columbia River by about 30 years (Campbell 1989). Waves of epidemics may have started early in the 16th century. Ethnohistorians suggest 75 percent as a conservative mortality rate among the Indian populations around Puget Sound by the time of direct Euro-American contact (Campbell 1989; Harris 1994).

First traders and missionaries, then settlers interacted with Puget Sound Indians in ways that led to changes in their cultures. Alcohol, disease, and relocation disrupted the social and political organization of the tribes. Euro-Americans often hired Indians to act as guides and transporters of goods or messages, and to hunt, fish, cut timber, and tend herds and crops. All of these activities took them away from their traditional methods of subsistence. Introduction of the potato to the Puget Sound area Indians by Euro-American trading companies combined with enforced sedentism may have caused the indigenous people to favor this crop over seasonal root harvesting (Suttles and Lane 1990).

Native American Place Names

The area surrounding Tukwila and Renton has many Native American toponyms, or place names, that describe areas associated with Coast Salish tradition, settlements, and subsistence. These traditional places are located along the length of the Duwamish, Black, and Green (White) Rivers. The ethnographer T.T. Waterman noted that the survival and oral transmission of

toponyms varied according to tribal recollection, and his informants admitted that many place names were lost to tradition over time (Waterman 1922, 2001).

Native American place names include descriptive names of geographic features or names associated with traditional subsistence locations. Place names near the study area include *TuqwiʼtLÛs* ("red face") for a bluff located east of Renton; *ct3uʼlEgwEli* ("resembling a trail") for a creek that drains into a swamp where silver salmon were caught and a fish weir was located; *tuwaʼLdad3-aL3t* ("Jack salmon's home or King Salmon house") for a deep place in the Black River were abundant salmon were located in the summer; *bstsxEbeʼdats* ("place of ironwood") where people went to gather ironwood; *b1sxuʼq1d* ("where there are cranes") for a swamp located west of the Duwamish River; *t3aweʼd1tc* ("river duck") for level land below the mouth of the Black River; and *sqaliʼls* ("bad looking; the rocks are ugly") for a high land area that extends down to Duwamish River (Waterman 2001).

Some toponyms are suggestive of mystical happenings and include a location named *Sq!uʼlʼats* ("dirty face") where the Grandmother of South Wind lived (Waterman 2001). The mottled sediments exposed in the bluffs are the basis for the name, which describes the fate of Grandmother when her people left (Waterman 2001). Another location on the west side of the Duwamish River is called *hÛtcsaʼtci* ("cut in two with reference to the hand"). An unnamed isolated knoll located near the confluence of the Black River and the Duwamish River is where tradition described a grouping of water snakes (Waterman 2001).

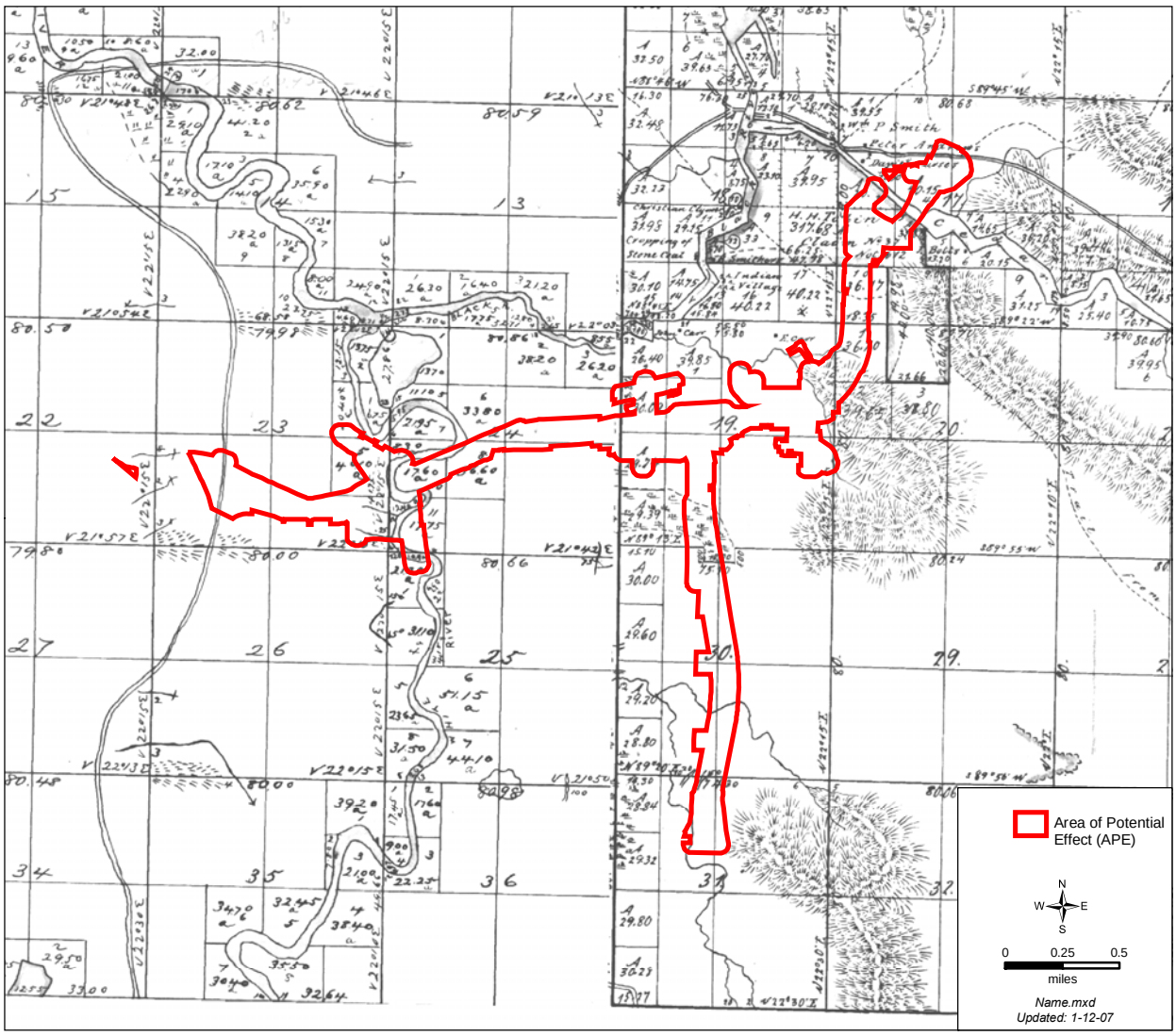
Other toponyms are suggestive of village locations and include: *Sqoaʼl-qo* ("meeting of rivers"), a village site at the location of the confluence of the Black River and Green River; *Stuʼbla* ("North-Wind"), located on a hillside south of the Interurban Bridge where North-Wind had an ancient village; *Sbaʼbadiʼd (*"crags") for a deep hole in the Black River with cliffs on both sides and a village located nearby; and *TuxEʼb-qo* ("confluence"), designating a village at the confluence of the historic Cedar and Black Rivers (Waterman 2001). Previous archaeological investigations have confirmed the association of village sites and ethnographic place names such as *Sbaʼbadiʼd* (Chatters 1981; Hanley 1979).

A General Land Office map compiled between 1863 and 1884 (Exhibit 2) shows a dashed line labeled as "Trail from Seattle over Cascade Mountains" entering the northwest quarter of Section 20 near the base of a northwest-trending ridgeline and veering east toward the channel of the former Black River (USDI 1884). An "Indian Village" is identified on the eastern bank of the Black River in the SW1/4 of the SE1/4 of Section 18, about one-third mile north of the APE. A branch of the aforementioned trail skirts this village to the north (USDI 1884).

History

Although Russian, Spanish, and British naval expeditions are thought to have visited the coastal waters off Washington as early as the middle 1500s, British Captain George Vancouver's arrival in 1792 marks the earliest undisputed record of Euro-American contact in the Puget Sound Region. On May 19, 1792, Vancouver dispatched separate parties that explored Hood Canal and the entrance to Sinclair Inlet. Many of the region's physiographic eponyms, such as Puget Sound, Hood Canal, Mount Baker, Mount Rainier, and Dungeness Spit, were derived from

Exhibit 2: Area of Potential Effect Overlay on 1863 and 1865 General Land Office Maps



members of Vancouver's party and the British admiralty (Cole and Darling 1990; Kirk and Alexander 1990; Marino 1990; Meany 1923; Morgan 1979).

Exploration was followed by incursions of Euro-American fur traders under the aegis of the Hudson's Bay Company during the 1830s. Early contacts between Euro-American traders and Native American populations proved disastrous to the latter as they fell victim to waves of malaria, tuberculosis, and smallpox epidemics in the late 1700s and middle 1800s (Cole and Darling 1990; Kirk and Alexander 1990; Marino 1990). In 1827, the Hudson's Bay Company explored Puget Sound under the command of James McMillan. The onset of the fur trade period was followed by further United States government-sponsored exploration under the command of Lieutenant Charles Wilkes in 1841. Part of the objective of this expedition was to map the southern Puget Sound area (Meany 1923). Washington Territory was organized in 1853 by its first Governor, Isaac Stevens, who helped pave the way for Euro-American settlement and a Northern Pacific Railway route by compelling regional Indian tribes to relocate

to reservations under a series of treaties in 1855. The unpopularity of Indian removal resulted in widespread rebellion by tribal groups. Washington eventually achieved statehood on November 11, 1889 (Kirk and Alexander 1990).

An especially significant stimulus for settlement in the region was the Donation Land Act of 1850. The law granted each male American citizen 18 and older a half section, or 320 acres, of public lands, requiring that he occupy, cultivate, and "improve" it for four consecutive years. Wives of the settlers were granted an additional 320 acres in their own names (Ficken and LeWarne 1988; Johansen and Gates 1967).

The study area is located in Tukwila and Renton. In 1851, the first Euro-American settlers arrived in the area of the Duwamish River and established land claims along the Duwamish River (Reinartz 1991). In 1853, brothers Joseph and Stephen Foster arrived in Seattle and hired Indian guides to paddle them up Duwamish River where, upon reaching the confluence of the Duwamish and Black Rivers, the Fosters established land claims. Joseph Foster established his land claim at the confluence of the Duwamish and Black Rivers in an area referred to as Mox la Push in Chinook jargon (Reinartz 1991). Stephen Foster established his land claim where the Duwamish River made a long narrow loop, which came to be known as Foster's Point.

During the Indian War of 1855 to 1856, Fort Dent, a small blockhouse, was established on Joseph Foster's land claim in case of future uprisings (HistoryLink website 2007a). As more settlers arrived in the area, small local communities were established. In 1905, the area that had been known as Garden Station was named Tukwila when a post office was established (Bagley 1929). The name was chosen by a contest held to name the new town, which was created by combining several tracts that had been platted at different times (Bagley 1929; HistoryLink 2007a; Reinartz 1991). The word Tukwila was taken from the native word Tuck-wil-la meaning "land of hazelnuts." In 1908, Tukwila was incorporated, and by 1909 the population reached 450 people (Bagley 1929).

The City of Renton was founded on the Duwamish River delta where, historically, the Cedar River and the Black River merged to join the Duwamish River. In 1853, Henry Tobin staked a claim with the intentions of starting a lumber mill. In 1854, a coal seam was discovered on the land claim of Dr. R.H. Bigelow. The Renton area had fertile farm land and abundant timber for logging. Salmon could be caught in the surrounding rivers. Logs were floated down the river, and several of the settlers provided logs to Henry Yesler's saw mill in Seattle and other saw mills in the area (Reinartz 1991).

Lumber, coal, and agriculture attracted settlers to the area, but it was not until 1873 that coal mining became a serious endeavor when Captain William Renton established the Renton Coal Company. Due to Renton's location and easy access to Seattle, it became the center of the coal industry in Puget Sound. In 1875, the City of Renton was platted by Erasmus Smithers, and the town's name suggests the importance of both Captain Renton and his coal mining operation to the town's historic economy (Bagley 1929; HistoryLink website 2007a; Meany 1923; Slauson 1976).

The City of Renton was incorporated in 1901 (Bagley 1929; HistoryLink website 2007b; WPA 1941). Other industries in Renton included farming, a glass factory, lumber mills, and brick and

tile plants. As the coal mining industry began to decline, other industries grew, roads were improved, and the Interurban rail line was completed making Renton an attractive suburb (Bagley 1929; Rowe 1987). The Interurban rail line also increased the urbanization of the Tukwila and Renton areas as more farmers subdivided their land and sold it to people who wanted to live in the country while working in the city (Reinartz 1991).

Other changes in the area included dredging and straightening the Duwamish River, diverting the course of White River, and creating the Montlake Cut. Along with seasonal flooding, all of these activities affected the Duwamish, White, Green, and Black Rivers, as well as the people who used these rivers. The Green River now occupies an old channel of the White River, and when the Montlake Cut construction was completed connecting Lake Union with Lake Washington, the Black River suffered extinction because the water level in Lake Washington fell below the elevation of the lake's outlet to the river's headwaters (HistoryLink website 2007b; Reinartz 1991; Thrush 2006).

The Cedar River watershed has been in use as Seattle's main water supply since 1901. The 91,400 acre watershed is now owned by the City of Seattle, due largely to the 1962 Cedar River Watershed Cooperative Agreement, which transferred ownership from private landowners. Additional land, owned by the USDA Forest Service, was transferred to the City in 1996 (HistoryLink website 2000).

Previous Cultural Resource Studies

Fifty-one cultural resources studies have been conducted in the vicinity of the Tukwila to Renton Project APE. These studies have been conducted for transportation, development, and parks and recreation projects, and are listed in chronological order in Exhibit 3.

Exhibit 3: Previous Cultural Resource Studies within One Mile of the APE

Author (s)	Date	Title	Resources Recorded
Brown	1977	*Cultural Resource Inventory Report Green River Watershed, King County, Washington*	None
Hanley	1979	*Master Site File, Earlington Woods, 45KI51*	45KI51 – two Duwamish villages
Buck	1980	*Archaeological Reconnaissance of the Proposed Best Way Freight Service Facilities at Tukwila, Washington*	None
Elmore and Kennedy	1980	*Archaeological Test Coring at the Proposed Tukwila Development Site*	None
Kennedy	1980	*Archaeological Test Coring of the Proposed Earlington Industrial Park*	None
Chatters	1981	*Archaeology of the Sbabadid Site 45KI51, King County, Washington*	45KI51
Dalan et al.	1981	*Cultural Resource Overview and Reconnaissance: Green River Flood Damage Reduction Study.*	Charcoal, burnt bone, no site number
Hedlund	1981	*Archaeological Resources at the Mouth of the Black River; a Survey Conducted for the King County Department of Public Works*	None
Moura	1981	*Archaeological Reconnaissance of the Proposed Foster Revetment Project*	None
Moura	1982	*Archaeological Reconnaissance of the 16 Acre Tukwila Bend Project*	None
Jermann	1982	*Cultural Resource Assessment of the Southcenter Boulevard Improvement and Relocation Project, Tukwila, Washington*	None

Exhibit 3: Previous Cultural Resource Studies within One Mile of the APE (continued)

Author (s)	Date	Title	Resources Recorded
Cavazos	1985a	*Cultural Resource Assessment of the Metro Loop, Talbot-O'Brian 115 KV Power Line at the Renton Treatment Plant, King County, Washington*	45KI285-historic railroad grade
BOAS, INC.	1985	*Renton Effluent Transfer System Construction Contract Report ETS-3C/3D*	None
Kennedy	1985a	*The METRO Renton Effluent Transfer System Construction Contract Report, Areas 3A and 3B*	None
Kennedy	1985b	*The METRO Effluent Transfer System Archaeological Testing, Foster Golf Course, ETS-3D*	None
URS	1985	*Renton Effluent Transfer System Cultural Resources Project Effect Report, Municipality of Metropolitan Seattle, King County, Washington*	None
Chatters	1987	*Tualdad Altu (45KI59): A 4th Century Village on the Black River, King County, Washington*	45KI59
Lindsay	1990	*Cultural Resource Survey of the Green River Bike Trail*	None
Chatters	1991	*Potential Effect of Washington Technical Center on the Tualdad Altu Archaeological Site 45KI59*	45KI59
Hicks	1991	*A Cultural Resource Assessment of Selected King County Parks Properties*	None
Larson and Lewarch	1991a	*METRO Regional Treatment Plant Enlargement Cultural Resource Assessment*	None
Larson and Lewarch	1991b	*Cultural Resource Assessment, Rabanco Transfer Station, Black River Quarry, King County*	None
Larson et al.	1992	*Alki Transfer/CSO Southern Transfer/Interurban Project Cultural Resources Assessment*	None
Solimano et al.	1993	*Cultural Resource Testing 45KI432 Alki Transfer/CSO Project West Seattle Pump Station, King County, Washington*	45KI432
Chatters	1994	*Letter for Proposed K & N Meat Facility in Renton, Washington*	None
Forsman et al.	1994	*Final Report: Seattle-Tacoma Commuter Rail Project Cultural Resources Overview*	None
Robinson	1995	*Archaeological Monitoring of the Washington State Department of Transportation's SR 405: SR 181/Green River Interchange Project, King County, Washington*	None
Solimano et al.	1994	*Final Report Alki Transfer/CSO Project Northern Transfer Cultural Resources Assessment, King County, Washington*	None
Larson	1996	*Alki Transfer/CSO Facilities Project Traditional Cultural Property Study, Final Summary of Findings*	None
Bangs and Larson	1996	*Cultural Resource Monitoring of the Waterworks Project at King County's East Division Reclamation Plant, Renton, WA*	None
Lewarch et al.	1996	*King County Department of Natural Resources Water Pollution Control Division Alki Transfer/CSO Facilities Project Allentown Site (45KI431) and White Lake Site (45KI438 and 45KI438A) Data Recovery*	45KI431, 45KI438, and 45KI438A
Nelson et al.	1996	*Report on the Cultural Resources Inventory Completed for the Proposed Worldcom Seattle to Salt Lake City Fiber Optic Line Part 4: Washington*	None
Robbins, et al.	1996	*Cultural Resource Monitoring Project Southern Transfer/Interurban Project*	45KI438 and 45KI438A
Courtois et al	1998	*Link Central Light Rail Transit Project Seattle, Tukwila and SeaTac, Washington*	None

Exhibit 3: Previous Cultural Resource Studies within One Mile of the APE (continued)

Author (s)	Date	Title	Resources Recorded
Robbins and Larson	1998	*Cultural Resource Monitoring Alki Transfer/CSO Facilities Project Northern Transfer Project*	45KI438 & 45KI438A
Northwest Archaeological Associates, Inc.	1999	*Cultural Resources Monitoring Plan for the Becker Trucking Site, Seattle, Washington*	None
Iversen et al.	2000	*Port of Seattle, Seattle-Tacoma International Airport Master Plan, Proposed Third Runway Archaeological Resources and Traditional Cultural Places Assessment, King County, Washington*	None
Robbins and Dugas	2000	*Fort Dent Park Soccer Fields #7 and #8 Improvement Project Cultural Resource Assessment, Tukwila, King County, Washington*	None
Grant	2001	*Cultural Resources Reconnaissance Survey and Monitoring of Geotechnical Test Trenches at Codiga Farms Backwater Channel Site, Tukwila, Washington*	Codiga Farms Site
Greiser and Damone	2001	*Results of an Intensive Cultural Resources Inventory of the Touch America/AT&T Fiber Optic Cable Route between Yakima (Yakima County) and Tukwila (King County) in Washington State*	None
Lewarch et al.	2001	*Port of Seattle, Seattle-Tacoma International Airport Master Plan, Proposed Third Runway Archaeological Resources Monitoring Plan, King County, Washington*	None
Morgenstein and Blukis Onat	2003	*Geoarchaeological Resource Assessment Central Link Light Rail Transit Project*	None
Roedel et al.	2002	*Proposed Foster Golf Course Clubhouse Archaeological Resources and Traditional Cultural Places Assessment, City of Tukwila, King County, Washington*	45KI516 (Joseph Foster Site); Foster Golf Links Club House; George Eddy House and windrow
Jones and Stokes	2003	*Archaeological Monitoring Report for the Foster Golf Links Clubhouse and Course Improvement Project*	Monitored demolition of George Eddy House and windrow site (45KI516) in area
Jones and Stokes	2004	*Archaeological Monitoring Report for the Foster Golf Links Clubhouse and Course Improvement Project, City of Tukwila, King County, Washington*	None
Roedel et al.	2004	*Strander Boulevard SW 27th Street Cultural Resources Assessment, City of Renton, King County, Washington*	None
Shong and Miss	2004	*Archaeological Monitoring at the South Treatment Plant Cogeneration Facility, City of Renton, King County, Washington*	None
WSDOT	2005	*Cultural Resources Discipline Report, I-405 Renton Nickel Improvement Project*	45KI209 (Renton Fire Station)
DeJoseph and Dampf	2005	*Final Archaeological, Historical, and Cultural Discipline Report: I-405, Springbrook Creek Wetland and Habitat Mitigation Bank Project*	Recorded isolate
Shantry	2005	*Fish Processing and Consumption on the Black River, Classification of Features at 45KI501 and 45KI51 Puget Sound Washington*	45KI501 and 45KI51
Lewarch	2006a	*Renton High School Indian Site (45KI501) Archaeological Data Recovery, King County, Washington*	45KI501

Beginning in 1971, a cultural resource inventory was conducted in the Green River watershed. No cultural resources were identified (Brown 1977).

In 1979, an archaeological inventory for a proposed Unit Development project identified the Duwamish village Sbabadid (45KI51) (Hanley 1979). The site is approximately 0.25 miles north of the APE. The site consists of two separate historic village sites. The first village was identified as the Sbabadid village, occupied between 1790 and 1825; and the second village was occupied between 1850 and 1856 (Chatters 1981). Excavation of the site revealed animal remains, fire hearths and pits, postmolds indicating the presence of long houses, chipped stone tools, fish bones, mammal bones, and shell fragments. Artifacts that were recovered include adze fragments, whetstones, beads, shaft smoothers, and fish hooks (Chatters 1981).

Another site was uncovered during an archaeological assessment for a proposed Corporate Park project on the former Earlington Woods golf course in 1979. During the course of the archaeological assessment, a village mound was identified. The site, known Tualdad Altu (45KI59), was excavated in the summer of 1980 and has been identified as a possible winter village site (Chatters 1981, Chatters 1987; Vance 1980). Excavation revealed an organic black midden with four strata separated by silts and clays. A band of fire hearths and numerous burned bone fragments of fish, birds, and mammals were recorded, as well as fire-cracked rock, sandstone abraders, and chipped stone tools. Bone harpoon and awl fragments and adze blades were also among the many artifacts recovered (Chatters 1981; Chatters 1987). During construction of apartments in 1991, the burial of a child was uncovered and the site was further excavated (The Olympian 1991).

A cultural resource overview and reconnaissance for a Green River flood damage reduction study noted that the Foster Golf Course and the confluence of the Black and Green Rivers, both located approximately less than half a mile north of the northern edge of the project APE, have a high potential for prehistoric sites (Dalan et al. 1981). Core samples were taken at the Foster Golf Course during the survey, and charcoal, a piece of burnt bone, and cracked rocks were recovered.

An archaeological resources survey was conducted in 1981 at the mouth of Black River located less than half a mile from the project APE. Subsurface testing was conducted and only charcoal and a broken telephone insulator were found, which were determined to be not significant (Hedlund 1981).

Five cultural resource assessment reports outline various aspects of the Renton Effluent Transfer System Project (BOAS 1985; Kennedy 1985a,b,c; Sullivan 1985; URS 1985). The project involved constructing a pipeline from the Renton Treatment Plant to Elliott Bay on the Puget Sound. The proposed pipeline route followed the course of the Duwamish/Green River, and part of the pipeline project APE is within this project's APE (URS 1985; BOAS 1985). The reports discuss possible effects the project might have on previously identified cultural resources but did not identify any new cultural resources within the vicinity of the current project APE (BOAS 1985; Kennedy 1985a,b,c; Sullivan 1985; URS 1985).

The Renton High School archaeological site (45KI501) was uncovered in a sewer line trench during renovations at Renton High School in 1991. Located approximately 0.25 mile north of

this project's APE, the site revealed eight discrete Native American occupations with postmolds, hearths, pits, fire-cracked rocks, fish and mammal bones, and plant remains, along with modified cobble tools, scrapers, and knives (Lewarch 2006).

Archaeologists prepared two cultural resource assessments, three cultural resource monitoring reports, and two final reports for the Alki Transfer/CSO project between 1992 and 1998 (Larson et al. 1992; Lewarch et al. 1996; Robbins et al. 1995; Robbins et al. 1996; Robbins and Larson 1998; Solimano et al. 1993; Solimano et al. 1994). The cultural resource monitoring reports revealed cultural resources within the vicinity of the current project APE, and the final reports detail the data recovery efforts (Lewarch et al. 1996; Robbins et al. 1995; Robbins et al. 1996; Robbins and Larson 1998).

Archaeologists prepared four cultural resource assessments related to King County Parks. Three of these projects are related to Fort Dent, and the fourth is a cultural resource survey of the Green River Bike Trail (Hicks 1991; Larson and Lewarch 1998; Lindsay 1990; Robbins and Dugas 2000). All four cultural resource assessments were located within a half mile vicinity of the current project APE. None of them identified cultural resources.

A cultural resource monitoring report for the Allentown Trunk of the Alki Transfer/CSO project was conducted by Larson Anthropological/Archaeological Services. Archaeological monitoring was warranted because the project APE contained a concentration of identified cultural resources and proposed construction occurred in part of the Allentown site (45KI431) (Robbins et al. 1995; Solimano et al. 1994). During the monitoring, archaeologists identified historic refuse, a timber shoring system, a privy, and portions of the Duwamish-Allentown old Main Street. Due to a lack of integrity and the relative recent age of the historic refuse and timber shoring system, the resources were not considered to be significant (i.e., eligible to the NRHP).

In addition, portions of the Allentown shell midden (45KI431) situated approximately 2 miles to the north were monitored because construction activity in that area would affect both previously mitigated and unmitigated portions of the site. The Allentown shell midden is a relatively intact prehistoric site exhibiting five intercalated lenses of shell, charcoal, bone fragments, and lithics extending to a depth of 90 centimeters below ground surface. The site most likely represents a seasonal food procurement and processing locale and is situated on the east bank of Duwamish River (Celmer 1995; Larson 1993; Lewarch 1992; Lewarch et al. 1996). Within the unmitigated portions of the site, cultural material was recovered and identified as fire-cracked rock, bone, and shell (Robbins et al. 1995; Solimano et al. 1994). The Allentown site is situated within the Muckleshoot Tribe's Allentown Fishing Traditional Cultural Property (Celmer 1995).

Cultural resource monitoring for the southern portion of the Alki Transfer/CSO project near Interurban Avenue in Tukwila was conducted due to the concentration of identified cultural resources within the study area (Robbins et al. 1996). During monitoring, archaeologists identified historic refuse and one site. The historic refuse was determined not to be significant. The archaeological site, known as the White Lake site (45KI438 and 45KI438A), is located within 0.25 mile of the Tukwila to Renton Project APE. The site consisted of stratified lenses of shell,

food remains, fire-cracked rock, flakes, and a tip of a bone point (Lewarch et al. 1996; Robbins et al. 1996).

Cultural monitoring of the northern transfer station of the Alki Transfer/CSO project identified the presence of wooden pilings, concrete footings, and a tieback system. Although these cultural resources are historical structural components, they were determined not to be significant. In addition, monitoring noted the presence and location of traditional cultural properties based on interviews with Muckleshoot and Puyallup tribal members (Robbins and Larson 1998).

Archaeologists have conducted three cultural resource assessments/inventories for two proposed fiber optic lines and one power line (Cavazos 1985a; Greiser and Damone 2001; Nelson et al. 1996). For the power line proposed at the Renton Wastewater Treatment Plant, archaeologists monitored the power pole installation and screened portions of the construction disturbance back dirt piles. The monitoring noted charcoal and encountered modern debris. An abandoned railroad grade (45KI285H) was recorded, which is also located within the Tukwila to Renton Project APE. The abandoned railroad grade is associated with the Seattle-Walla Walla Railroad and was possibly constructed as early as 1874 (Cavazos 1985a, 1985b). No cultural resources were identified during the inventory conducted for the Tukwila portion of the fiber optic line proposed between Tukwila and Yakima, Washington (Greiser and Damone 2001).

One cultural resource assessment and two archaeological monitoring reports have been completed for the Foster Golf Links Course (Jones and Stokes 2003; Jones and Stokes 2004; Roedel et al. 2002), which is located less than half a mile north of the current project APE. The cultural resource assessment of the Foster Golf Links Course identified two potentially significant historic structures and an archaeological site. The first structure identified was the Foster Golf Links Clubhouse (since razed), and the second structure was the George Eddy House and an associated windrow of 11 redwood trees (Forsman 2002, 2003). The Joseph Foster site (45KI516) was identified and is located in the north portion of the Foster Golf Links Course, approximately one mile north of the study area.

The Joseph Foster site is identified as a prehistoric campsite with a historic component. The prehistoric component contains a cryptocrystalline silicate flake, a reworked medasedimentary flake, 46 pieces of fire-cracked rock, and charcoal (Roedel 2002; Roedel et al. 2002). The historic component of the site is associated with the Joseph Foster Donation Land Claim. A square cut nail, nail shanks, and a stoneware fragment were noted during subsurface testing of the site. The historic component of the site includes the oldest maple tree in Tukwila, planted by Joseph Foster in 1873 (Roedel 2002; Roedel et al. 2002).

Two cultural resource assessments identified historic structures in the project vicinity. Courtois & Associates (1998) conducted a cultural resources evaluation as part of an environmental impact study for a proposed light rail transit system to link Tukwila, SeaTac, and Seattle. Segment E, which is within the vicinity of the westernmost portion of the current project APE, did not yield any known archaeological sites. Five historic structures located within the vicinity of westernmost edge of the current project APE included the Riverton Methodist Church, Ray-Carrossio Farmstead, the Lutz house, the Women's Improvement/Community Club of Tukwila,

and Monster Farmstead (Courtois et al. 1998). The cultural assessment for the Stander Boulevard SW 27th Project noted the presence of three warehouses, which were determined to retain architectural integrity but were determined not to be significant (Roedel et al. 2004).

WSDOT's (2005) I-405 Renton Nickel Improvement Project (Renton Nickel) was the first phase of work on I-405 from I-5 to SR 169. The APE was very similar to the present project. Many potentially historic structures were recorded and evaluated. The cultural resources assessment identified four structures eligible for the Washington Heritage Register (the Renton Coal Mine Hoist Foundation, 45KI211; the Renton Fire Station/History Museum, 45KI209; the Renton substation of the Snoqualmie Falls Power Company, 45KI174; and the Columbia & Puget Sound (C&PS) Railroad, 45KI538). Only one of these structures, the Renton Fire Station/History museum, is eligible for listing in the NRHP. No archaeological materials were encountered during the archaeological survey for the Renton Nickel project.

Previously Recorded Cultural Resources

The DAHP requires that historic structures be recorded on Historic Property Inventory Forms and archaeological sites on Archaeology Site Forms. Historic structures are those currently standing and not in ruins. Historic features in ruins are considered archaeological sites, as are railroad grades and certain other classes of historic features.

Historic Buildings and Structures

The I-405 Team identified four previously recorded properties in the APE that are listed on the Washington Heritage Register (WHR), two of which (the Renton Fire Station/History Museum, 45KI209 and James Nelsen House, 45KI596) also have been determined as eligible for listing in the NRHP (Exhibit 4).

Exhibit 4: Historic Period Buildings and Structures Identified in the APE

Site No.	Site Name	NRHP Status	WHR Status
45KI174	Renton Substation	Determined Not Eligible (2005)	Listed
45KI209	Renton Fire Station (History Museum)	Determined Eligible (2005)	Listed
45KI211	Renton Coal Mine Hoist Foundation	Determined Not Eligible (2005)	Listed
45KI596	Nelsen House	Determined Eligible (This Project)	Listed

The Renton Substation of the Snoqualmie Falls Power Company (45KI174) was constructed in 1898 as part of a distribution system that sent electrical power generated at Snoqualmie Falls to both Seattle and Tacoma. The substation was the first brick building in Renton, and it was built with bricks kilned at King County's first brickyard (Collins 1981). The Renton Substation was determined not eligible for listing in the NRHP in 2005 (see WSDOT 2005).

The Renton Fire Station (45KI209) is located at the corner of Mill Avenue and Houser Way. The Architect Ivan M. Palmaw designed the Renton Fire Station in the Art Deco style, and the Works Project Administration constructed the building between 1939 and 1942. It was the first fire station in Renton to be used by full-time paid fire fighters instead of volunteers (Wissel and

Collins 1978). By 1978, the fire department moved to larger facilities and the Renton Fire Station became the home of the Renton Historical Museum (Wissel and Collins 1978). It was determined eligible for listing in the NRHP in 2005 (see WSDOT 2005)

The Renton Coal Mine Hoist Foundation (45KI211) is the lower hoist structure of the Renton Coal Mine, established in 1873 by Erasmus Smithers and a Mr. Crane of Renton. The present hoist foundation was constructed in 1890 to support the Ledgewood steam hoist that brought the coal cars out of the mine and sent men, empty cars, and material into the mine (Collins 1975). The hoist foundation is an irregularly shaped solid concrete structure that measures 24 feet long by 19 feet wide and 7 feet tall. The structure replaced an earlier hoist that was located higher on the hill, and the Hoist Foundation celebrates the mining history of Renton (Collins 1975). The hoist foundation was determined not eligible for listing in the NRHP in 2005 (see WSDOT 2005). More features associated with the Renton Coal Mine were located during the current survey, all in ruins. Together with the Hoist Foundation, they are more appropriately called an archaeological site. The site, which retains the number 45KI211, is discussed further on page 40 and in Appendix F.

The James Nelsen house (45KI596) was built in 1905 by James Nelsen in the style of a late Victorian farmhouse. James Nelsen came to the Seattle area by way of Illinois from Denmark, and he became very influential in the civic and financial life of Renton (Garfield 1990). Beginning modestly in the White River Valley on 20 acres in 1884, Nelsen had established a 200-acre dairy farm by the turn of the century. The James Nelsen House was determined eligible for listing in the NRHP during this cultural resources assessment.

Archaeological Sites

The I-405 Team archaeologists reviewed archaeological site forms on file at DAHP for previously recorded prehistoric and historic archaeological resources located within and in the vicinity (0.25 mile) of the APE. Nine previously recorded prehistoric and historic period archaeological resources were identified within 0.25 miles of the APE, and are listed in Exhibit 5. Most site assemblages also were reviewed in the previous section.

Four archaeological sites are located within the APE: 45KI6; 45KI538; 45KI542; and 45KI686 (Exhibit 6). Site 45KI6 is identified as a shell midden. Shell, charcoal, fire-cracked rock, and preserved wood were recorded, and chipped stone and shell bone were collected (Holmes and Possehl 1963). To the north of the site, wooden posts that formed a V-shaped fish trap were located in the Green River channel (OPA 1978). DAHP records indicate that the site has been destroyed, but considerable uncertainty should surround this assumption given that the site was investigated between 30 to 40 years ago when standards of investigations weren't as comprehensive as they are today; some intact portions may remain.

Exhibit 5: Cultural Resources Within 0.25 mile of the APE

Site	Site Type	Cultural Material	Landform	Reference
45KI51-*Sbabadid*	Occupation site	Fire-cracked rock, shell fragments, and fish, bird, and mammal bone fragments	Floodplain of Black River	Hanley 1979; Chatters 1981
45KI59-*Tualdad Altu*	Occupation site	Charcoal, lithics, fire-cracked rock, hearths, fish bones, mammal bones, sandstone abraders, chipped stone tools, projectile points	Natural levee of former Black River	Vance 1980; Chatters 1987
45KI267-*Swa'wa tix təd*	Lithic scatter	Cobbles, tools, mudstone lithics	Hill above floodplain	Kennedy 1985d
45KI285H	Railroad grade	Abandoned railroad grade	Floodplain	Cavazos 1985b
45KI438 and 45KI438A-White Lake Site	Sqoa'lao Village	Fragmented mammal bone and teeth, fish bone, mussels, ash hearth, fire-cracked rock	Floodplain	Lewarch 1995
45KI439-Sears-Fred Meyer Store Site	Prehistoric midden; historic refuse	Fire-cracked rock, calcined bone, charcoal fragments, burned sand, jasper flakes	Floodplain	Lewarch 1994
45KI501-Renton High School Indian Site	Midden; possible fishing camp or village	Black to dark brown sand and silt with three occupation layers, charcoal fragments, fragments of bone, burned soil; three post molds, and storage pit observed in side profile	Floodplain	Lewarch 2001
45KI516-Joseph Foster Site	Prehistoric campsite with historic component	1 cryptocrystalline silicate flake, 1 reworked medasedimentary flake, 46 pieces of fire-cracked rock, and charcoal, 1 stoneware shard, 1 square nail, 11 nail shanks, window glass, oldest maple tree in Tukwila	Floodplain	Roedel 2002
45KI587-Deudidew-The Little Cedar River Fishing Site	Pre-European contact, fishing guide	Black greasy sandy silt, charcoal flecks, flecks of calcined shell, isolated jasper and chalcedony flakes	Floodplain	Lewarch 2004

Exhibit 6: Cultural Resources Identified Within the APE

Site	Site Type	Cultural Material	Landform	Reference
45KI6	Shell midden	Shell, chipped stone, fire-cracked rock, wood	Floodplain	Holmes and Possehl 1963
45KI538	Railroad	Railroad bed part of the C&PS Railroad	Floodplain	Hudson 1996
45KI542	Historic debris scatter	Bricks, drainage tiles, railroad tie boards, two cart wheels, aluminum siding, and roofing	Ridge of river terrace	Norman 1996
45KI686-Henry Moses Aquatic Center Site	Pre-European contact	Two hearth features; charcoal, fire-cracked rock, oxidized red orange silt	Floodplain	Kaehler et al. 2004, Kaehler and Trudel 2003, Lewarch 2003

Site 45KI538 is the C&PS railroad grade and trestle. The grade construction began in 1874, and by 1877 the railroad extended from Seattle to Renton. The trestle bridge was constructed in

1908 (Hudson 1996). The resource was determined not eligible for listing in the NRHP (see WSDOT 2005). BNSF now owns the trestle, and is currently in the process of replacing it.

Site 45KI542 is a historic site consisting of concrete foundations and an associated debris scatter of bricks, two cart wheels, tiles, aluminum siding, and corrugated metal (Norman 1996).

Site 45KI686, the Henry Moses Aquatic Center site, is a precontact period occupation site containing two hearth features with associated burned sediments (oxidized red orange silt), fire-cracked rocks, and charcoal flecks (Lewarch 2003).

Archaeological Resource Expectations and Probability Areas

Two factors affect the likelihood that archaeological materials will be present at a given location: the lifeways of the people who left cultural remains, and the post-depositional processes that may either destroy evidence of use or preserve it. Post-depositional processes affect both the likelihood that archaeological materials will be preserved and that they are in a condition and position that can be observed. Many sites have been disturbed by cultural or natural processes, and others may be very deeply buried.

Precontact Sites

A review of the natural and cultural history of the study area indicates that precontact sites tend to be located in the following landform settings:

- Early Holocene campsites: Upland plateaus, ridgelines overlooking river valleys, and river terraces.
- Middle and Late Holocene village sites: River terraces, particularly at confluences, and estuaries.
- Specialized resource gathering locations: Anywhere resources are densely concentrated, including but not limited to salmon-bearing waterways, shellfish beds, prairie margins, waterfowl nesting areas, gathering areas for specific plants, and lithic quarries.

All of these settings occur in the APE, thus it is quite likely that archaeological materials are present somewhere within it. Although relatively few archaeological sites are currently recorded in the Renton-Tukwila area, its once diverse habitats and proximity to toolstone sources along the Green River suggest that indigenous peoples regularly passed through the area (Leopold and Boyd 1999). Cultural use of specific areas related to uneven resource distributions and post-depositional processes have produced low, moderate, and high probability zones for precontact archaeological resources within the APE.

Recent disturbance by twentieth century development activities is one of the most significant effects on archaeological sites. Grading and filling episodes associated with urban development in general, and for this project, road building in particular, can affect archaeological sites by exposing, removing, mixing, or burying stratigraphic horizons associated with prehistoric and historic cultural components (Rothschild and Rockman 1982). Much of the current study area has been disturbed to some degree by placement of utilities, grading, paving, and previous commercial development.

Geologically, the basal deposits of glacial outwash in the study area provide a lower limiting boundary to regional archaeological materials. Holocene prehistoric components will only be present in soil horizons overlying Pleistocene-age deposits but could be shallowly to deeply buried beneath the ground surface depending on the degree of erosion, deposition, and ground disturbance. Because part of the study area is distributed across a terrace above a river setting, some sites could be deeply buried under naturally occurring alluvial deposits. In upland areas, archaeological materials could be more shallowly buried by periodic slow organic accumulation in a forested zone. Archaeological remains within forested zones can experience disturbance by tree and plant roots; however, vegetation also stabilizes slopes and impedes sediment erosion.

Other variables affect site preservation, including animal disturbance and soil characteristics such as formation processes, alkalinity, and acidity (Thorson 1980; Waters 1992). Highly acidic soils destroy almost all faunal remains associated with archaeological sites; however, waterlogged sites or those buried by peat can be well preserved (Nelson 1990).

Historic Period Sites

Historic-period resources recorded in the study area are associated with late 19th century through 20th century homesteading, civic development, and commercial activities (Courtois et al. 1998; Dampf and DeJoseph 2005; Garfield 1990; Roedel et al. 2004). These site types yield features such as forest clearing, grading, and architectural remains with associated utilitarian items of glass, metal, ceramic, and brick, the condition and visibility of which would depend on vegetative cover, the age of the property in question, or whether earlier occupations had been leveled to make way for subsequent land use or early road construction. Other historic features within the study area would be associated with previous road construction within the project APE. The number of recorded historic-era features within the APE and the area's history as a center of economic development in southern Puget Sound indicate there is a high probability that other historic remains are present.

The methodology developed for the project is based on these archaeological expectations, as well as applicable laws, regulations, and guidelines.

Methods

This study was conducted in accordance with the guidelines contained in Section 456 of the WSDOT Environmental Procedures Manual to fulfill the requirements of Section 106 of the National Historic Preservation Act; and with the DAHP *Washington State Standards for Cultural Resource Reporting: Survey and Inventory Standards* (July 2006). The study also followed the recently developed *I-405 Corridor Program Cultural Resources Assessment Guidelines for Compliance with Washington State Department of Transportation Policy and Section 106 of the National Historic Preservation Act* (Appendix C).

Tribal Consultation

WSDOT, on behalf of FHWA, consulted with the DAHP and Cultural Resource staff of all interested and affected tribes to define the project APE. The interested and affected tribes are the Muckleshoot Indian Tribe, Snoqualmie Tribe, and Yakama Nation, and the non-federally

recognized Duwamish Tribe. None of the tribes responded to the APE letter. WSDOT also consulted with the tribes regarding the identification of any traditional cultural property (TCP) or place known to them that might be affected by the project. Tribal letters are included in Appendix D. The I-405 Team provided information obtained from a literature search and recorded site review, as well as data from the field survey as part of this government-to-government consultation.

Background Data Review

This cultural resource assessment built upon the evaluation conducted for the I-405, Renton Nickel Improvement Project. The I-405 Team obtained additional background information on archaeological contexts and reviewed site forms and excavation reports within one mile of the APE to better understand the stratigraphic setting in which these materials were discovered. Prior to the field survey, archaeologists reviewed this information along with data from the geological baseline report for the project, and 7.5-minute series topographic maps with team geologists for our subsurface survey. This research helped identify surficial geomorphology, subsurface paleosols, buried cultural horizons, and other areas of potential archaeological and historical sensitivity to guide the subsequent reconnaissance and testing methods.

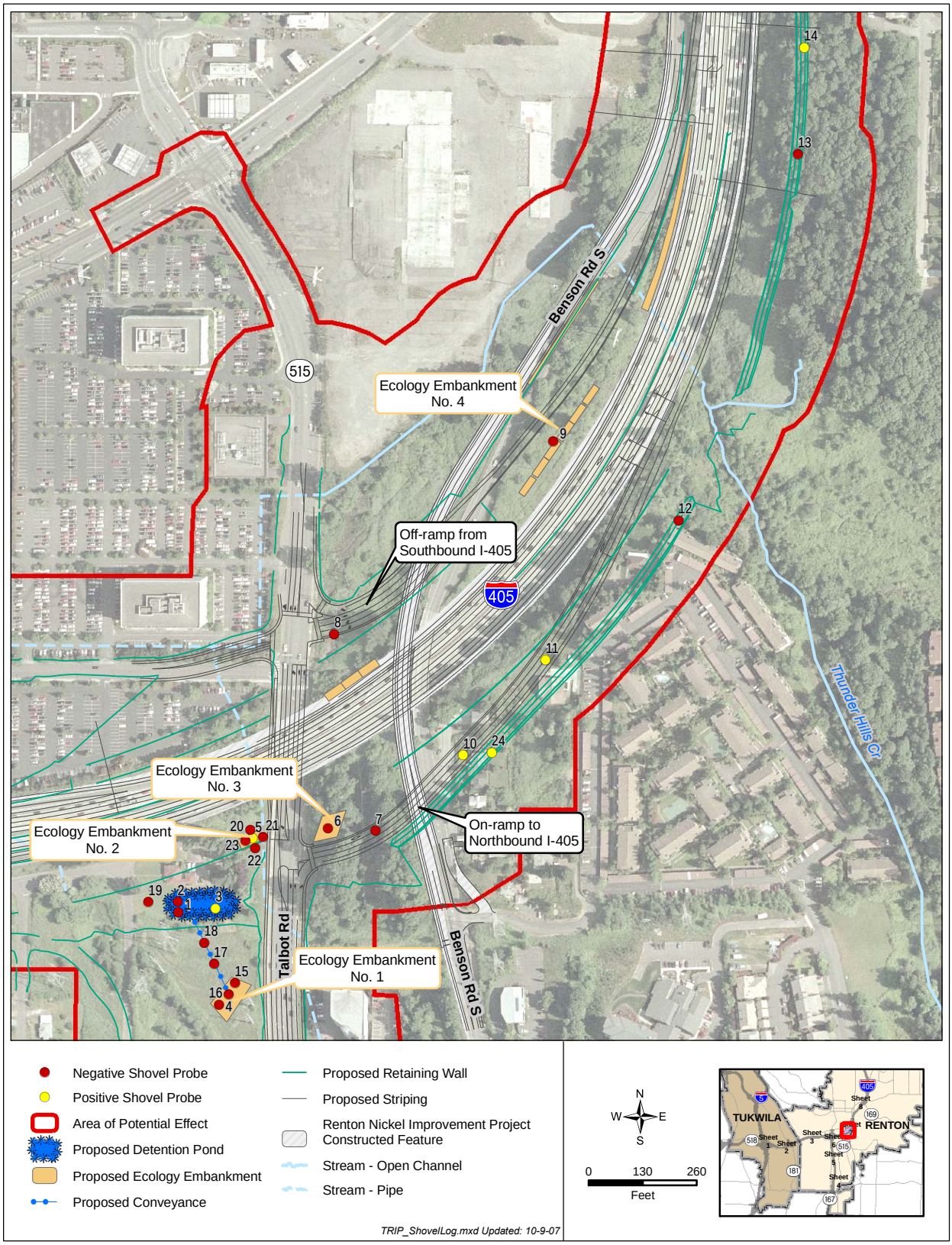
The I-405 Team used the historic context statements from the I-405, Renton Nickel Improvement Project discipline report. In addition, they conducted a tax assessor's records search to identify structures in the APE that were constructed up to and including 1965. This search identified historical buildings that were later documented in the field. The I-405 Team evaluated individual structures and neighborhoods for their architectural characteristics and associations with important people or events in history using information from collections at DAHP, the University of Washington, Seattle Museum of History and Industry, Puget Sound Archives, and Seattle and local public libraries. The data included technical reports, site forms, historical tax assessor rolls, real property cards, historic accounts, maps, and photographs of the selected parcels or neighborhoods.

Field Survey and Reporting

Archaeological Survey Methods

Archaeological testing followed the *I-405 Corridor Program Cultural Resources Assessment Guidelines* (Appendix C). Only a small portion of the APE is currently available for study due to funding and right-of-way acquisition (Exhibit 7). Section 106 compliance for all remaining areas will take place under the I-405 Program's Programmatic Agreement (Appendix E). The methods and results below describe work in areas currently available for study.

Exhibit 7: Archaeological Investigations in Funded Area



Note: The subsurface testing conducted for the Renton Nickel Improvement Project is not shown on this exhibit.

Project archaeologists conducted a pedestrian survey of areas that would experience ground disturbance from the project, including any identified mitigation and staging areas. Teams of archaeologists walked the impact area using no wider than a 20-meter transect interval. The archaeologists walked transects that either paralleled the proposed right-of-way or were in cardinal directions in irregularly shaped areas.

Shovel probe excavations occurred in all areas identified as having low, medium, or high potential for archaeological materials. Probability was determined during the background literature review based on geomorphologic context and terrain slope. Shovel probing was not conducted in areas of very steep slope or where the demonstrated removal of Holocene sediments greatly lowered the possibility of encountering intact or fairly intact archaeological contexts.

In high and medium probability areas, archaeologists excavated 40-centimeter-diameter shovel probes along transects spaced approximately every 10 meters apart, wherever possible. In low probability areas, shovel probes were excavated at 30-meter intervals, wherever possible. All excavated matrix was screened through a ¼-inch mesh.

In areas where post-glacial sediments exceeded 1 meter in depth, archaeologists used 4-inch-diameter bucket augers to excavate sediments below 1 meter until glacial sediments were reached. Backhoe trenching was used in areas where cultural materials were known or suspected to be present (based on probability area) deeper than 2 meters below the ground surface.

The I-405 Team recorded sites, defined as one feature and/or more than one artifact, and isolates, defined as one artifact, on DAHP site or isolate forms and on project maps. When cultural materials were found on the surface or in probes, the archaeologists excavated additional probes in 5-meter intervals in each cardinal direction to define the horizontal and vertical extent of the deposit within the APE. Materials found in all surface and subsurface contexts were described and photographed or drawn in the field and returned to the surface or probe.

Historical Building and Structure Research and Recording Methods

The I-405 Team conducted a survey of unrecorded historical buildings (constructed in 1965 or earlier) within the APE, and reevaluated resources that had been evaluated more than five years ago. The team photographed and wrote architectural descriptions of the exterior of each structure; researched building-specific information on the King County Assessor's Office website; conducted chain-of-title searches on each property at the Puget Sound Regional Branch of the Washington State Archives; and researched the historic association of owners of each property at the University of Washington and local libraries to determine the historical associations of significant people or events with the property. The team entered architectural and contextual information and photographs of each structure's walls into the Washington State Historic Property Inventory database. Copies of the forms are included in Appendix A of this report.

Current Survey Results

Archaeological Resources

Landau Associates, Inc. conducted field surveys on May 18, 22, and 31, 2007 for the funded SR 515 Interchange portion of the project within the APE (Exhibit 7). Twenty-four shovel probes (SP) were excavated. Four shovel probes were placed in the location of a proposed detention pond; four shovel probes were placed in the location of the proposed access ramps; and four shovel probes were placed in the proposed location of a retaining wall. Twelve shovel probes were also excavated at proposed ecology embankment locations: five each at Ecology Embankment No. 1 and No. 2, and one each at Ecology Embankment No. 3 and No. 4.

Detention Pond

A total of four shovel probes (SP 1, SP 2, SP 3, and SP 19) were placed in the detention pond location (Exhibit 8). The area was considered high probability as it is adjacent to a wetland near Rolling Hills Creek, which may have been a salmon-bearing stream before it was rerouted into a conveyance pipe. The probes could not be placed at regular intervals due to development, but instead were placed in unpaved areas. SP 19 was placed in an observed feature that was just west of the footprint of the detention pond location. The feature is a square patch of lawn measuring approximately 30 feet on a side, the edges of which were visible by changes in the vegetation.

Exhibit 8: Shovel Probe Results in the Detention Pond Probing Area

SP No.	Location	Final Depth (cmBS)*	Soil Description	Materials Recovered
1	Detention Pond	110	Very dark grayish brown, silty loam with iron oxide mottling features ranging in color from yellowish red to light olive brown; over light olive brown, very fine silty clay. The clay content increases with depth, and the iron oxide mottles decrease with depth and vary in color from red to strong brown with less than 1% pea sized gravels: over light olive brown, clayey silt with mottles varying in color from strong brown to very dark grayish brown.	Plastic fragments in upper 10 cm.
2	Detention Pond	200	Compact dark yellowish brown, sandy silt loam with abundant rootlets and less than 5% rounded pea-sized gravels, sparse pieces of charcoal, with iron oxide mottles; over a compact, strong brown (iron oxide stained), fine sandy silt with less than 5% gravels and sparse round pebbles; over a very compact, dark yellowish brown, dense clay silt with sparse iron oxide mottling and charcoal; over a very compact light yellowish brown silt clay with no gravels, sparse pebbles; over a fine brown, silty sand; over very compact olive brown, silty sand; over very compact light yellowish brown, fine sandy silt with some iron oxide mottling; over compact olive brown, clayey loam.	None.
3	Detention Pond	100	Very compact dark brown, gravelly sandy loam fill with 30 to 40% small gravels (subrounded-subangular); over a dark yellowish brown, medium sand with 5 to 10% gravels (subrounded); over compact light olive brown, fine sand with less than 5% small subrounded gravels.	20 concrete fragments, 1 aqua vessel glass fragment, 11 brick fragments, 1 peach pit, 1 mortar fragment, 1 unidentified metal object, all found in upper 20 cm.
19	West of Detention Pond	110	A dark yellowish brown, compact sandy loam with less than 10% subrounded gravels, rootlets, and sparsely distributed fragments of bark and charcoal with dark yellowish brown silt mottles; over very compact light yellowish brown, silty clay with light gray clay mottles.	None.

*cmBS = centimeters below ground surface

Shovel probes revealed that the area has been covered in artificial fill. The fill is deepest to the south and east, toward SR 515 and S 15th Street, and is at least 1.1 to 2 meters deep across the detention pond area. Shovel probes for Ecology Embankment No. 1, just to the north, have little to no fill, confirming that fill thins in that direction. This fill was likely placed during the earliest road-building activities in the area. Those activities also included rerouting the stream and likely caused significant disturbance. As the detention pond will not extend beneath the fill and the substrate under the fill is likely to have been disturbed, the potential for encountering archaeological materials in this area is extremely low.

Northbound I-405 On-ramp and Southbound I-405 Off-ramp

Four shovel probes were placed in proposed ramp locations (Exhibit 9). SP 7, SP 10, and SP 11 were placed in the on-ramp to northbound I-405. The probes could not be placed at set intervals due to development, and were instead placed in unpaved areas. SP 8 was placed at the off-ramp from southbound I-405. No other probes were placed in this area because the slope was extremely steep, and thus the probability of historic properties being present was very low.

Exhibit 9: Shovel Probe Results in the I-405 Ramps Probing Areas

SP No.	Location	Final Depth (cmBS)*	Soil Description	Materials Identified
7	On-ramp to NB I-405	100	Stratum 1 (S1) - very dark grayish brown, loose sandy silty loam with abundant tree roots/rootlets and less than 10% subrounded-rounded pea gravels-pebbles; over Stratum 2 (S2) - dark yellowish brown, fine sandy silt with less than 10% gravels; over Stratum 3 (S3) - compact yellowish brown, fine sandy silt; over Stratum 4 (S4) - very compact yellowish brown, silty sand with iron oxide nodules; over Stratum 5 (S5) - very compact pale yellow silty sand with yellowish brown nodules.	None.
8	Off-ramp from SB I-405	30	S1 - very dark brown, moist, sandy clay with pieces of wood, blackberry vines, and less than 5% rounded gravels, roots, partially burned pieces of wood, and some iron oxide nodules. The water table was encountered at 30 cm BS.	None.
10	On-ramp to NB I-405	110	S1 - An olive brown, silty sand with grass roots; over S2 - dark yellowish brown, fine sandy silt with red iron oxide nodules and small light olive sandstone fragments with 20% subrounded to rounded gravels; over S3 - a variegated dark yellowish brown, sandy silt.	Cultural material was observed throughout the probe and included 12 vessel glass fragments; 38 pane glass fragments; 16 round nails; 1 piece of cylinder metal; 4 brick fragments; 1 brick tile fragment with incised lines; 3 ceramic fragments and 1 unburned bone (possible bovid tarsal).
11	On-ramp to NB I-405	80	S1 - Very dark grayish brown, sandy clay; over S2 - dark yellowish brown, sandy loam with iron oxide nodules and light olive sandstone fragments throughout.	Cultural material observed included one paint peel, six pieces of plastic; two concrete aggregate fragments, one amber vessel glass fragment, and two rounded nails.

*cmBS = centimeters below ground surface; NB = northbound, SB = southbound

Shovel probes revealed artificial fill over saturated sediments below the water table, indicating that native sediments have been removed. Two shovel probes contained cultural material. SP 10 contained 12 vessel glass fragments, 38 window pane glass fragments, 16 round nails, 1 piece of cylinder metal, 4 brick fragments, 1 brick tile fragment with incised lines, 3 ceramic fragments, and 1 unburned mammal tarsal bone. SP 11 contained one paint fragment, six pieces of plastic; two concrete aggregate fragments, one amber vessel glass fragment, and two rounded nails. The materials recovered from SP 10 and SP 11 were determined to be modern. The potential for encountering archaeological materials at this location is very low.

Ecology Embankments

Four proposed ecology embankments were investigated in the funded SR 515 portion of the APE (Exhibit 10). Ecology Embankment No. 1 is located north of the proposed detention pond. Five shovel probes (SP 4, SP 15, SP 16, SP 17, and SP 18) were placed in the footprint of Ecology Embankment No. 1 and the proposed water conveyance feature leading from the detention pond to the ecology embankment. Five shovel probes (SP 5, SP 20, SP 21, SP 22, SP 23) were placed in the footprint of Ecology Embankment No. 2, located northeast of the proposed detention pond. One shovel probe (SP 6) was placed in the footprint of Ecology Embankment No. 3, which is located on the east side of Talbot Road, and another (SP 9) was excavated in the footprint of Ecology Embankment No. 4, located in the parcel between Benson Road S and I-405.

Ecology Embankment No. 1

Ecology Embankment No. 1 is located near a wetland adjacent to Rolling Hills Creek, which has been diverted into a conveyance pipe. The streamside terrace is considered a high probability area for archaeological resources; shovel probes thus were placed at 10-meter intervals.

Shovel probes revealed artificial fill thickest to the south (near the detention pond) and thinning to the north, where native sediments were encountered below fill in the northernmost probes. However, no archaeological materials were found in the native sediment layers. As probing was conducted at 10-meter intervals in this relatively small area, the potential for encountering archaeological materials is low.

Modern cultural material was observed within SP 15 and SP 18. SP 15 contained plastic fragments and three unglazed clay fragments with fibrous material that appear to be ceramic fragments. SP 18 contained a modern beer bottle glass fragment.

Exhibit 10: Shovel Probe Results in the Ecology Embankments No. 1, No. 2, No. 3, and No. 4

SP No.	Location	Final Depth (cmBS)*	Soil Description	Materials Identified
4	No. 1	200	Dark brown, silty loam with fine rootlets and 20 to 30% subrounded gravels; over very dark brown, charcoal layer of burned wood and root fragments; over very dark brown silt; over compact light olive brown, medium silt with some yellowish brown silt mottles and sparse charcoal fragments; over gray clay silt with a sand lens at 140 cm; over gray and pale brown clay and silt lenses.	None.
15	No. 1	100	Dark yellowish brown, very gravelly sandy loam with 40% gravels and trace charcoal flecks; over dark yellowish brown, gravelly sand with 20% gravels; over olive yellow, gravelly sand with silt and clay lenses and 20% gravels over gray, silty clay with clay content increasing with depth and red iron oxide streaks that vary in color from reddish black to yellowish brown.	Plastic in the upper 10 cm, 2 unglazed pottery fragments found between 50 and 60 cm.
16	No. 1	100	Very compact light olive brown sandy loam with 15 to 20% rounded gravels and cobbles; over olive brown, sandy loam with 20% rounded gravels and dark yellowish brown mottles.	None.
17	No. 1	115	Dark grayish brown, compact loam with <50% subrounded gravels and cobbles; over yellowish brown, very compact silty sand with coarse sand lenses and very sparsely distributed pieces of bark and charcoal and <20% subrounded predominately pea-sized gravels compact light olive brown, clay silt with light brownish gray mottles that increased with depth and <20% rounded gravels.	None.
18	No. 1	100	Dark olive, sandy loam with 20% rounded gravels; over dark yellowish brown, silty loam with 10 to 15% rounded gravels and sparse charcoal fragments; over olive brown, silty clay with less than 5% gravels.	Modern-era materials.
5	No. 2	70	Compact very dark grayish brown, sandy silt with 30% gravels; over compact yellowish brown, medium sand with 30% gravels and iron oxide nodules; over dark greenish gray silty sand.	Milled board and modern wrappers were found in the upper 20 cm. One piece of rubber found in the wall at 30 cm. Two concrete fragments, one fishhook, and two possible flakes were found in the screen between 60 and 70 cm. The shovel probe was terminated at 70 cm by the milled plank.
20	No. 2	70	Dark olive brown, silty clay and five large asphalt fragments over olive brown, fine sand with 20% angular-rounded gravels and some angular cobbles and iron oxide nodules at 70 cm. Also observed fragments of yellowish brown decomposing sandstone. Fill material.	Modern material.

*cmBS = centimeters below ground surface

Exhibit 10: Shovel Probe Results in the Ecology Embankments No. 1, No. 2, No. 3, and No. 4 (continued)

SP No.	Location	Final Depth (cmBS)*	Soil Description	Materials Identified
21	No. 2	90	Gravelly silt loam mottled with black to dark olive brown to sparse dark yellowish brown matrix with angular to rounded gravels over olive grey, gravelly medium fine sand with mottles of black to dark olive brown and dark yellowish brown At 65 cm, lenses of greenish gray clay up to ½ inch thick. Fill material.	Modern material.
22	No. 2	100	Very dark grayish brown, sandy silty loam with 20% angular-rounded gravels; over olive brown, sandy silt with 40% subangular to angular cobbles (road fill) with mottles of very dark grayish brown matrix; over dark olive brown, silty sand with iron oxide mottling and decomposing sandstone and clay clasts with 40% subangular to angular cobbles.	Modern material.
23	No. 2	60	Compact dark grayish brown, silty sand with 20% angular gravels, and asphalt fragments and plastic fragments; over very compact brown, clayey sand with less than 40% subangular to angular gavels and modern trash (plastic), asphalt, and concrete with clasts of clay; over very compact yellowish brown, clayey sand with brown mottles and grey clay clasts and concrete fragments and fill.	Modern material.
6	No. 3	145	Very dark brown, sandy loam with 20 to 30% subrounded and subangular gravels and abundant roots over a dark yellowish brown, medium to fine sand with 5 to 10 % gravels. Inclusions of gray clay were observed from 138 cm to 145 cmBS.	None.
9	No. 4	40	Dark grayish brown, sandy clay with small iron oxide nodules; over compact dark brown, silty sand with subrounded gravels and amorphous patches of dark yellowish brown staining; over variegated very dark grayish brown to dark yellowish brown, sandy hardpan with clasts of decomposing sandstone.	Modern glass and plastic was observed throughout the probe.

*cmBS = centimeters below ground surface

Ecology Embankment No. 2

The proposed location of Ecology Embankment No. 2 was considered to have a moderate probability for archaeological material due to its proximity to the former location of the mainstem which is now a wetland near Rolling Hills Creek. One shovel probe was planned, but the discovery of cultural materials necessitated the excavation of addition shovel probes.

SP 5 contained compact very dark grayish brown, sandy clay with 30 percent gravels over a compact yellowish brown, medium sand with 30 percent gravels and iron oxide nodules over a dark greenish gray, clayey sand, the latter layer directly atop a milled wood plank. A large, subangular, metamorphic cobble was found resting on the plank at 60 centimeters below ground surface. In addition, two possible flakes, pieces of rubber, concrete fragments, and a rusted metal fishhook were noted in the screen. Based on the cultural material that was initially observed within SP 5, it was determined that additional shovel probes would be required to

determine material's significance. An additional four shovel probes (SP 20, SP 21, SP 22, and SP 23) were placed in each cardinal direction from SP 5.

The sediments observed in SP 20, SP 21, SP 22, and SP 23 were identified as fill material. Cultural material was identified as modern debris and included: plastic fragments, asphalt chunks, concrete, modern glass fragments, Styrofoam, thin metal wire, and angular to subangular gravels and cobbles. The depth of modern material was found from 5 to 100 centimeters below ground surface. In summary, the observation of two possible flakes and metal fishhook intermixed with concrete fragments, milled lumber, and plastic found in a potentially disturbed stratigraphic context necessitated further testing. The additional testing confirmed extensive disturbance based upon the nature of the fill and vertical displacement of modern debris in the surrounding sediment profiles. The milled board, rusted metal fishhook and two stone flakes most likely were redeposited with the emplacement of road grade materials for the adjacent section of Talbot Road S. The majority of sediments observed within the footprint of Ecology Embankment No. 2 represent fill and the area has been heavily disturbed. Minimal potential remains for encountering archaeological material that retains integrity of association and location

Ecology Embankment No. 3

One shovel probe (SP 6) was placed in the footprint of Ecology Embankment No. 3, an area determined to have a low probability for archaeological resources due to the extensive disturbance visible at the ground surface. No cultural resources were observed.

Ecology Embankment No. 4

Ecology Embankment No. 4 is located on a steep slope and was determined to have a low probability for archaeological resources. One shovel probe (SP 9) was placed in the footprint of the embankment. The sediment observed in SP 9 consisted of artificial fill above the local basal layer of sandy hardpan with clasts of decomposing sandstone. Modern glass and plastic was observed throughout the probe, indicating extensive disturbance.

Other Ecology Embankments

The area of the planned ecology embankment to the north of Embankment No. 3 (north of I-405 and just east of SR 515) was tested during cultural resources survey for the Renton Nickel Improvement Project and no archaeological materials were found (WSDOT 2005).

The planned ecology embankment to the west of Embankment No. 4 will be on the current alignment of Benson Road S (the road will be moved as part of the Renton Nickel Improvement Project). The area of the planned ecology embankment to the north of Ecology Embankment No. 4 (between I-405 and Benson Road S) was tested during cultural resources survey for the Renton Nickel Improvement Project and no archaeological materials were found (WSDOT 2005).

Retaining Wall

Background research revealed that part of the proposed retaining wall would be constructed in the vicinity of the Renton Coal Mine, which operated from 1873 to 1933 (Collins 1975). Backhoe trenches were planned for the mine vicinity to locate any possible buried mine structures. The

remainder of the retaining wall area is either steeply sloping (the northeastern portion) or heavily disturbed (southwestern portion) and was determined to have low probability for archaeological resources. Consequently, shovel probes were placed at 30-meter intervals according to the I-405 Corridor Survey Guidelines (see Appendix C).

Shovel Probes

Four shovel probes (SP 12, SP 13, SP 14, and SP 24) were placed where possible within the footprint of the proposed retaining wall, outside the coal mine vicinity (Exhibit 11). The shovel probes varied in depth from 52 to 110 centimeters below ground surface. SP 13, SP 14, and SP 24 contained compact brown, sandy silt overlying very compact yellowish brown sand, amorphous reddish brown staining, and sandstone fragments, overlying very compact strong brown sand with fragments of yellowish brown decomposing sandstone. SP 14 had an additional sediment layer of very dark brown, silt loam overlying the compact dark yellowish brown sediment. SP 24 had a strong brown, very compact layer of sand underlying the dark yellowish brown sediment.

SP 12 contained a dark yellowish brown, compact sand with iron oxide nodules and light olive brown sand with sandstone pebbles and 5 percent rounded gravels and cobbles over a light olive yellow, very compact sand with less than 5 percent gravels and pebbles and local basal layer of decomposing sandstone. The shovel probe results show disturbed sediments over the sandstone. The potential for encountering archaeological materials that retain integrity in this area is extremely low.

Modern glass and a nail were found in three of the shovel probes (SP 12, SP 14, and SP 24), but no archaeological materials were found in any of the shovel probes.

Exhibit 11: Shovel Probe Results in the Retaining Wall Probing Area

SP No.	Final Depth (cmBS)*	Soil Description	Materials Identified
12	52	Dark yellowish brown, compact sand with iron oxide nodules and light olive brown sand with sandstone pebbles and 5% rounded gravels and cobbles up to 15 cm in length; over light olive yellow, very compact sand with less than 5% gravels and pebbles and decomposing sandstone.	Modern glass fragments.
13	70	Very dark brown, sandy loam with roots extending to 52 cm; over very compact dark yellowish brown, fine sand with 10% rounded gravels and 10% iron oxide nodules with pale yellow and yellowish brown mottles, sparse charcoal flecks, and decomposing sandstone.	None.
14	110	Very dark grayish brown, sandy silty loam with less than 20% gravels, roots, and sparse charcoal pieces, and one small fragment of coal; over very dark brown, clayey sandy silt with gravels; over compact dark yellowish brown, sandy silty loam with sparse iron oxide nodules; over very compact yellowish brown sand with dark yellowish brown amorphous staining and less than 20% gravels with decomposing sandstone fragments.	Modern glass fragment.
24	110	Moderately compact brown, sandy silt with irregular lower contact ;over yellowish brown, very compact decomposing sandstone with amorphous darker staining and yellowish-reddish brown sandstone fragments; over dark brown, very compact sand with amorphous yellowish brown mottles and decomposing sandstone fragments.	Modern round nail.

*cmBS = centimeters below ground surface

Backhoe Trenches

Five backhoe trenches were excavated at approximately 10- to 20-meter intervals across a flat bench on Renton Hill thought to have been created by the deposition of coal mine tailings. See the Archaeological Site Form in Appendix F for a site map that shows trench locations. The trenches were approximately 1 meter wide. Length varied from 2 to 8 meters and depth from 1.5 to 4 meters. The three southernmost trenches contained cultural material (positive trenches), and the northern two had no cultural material (negative trenches).

The trenches revealed a landfill deposit accessed by a dirt road grade. The landfill, which postdated use of the mine, was composed primarily of historic to modern, relatively intact vessel glass with lesser quantities of metal, ceramic, and assorted household items. Many items showed evidence of burning. Backhoe trenches and an exposed profile at the southeast margin of the raised bench revealed that landfill deposits extend at least 3.5 meters below ground surface and rest on mine tailings. Existing topography created by the dump fill, in addition to oral interviews, indicates the dump deposit may be 9 to 12 meters thick in some areas. The deposit showed no evidence of stratification.

Backhoe trenching revealed that the dump deposits are deepest at the southern end of the site, and thinnest at the northern end. The site is bounded by a steep uphill slope to the east, a downhill slope to the west to I-405, a downhill slope to the south to an unnamed drainage (a tributary to Thunder Hills Creek), and a gradual uphill slope to the north. Glass and other debris is visible on the surface across the site.

The archaeologists sorted historic vessels from the modern vessels retrieved from three of the five trenches and selected a sample to record based upon shape, color, size, seam morphology, lip morphology, use, and maker's marks. Three I-405 Team archaeologists returned the following day to inventory the sample of 74 bottles and assorted other artifacts, and to photograph and map the site.

The vessels consisted of 22 non-specific types, 16 medicine bottles, 12 condiment/food bottles, 10 ointment/cosmetic bottles, 6 alcohol bottles, 5 household cleaning/utilitarian bottles, and 3 beverage bottles. Colors included clear, cobalt, aqua, green, olive, amber, blue, brown, and milk glass.

Two specimens, a rum bottle and medicine bottle, date from the late 1800s based on attributes such as hand-applied, cork-stopper lips and the lack of seams. However, the great majority of vessels observed in the upper 4 meters of the three positive trenches were automatic machine-made types, indicating that they were manufactured after 1904. Trademarks were also recorded as a basis for chronological assignments, but in many cases, they only provided the earliest possible date for a particular vessel (Toulouse 1971). Some vessels bore more specific markings, such as the Whitall-Tatum logo or the Owens-Illinois trademarks, which together with plant numbers provide a more precise chronological determination. Other trademarks observed included Anchor Hocking, Hazel Atlas, Northwestern Glass Company, and Maryland Glass Corporation. The earliest dates for these trademarks cluster around 1916, 1920, and 1929 to 1938, and most postdate the operation of the coal mine. A Pepsi-Cola bottle that stylistically dates from 1948 to 1951 and a 7-Up bottle that commemorates the 1952 Olympics in Helsinki

provide some of the most recent dates for the dump (Soda Museum website 2006). Modern beer bottles and ceramics were also observed in the spoils piles.

Other artifacts from the dump are more sparse and include ceramic teacup and saucer fragments, lustreware fragments, shoe soles, automobile headlights, various rusted metal debris, sparse brick fragments, ornamental slate fragments, a vacuum tube, ceramic insulators, an amber glass doorknob, a blue glass lampshade pull, a ceramic button, marbles, copper and ceramic light bulb bases, toilet bowl fragments, and a crushed enamelware pot.

According to local informants interviewed by Landau Associates on April 12, 2007, the landfill was a civic dump used by the City of Renton and operated by a caretaker who sorted incoming material, cleaned and repaired salvageable items, and discarded the remainder. Glass could not be legally reused from 1935 to the 1960s (SHA 2007), which explains its prevalence in the deposit. Discarded material was periodically burned. The caretaker of the dump from 1941 to 1949 was Victor Scola, born in 1867 in northern Italy, who immigrated to Washington in 1907 where he worked in the Renton and Newcastle coal mines (Tonda, M. and V., 2007, personal communication). Until his death in 1951, Scola lived in one of the coal mine superintendent's houses on a parcel with a wash house, apple trees, and a fish pond just south of the old hoist house (Tonda, M. and V., 2007, personal communication). Those structures were demolished with the construction of I-405 in the 1960s, but the dump was in use through the mid 1970s.

Although the Renton Civic Dump is likely a primary deposit in relatively undisturbed condition, the lack of stratification compromises potential to recover data important to history. Profiles and topography indicate that there may be up to 9 meters of unexamined deposits in some areas. However, the reported operational procedures of the landfill, and the fact that the dump cannot be demonstrated to have served a particular segment of the population, indicates that the remainder of the deposits likely also lack the potential to provide data. A Determination of Eligibility Form describing the site's integrity and potential significance is included in Appendix F. The civic dump site retains integrity, but is not significant and is not eligible for listing in the NRHP.

In addition to the Renton Civic Dump, additional features of the Renton Coal Mine were identified within the APE at Renton Hill. A feature now identified as the "old hoist house" on a 1912 sketch map of the mine (Exhibit 14), had been previously recorded as the Renton Coal Mine Hoist Foundation (45KI211) at the base of the hill on the east side of Benson Road S. This feature was determined not eligible for listing in the NRHP, but is listed on the WHR (Collins 1975; WSDOT 2005). Newly located features include another hoist foundation, known as the old hoist house, and a low concrete wall. Both are adjacent to the eastern margin of, and slightly uphill of, the civic dump. The area surrounding the site was examined for further evidence of coal mine building foundations, but no other features were observed.

The Renton Coal Mine was established in 1873 by Erasmus M. Smithers, Captain William Renton, and Mr. Crane (first name unknown) on land owned by Smithers' wife, Diana Tobin Smithers. The mine closed some years later. It reopened in 1886 and was operated by the Renton Cooperative Coal Company until 1901. From 1901 until its final closing in 1920, the mine was operated by the Seattle Electric Company. The mine occupied the western slope of Renton Hill and part of the valley bottom below. Exhibits 12, 13, and 14 are historic maps of the mine complex. Buildings present at various times included a stable, an "Old Blacksmith's Shop," a fan house, the old hoist house, a carpenter and blacksmith's shop, a storage shed, an oil house, an office, a powerhouse/boiler, the new hoist house, a wash house, an additional shop, and the timber framer's shed. Other structures included an elevated tramway, a rail spur, and structures for loading coal from the rail spur onto trains on the main line (called the tipple and bunkers). Most of these buildings were in locations that are now developed, including the I-405 freeway and a Sam's Club store and parking lot.

The only remaining Renton Coal Mine structures are those in the APE: the old hoist house, new hoist house, the concrete wall, and a possible mine entrance (for maps and photographs, see Appendix F). Although the new hoist house on Benson Road S was previously evaluated as a standing structure, the mine remains are in ruins and can best be evaluated as an archaeological site. The mine complex has been largely destroyed, does not retain physical integrity or integrity of association, setting or feeling, and does not have the potential to yield information important to history beyond the recordation of structural remains completed during this project. The Renton Coal Mine complex is not eligible for listing in the NRHP. A Determination of Eligibility Form describing the site's integrity and potential significance is provided in Appendix F.

Finally, the nature of the original topography and its degree of disturbance underlying the civic dump could not be determined. In the absence of mine shafts, the basal tailings may simply be covering the native soils as evident in the aforementioned cutbank exposure. The potential for a prehistoric occupation is relatively low, because the 1863/1865 General Land Office (GLO) map (Exhibit 2) shows that the area was relatively steeply sloped, and it has likely been disturbed by mining activities. However, the presence of native soils cannot be ruled out, and the GLO map shows a trail skirting the base of the hill and a native village approximately 0.5 mile west on the eastern bank of the former Black River.

Exhibit 12: 1904 Sanborn Fire Insurance Company Map of the Renton Coal Mine

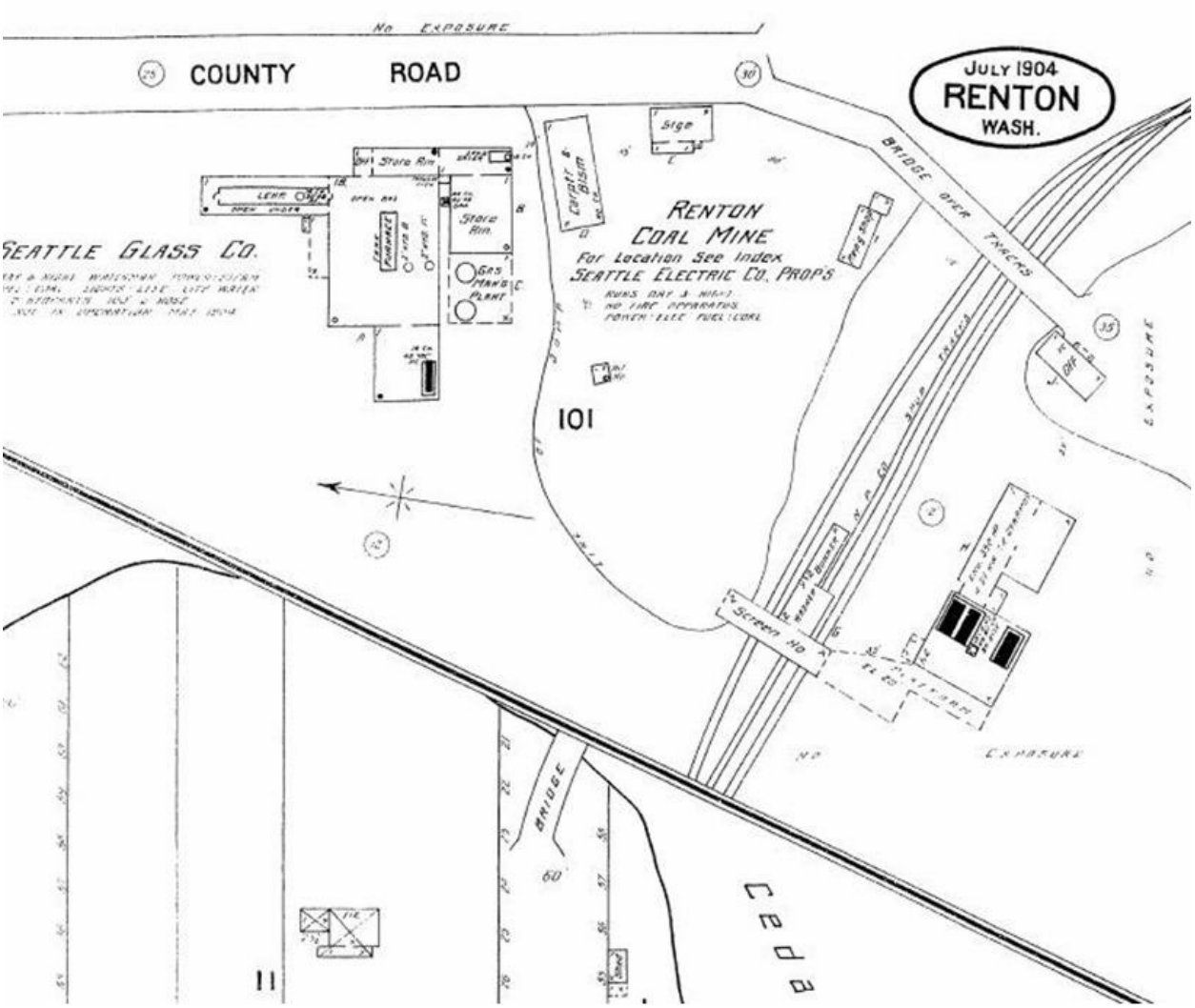


Exhibit 13: 1912 Washington Geological Survey Map of the Renton Coal Mine

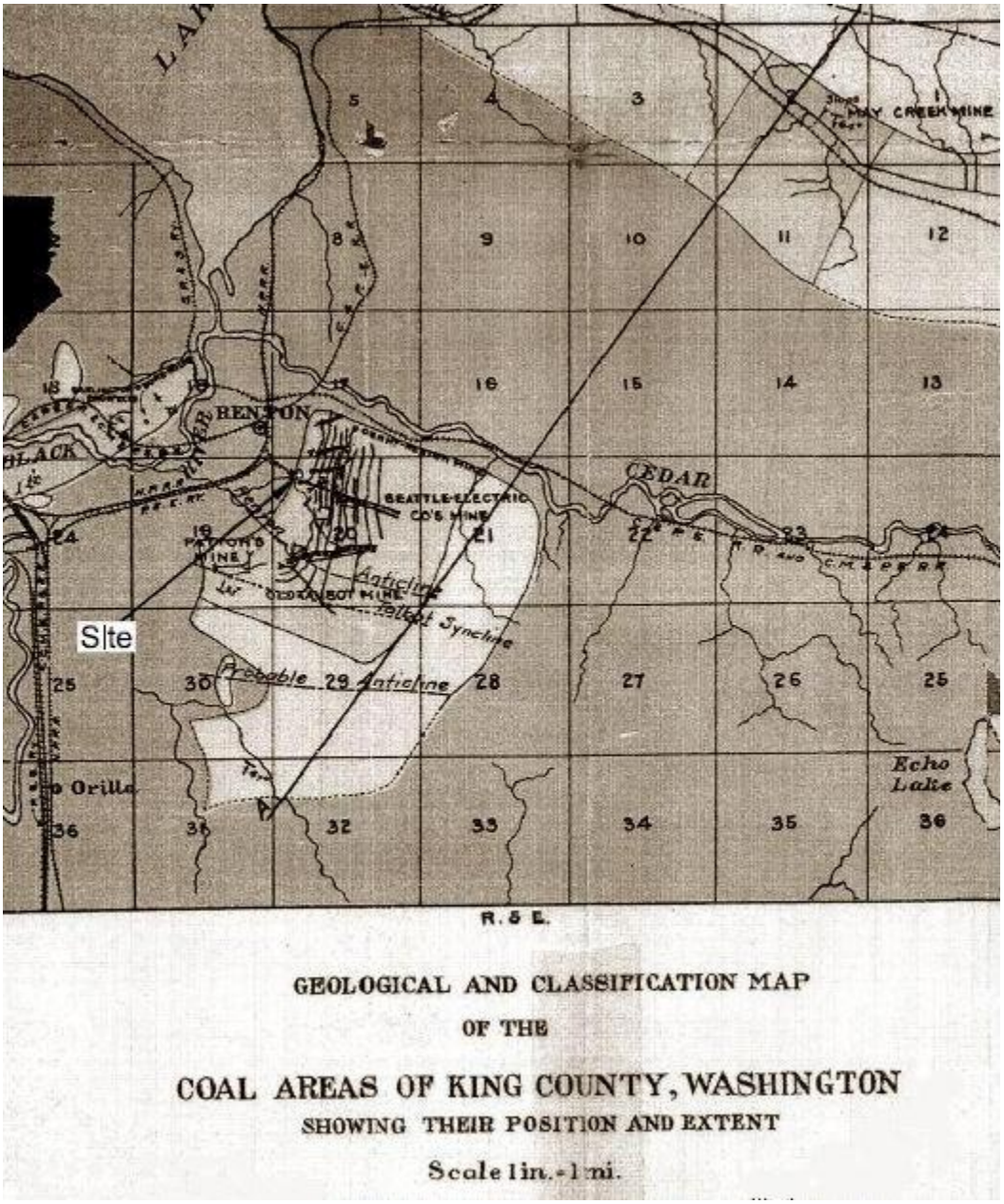
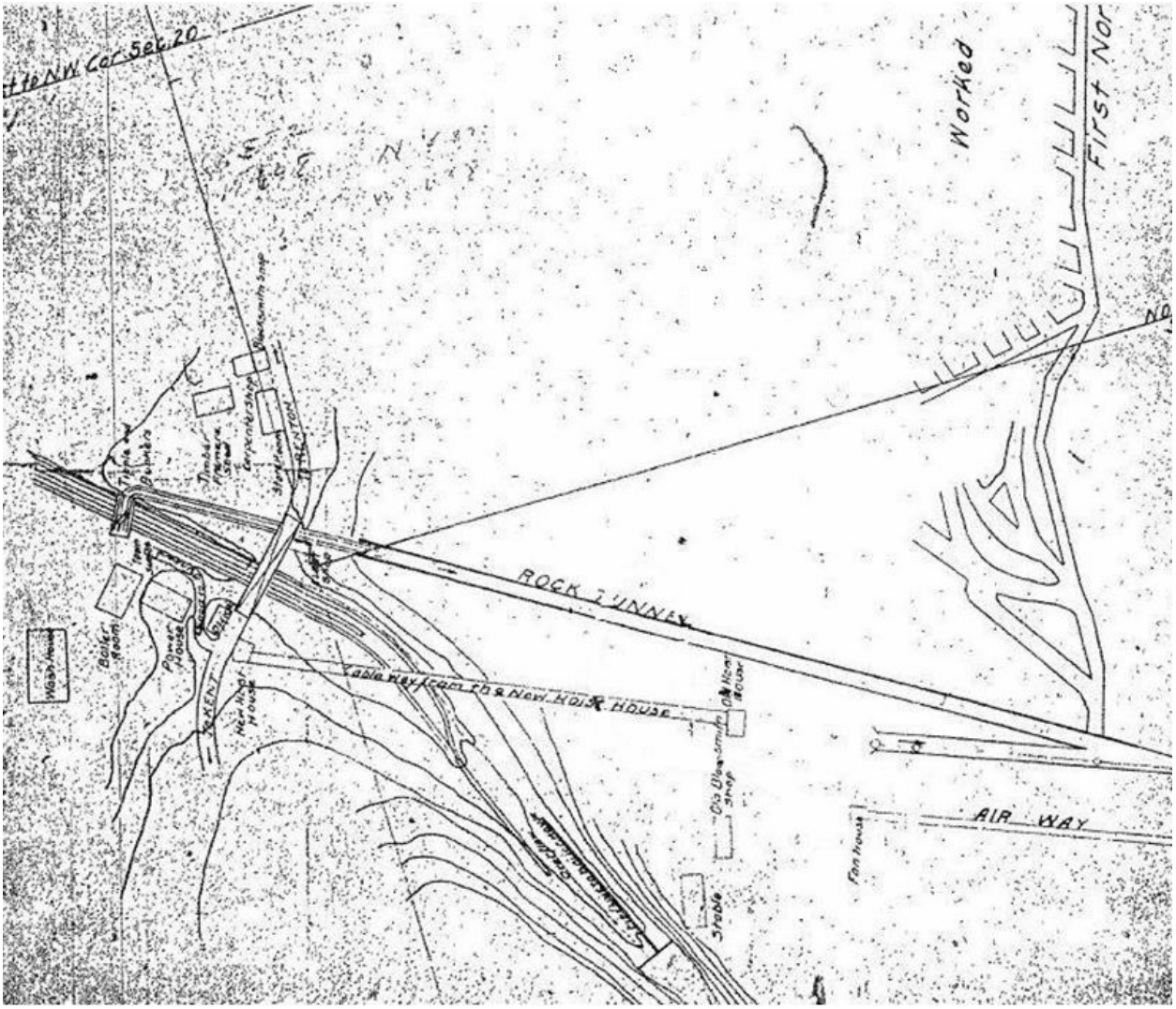


Exhibit 14: 1912 Sketch Map of the Seattle Electric Company's Renton Coal Mine



Other Archaeological Resources

Archaeologists located two other historic era sites that are primarily above ground but are considered archaeological sites by DAHP guidelines; both were recorded on site forms.

Puget Sound Shore Railroad Company Railroad Grade

The second railroad right-of-way in the APE consists of two parallel railroad segments, which were recorded during this project where they extend 200 feet north and south of the I-405 corridor. The segment north of I-405 trends northwest across a floodplain along the west bank of the Green River. The segment south of the I-405 corridor swings southward and continues across the floodplain of the west bank of the Green River. The two railroad segments presently demarcate the eastern boundary of Tukwila.

These two railroad segments are associated with the Puget Sound Shore Railroad Company, incorporated August 19, 1882 and in operation from July 6, 1884 to October 31 1889. In 1882, a construction contract was signed to build three rail tracks from Argo to Black River Junction.

Work was completed in 1884, and the main line ran from Stuck Junction to Seattle. The Puget Sound Shore Railroad Company was a division of the Columbia & Puget Sound (C&PS) Railroad. At the Black River Junction, the Puget Sound Shore Railroad continued south to Stuck Junction, while the C&PS Railroad ran from Seattle to the Black River Junction, and upon reaching the Black River Junction, went east and continued to Taylor and Black Diamond (Robertson 1995).

In 1889, the Puget Sound Shore Railroad Company was sold to the Northern Pacific and the railroad line was called Northern Pacific and Puget Sound Shore Railroad Company. As a result, the Puget Sound Shore Railroad Company became a subsidiary of the Northern Pacific Railroad. In 1916, the Puget Sound Shore Railroad's former parent company, C&PS Railroad, had consolidated with the Pacific Coast Railroad Company. The mainline was extended from Meeker to Seattle, Kennydale, and Kirkland (Robertson 1995). In 1970, a merger between four railroad companies including Northern Pacific and Chicago, Burlington and Quincy Railroad, formed the Burlington Northern Railroad company (BNSF website 2007).

Parts of the Puget Sound and Shore Railroad may be NRHP-eligible. However, the portion within the APE is non-contributing and consists only of currently-used track; it is not NRHP-eligible.

Talbot Road Dam and Retaining Wall Ruins

The Talbot Road Dam and Retaining Wall Ruins site consists of a concrete dam, at least four courses of retaining walls, a portion of a fence, and a debris scatter (see sketch map in Appendix F). The site is located on a parcel owned by Washington Natural Gas Co., who purchased it from a private individual in 1995. The parcel was originally platted as the Renton Cooperative Coal Co. Acre Tracts. The Renton Cooperative Coal Co. owned the nearby Renton Coal mine from 1886 to 1901. Ownership between 1901 and 1995 is unclear. The dam does not appear on the 1884 GLO maps. In aerial photographs (available from the 1950s onward), heavy vegetation obscures any features that may have been present. Date of construction of the dam and other features is unknown, though it appears to date to the modern period.

The dam is poured concrete, approximately 15 meters wide east to west, 1.5 – 2 meters tall and 25 centimeters thick. It appears to have been a check dam constructed to control downstream flooding. It may have been intentionally "broken" to divert flow more efficiently to the drains and conveyance pipe. The age of the dam feature is unknown, but it appears to be of 20th century construction.

Other features include four retaining walls made of dry masonry courses of concrete blocks, large cobbles, and small boulders; a portion of a fence which appears to be modern; a flat bench area which may be an old road grade, and a scatter of historic debris.

The age of the Talbot Road dam and retaining wall features has not been determined, and do not appear to be NRHP-eligible. In any event, these features will be avoided and thus will not be affected by the project. Planned improvements in the area are limited to minor pavement widening in the WSDOT right-of-way upslope of the features.

Summary

In summary, archaeological investigations located three sites in the funded portion of the APE that are available for study: the Renton Civic Dump, the Renton Coal Mine, and the Talbot Road Dam and Retaining Wall site. One site outside the funded portion was recorded, the Puget Sound and Shore railroad grade. The civic dump, the mine, and the railroad grade are not eligible for listing in the NRHP. The Talbot Road Dam and Retaining Wall site is unlikely to be eligible. No construction is planned in the site area, so the resource will be avoided. It thus will not be affected by the project. No other archaeological materials were found.

Historical Buildings and Structures

Historical Buildings

Within the APE, a total of 137 historical buildings were identified as being built before 1965. Of these resources, 47 historical buildings were previously recorded in the I-405 Renton Nickel Improvement Project, and were not rerecorded as part of this project (WSDOT 2005). The remaining 90 historical buildings located within the Tukwila to Renton Project APE were recorded and evaluated for NRHP eligibility. Copies of Historic Property Inventory Database forms provide descriptions, photographs, and statements of significance and are included in Appendix A. A table summarizing the recorded building is included in Appendix B. Exhibits 15 through 22 show the locations of the recorded buildings and structures. Due to early uncertainty about the study area, some properties that were recorded are outside the APE. We have left these in the report so that the information will enter the permanent record.

One of the buildings evaluated in this study, the WHR-listed Nelsen House (TRIPH-013, 45KI596) has been determined eligible for listing in the NRHP. None of the other resources evaluated in this study are NRHP-eligible. As described earlier in this report, the Renton Fire Station was determined eligible in 2005 in a previous study. It is not described again in this section. The Nelsen House is described below.

The Nelsen House, located at 15643 West Valley Highway in Tukwila, is a two-and-one-half story, late Victorian farmhouse that was built in 1905 on a 200-acre dairy farm owned by James Nelsen. The house was subsequently moved 60 feet west of its original location in 1964 and placed atop a new concrete foundation.

The house is associated with James Nelsen who emigrated with his two brothers from Denmark to Illinois in 1881, after which he moved to Washington in 1883. James Nelsen worked at the Black River Junction farm for a few years before purchasing 25 acres of wooded bottomland and becoming the first settler to farm along the White River. He married Mary Dobler in 1885 and purchased 210 additional acres to harvest hops and potatoes. In 1902, he acquired 280 acres of land in the vicinity of modern Interurban Avenue in Tukwila on the McNatt Donation Land Claim where he began a dairy farm and shipped milk by boat to Seattle. He later founded the King County Dairyman's Association and the Independent Water Company, which served Tukwila for fifty years. James Nelsen was also one of the original organizers and a director of the First National Bank of Renton as well as the County Road Supervisor for the South King

Exhibit 15: Historical Buildings & Structures Recorded in the APE, Sheet 1

Exhibit 16: Historical Buildings & Structures Recorded in the APE, Sheet 2

Exhibit 17: Historical Buildings & Structures Recorded in the APE, Sheet 3

Exhibit 18: Historical Buildings & Structures Recorded in the APE, Sheet 4

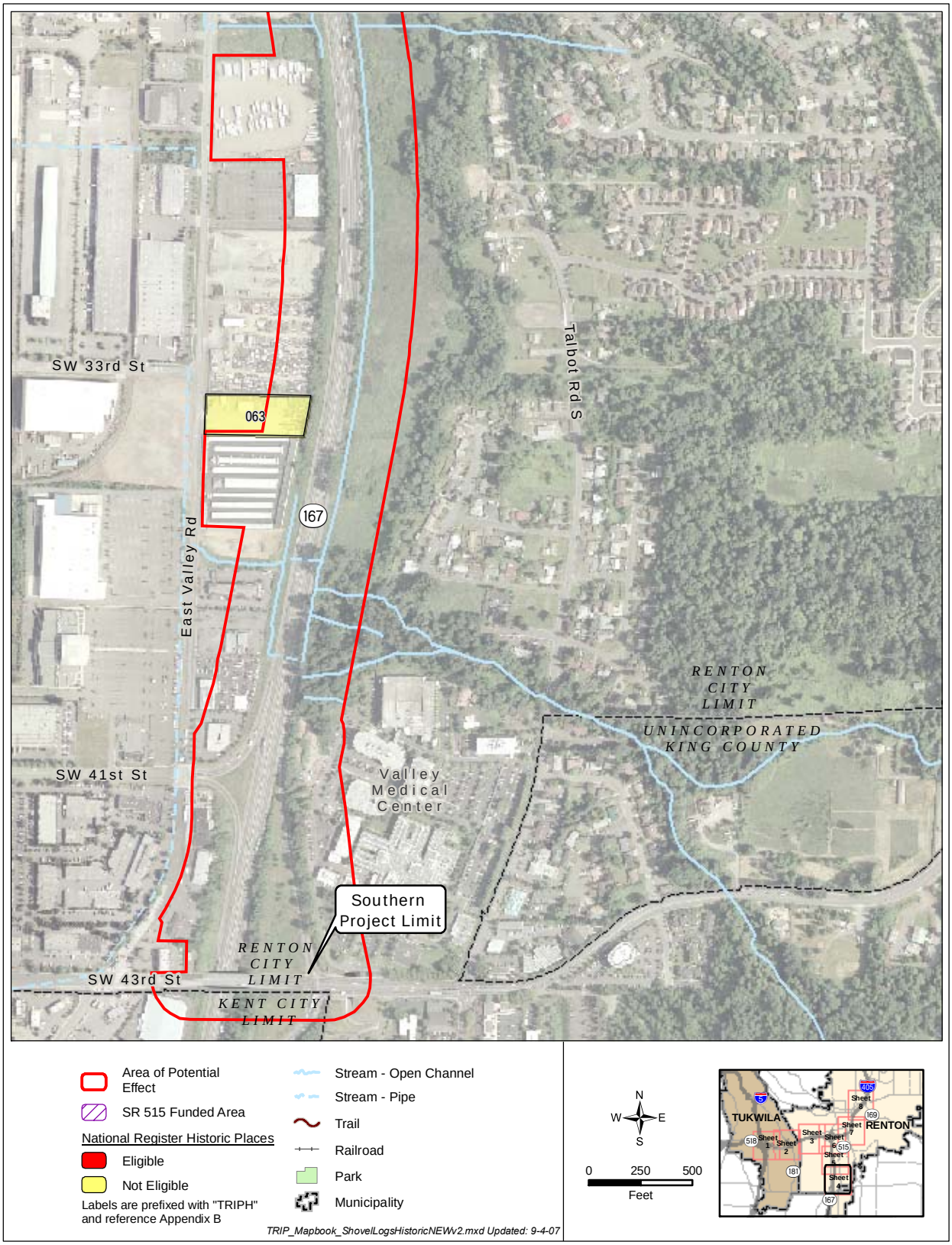


Exhibit 19: Historical Buildings & Structures Recorded in the APE, Sheet 5

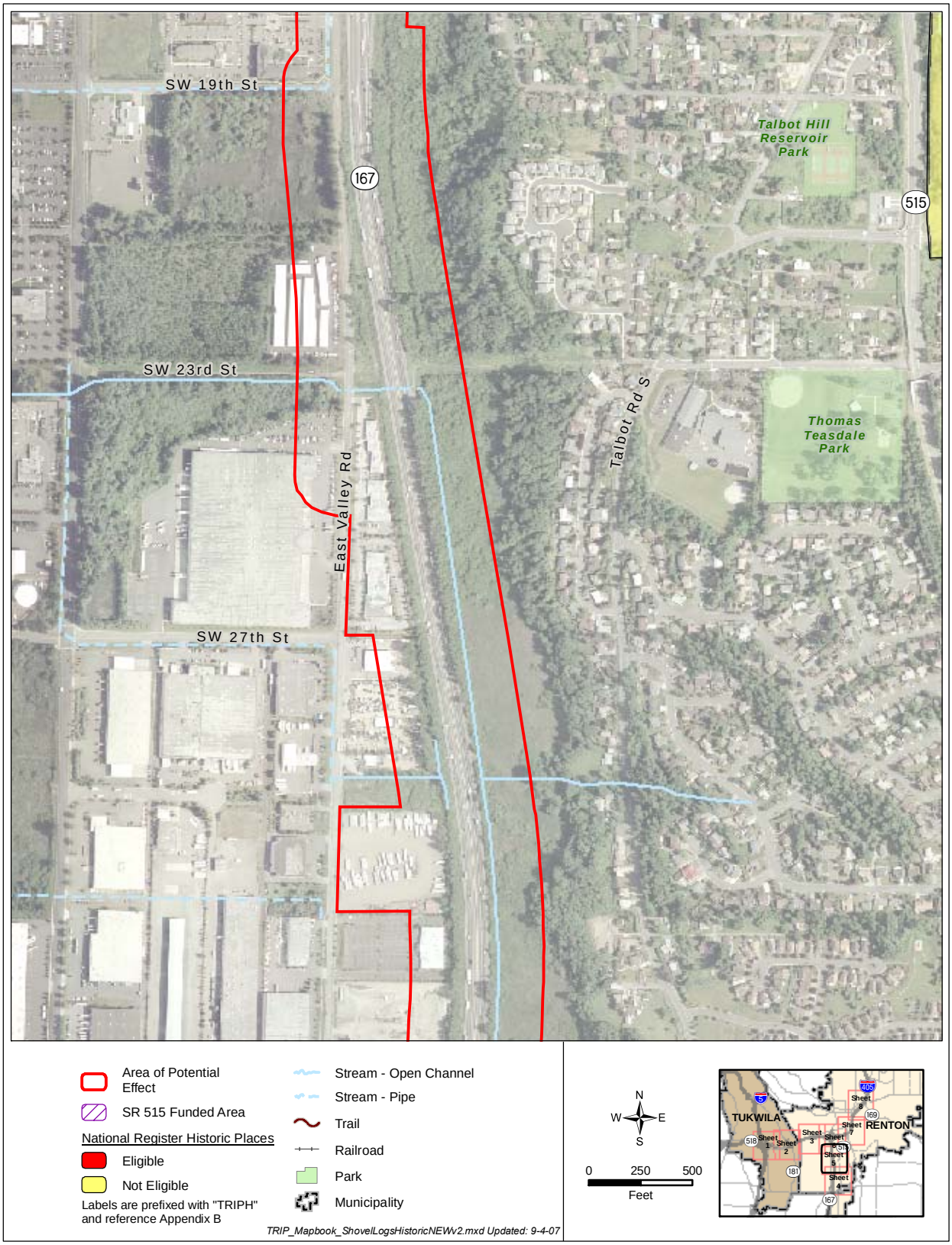


Exhibit 20: Historical Buildings & Structures Recorded in the APE, Sheet 6

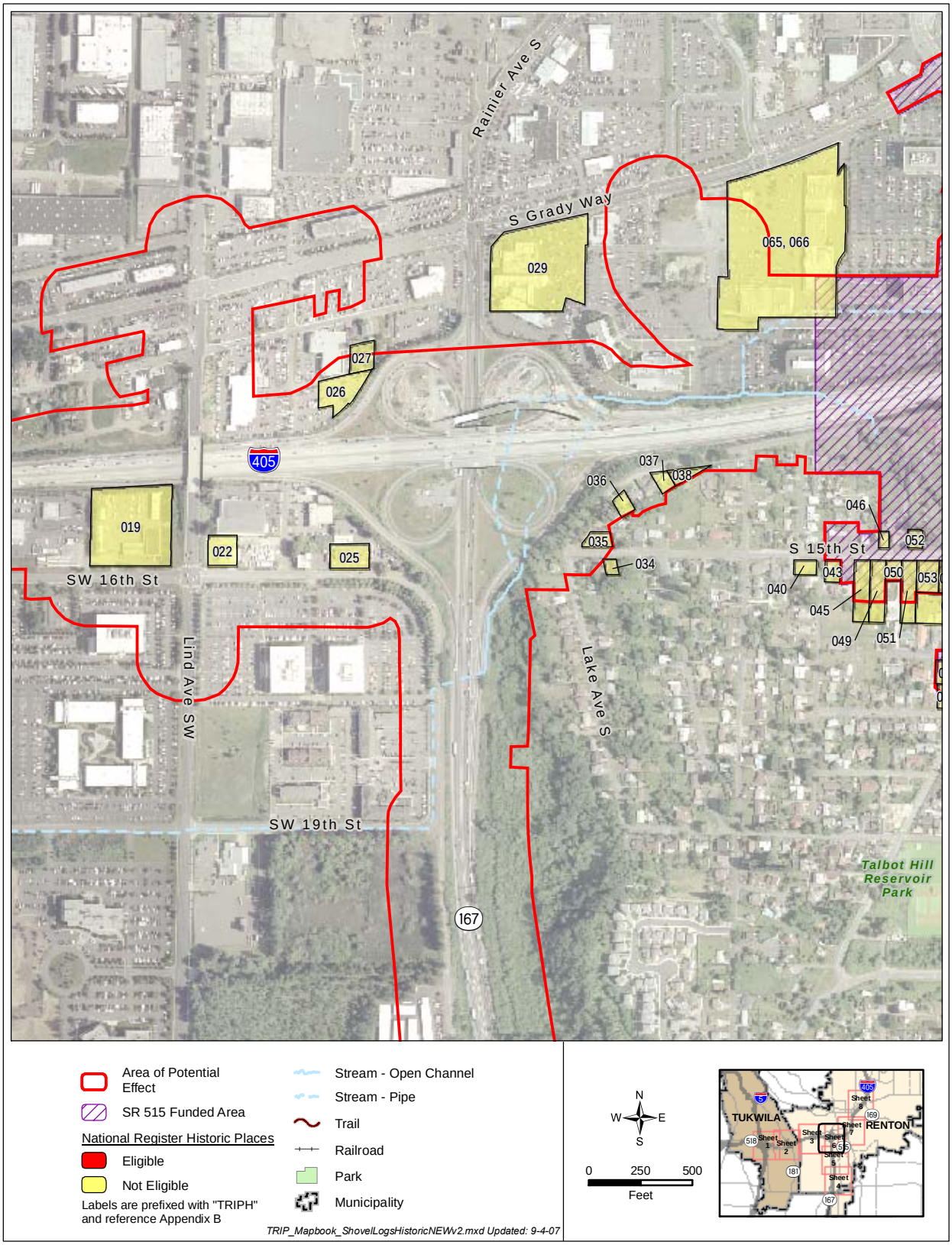


Exhibit 21: Historical Buildings & Structures Recorded in the APE, Sheet 7

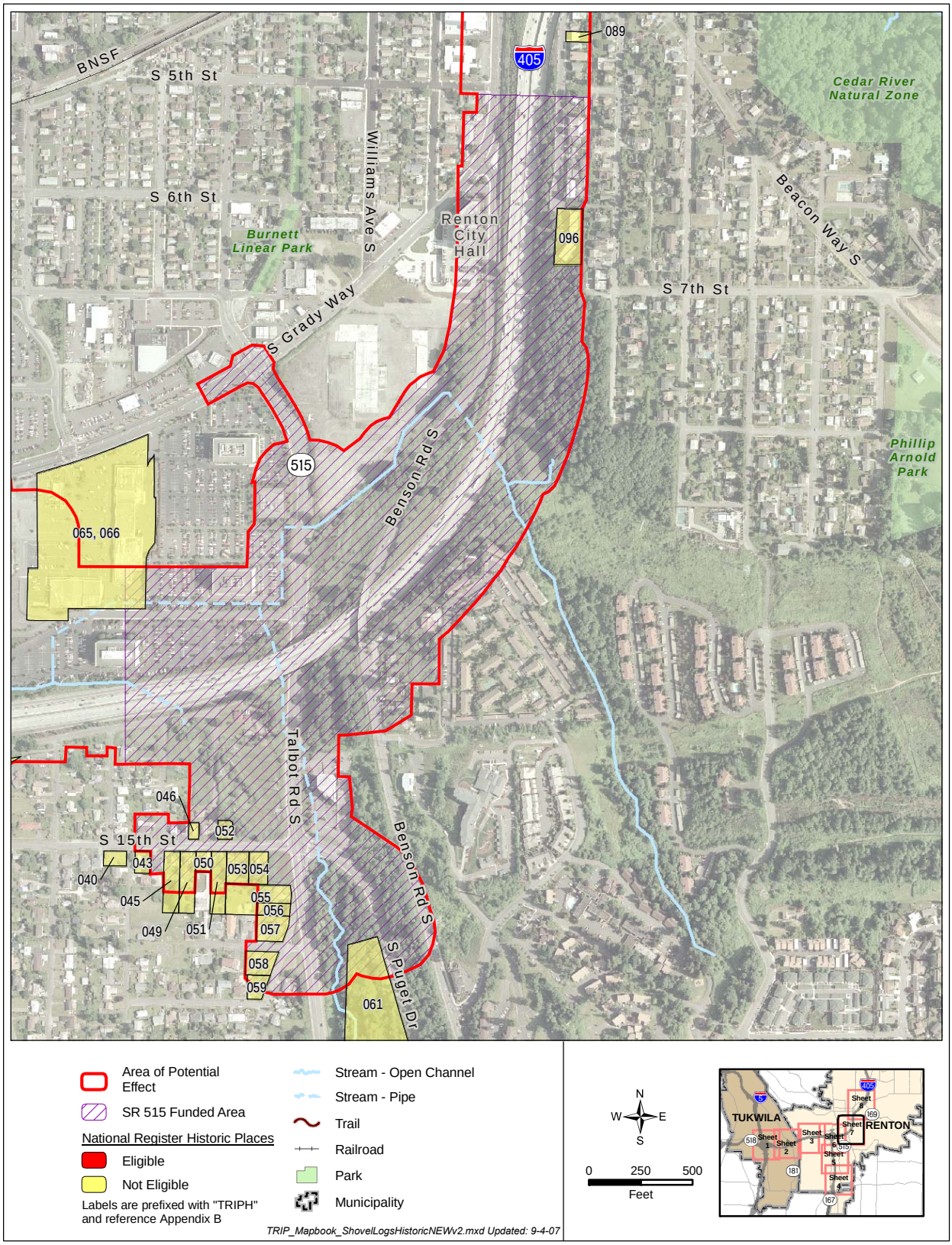


Exhibit 22: Historical Buildings & Structures Recorded in the APE, Sheet 8

County district for 15 years. Although the original house was constructed at the modern address, 16010 West Valley Highway, in 1905 by a local Danish carpenter by the name of Mr. Olsen, it was moved across the street in 1964 and remodeled in 1990. James Nelsen lived in Renton Junction for 66 years (Nelsen Historic Trust 2007; Reinartz 1991).

The James Nelsen House is currently listed on the Washington Heritage Register and has been determined to be eligible for listing on the National Register. Despite having been moved from its original location, its architectural significance and integrity warrant its inclusion in the NRHP under Criterion Consideration C.

The downtown Renton commercial core, including areas within and adjacent to the APE, was also evaluated as a potential historic district. It is not NRHP-eligible because it lacks integrity of design, setting, feeling, and association. We conducted a pedestrian survey of the area between SR 900 to the south, Burnett Avenue to the west, Cedar River to the north, and Mill Avenue to the east. While some historic resources with integrity exist within this area, those resources comprise less than 25% of the total number of resources within the APE. The area's historic integrity is compromised by an abundance of modern buildings, including City Hall, contemporary city and private office buildings, several recent commercial properties, and contemporary light industrial properties dating from the 1960s through present.

Historical Structures

During the historic building survey, two historical structures, both bridges, were identified within the Tukwila to Renton Project APE (Exhibit 23).

Exhibit 23: Historical Structures Recorded in the APE

Field #	Resource Name	Date Built	NRHP Eligible
TRIP-136	Cedar River Bridge (Bridge No. 900/20)	1939/1940	No
TRIP-137	Houser Way Bridge	1960	No

Cedar River Bridge

Located on SR 900 in Renton, the Cedar River Bridge (No. 900/20) is a standard example of a steel girder concrete T-beam constructed bridge. The bridge is oriented east to west, the latter end near the intersection with Mill Avenue. Built in 1939, the structure comprises a main span of 104 feet in length, flanked by two approach spans of 28 feet each. The 56-foot-wide roadway deck is made up of ten reinforced concrete girders carrying four lanes of traffic. It is flanked by two, 5-foot-wide sidewalks. The bridge is supported by two concrete abutments carrying the main span and two concrete bents carrying the approach spans. The bents are topped by decorative concrete Art Deco-style pylons that house bronze light fixtures. The pylon bases are stamped with a standard date panel reading "1939." The bridge's railings, although a standardized design, are decorative in nature and comprise reinforced concrete open balustrade railings with a cast-in-place top rail atop square balusters and corbelled openings.

Concrete curtain walls conceal the approach spans on the east and west sides of the bridge. On the east end of the bridge, a stairway leads from the top of the sidewalk to the outer edge of the

bridge abutments. The stairway connects with a pedestrian path, which extends along the Cedar River on the north and south sides of the bridge.

The Cedar River Bridge was evaluated for NRHP listing in 1980 as part of the original historic bridge evaluation by Lisa Soderberg. The bridge was not included on the final list nominated to the NRHP at that time. An updated evaluation of the bridge's eligibility follows.

While the Cedar River Bridge was built during The Great Depression, it does not appear to have any association with the Bureau of Public Roads or with Depression-Era Works Progress Administration (WPA) funding. According to the Sixteenth Biennial Report, the notable state highway bridge design and construction projects utilizing WPA funds during 1934 to 1936 included widening the existing arch bridge in Spokane; constructing the 15th Avenue NE bridge in Seattle (Cowen Park), a bridge on Eldridge Avenue in Bellingham, and a grade separation structure on Sixth Avenue in Spokane; and converting a railroad bridge over the Wenatchee River to highway use. The Seventeenth Biennial Report (1936-1938) lists a number of notable spans on Primary State Highways No. 1, 2, 3, 9, 12, 15, 16, 18 and many miscellaneous structures built in various parts of the state.

While the Cedar River structure has some Criterion C significance as an example of a (nationally) standardized bridge design, the structure lacks distinction when placed within the context of the substantial amount and variety of bridges being built by the Washington State Highway Department during this and the previous Biennium. When compared with other state highway bridges being designed and completed in 1937, such as the box girder-constructed structure over Purdy Spit in Pierce County (an evolution of the theory of Moment Distribution and prestressed concrete technology), it becomes clear that the Cedar River Bridge lacks the distinction and engineering sophistication necessary to be considered eligible for listing in the NRHP.

Houser Way Bridge

Constructed in 1960, the Houser Way Bridge (Bridge Number 107000026) crosses the Cedar River approximately 0.1 mile west of I-405. At last inspection (9/29/05), the bridge was determined "Functionally Obsolete" by WSDOT bridge inspectors. The structure is a two-lane steel girder bridge with concrete decking. The distance between the main spans is approximately 100 feet, which are flanked by two short approach spans. The bridge is supported by two concrete bents on each river bank. The metal bridge railing is a standard design of open pillars topped by a rail, which is attached to the outer edge of the bridge.

This bridge is in poor condition, and is not eligible for listing in the NRHP. It is a standard and utilitarian design, and is not eligible under Criteria A, B, or C.

Summary

Primary and secondary-source research, records searches, and field investigation yielded information resulting in a determination of two NRHP-eligible historic buildings within the Tukwila to Renton Project APE. These are the Renton Historical Museum/Renton Fire Station and the Nelsen House, both of these also are listed on the WHR. All other historic-period buildings, structures, objects, and potential districts within the APE were determined not eligible for listing in the NRHP.

Potential Effects

No NRHP-eligible archaeological sites were found within the funded and accessible portion of the APE (shown in Exhibit 7). Archaeological investigation of the remainder of the APE will take place under provisions of the I-405 Programmatic Agreement (Appendix E). Two NRHP-eligible historic resources were found within the APE - the James Nelsen House and the Renton Fire Station.

Construction

Adverse effects to historic properties may be caused by construction in the following ways, including, but not limited to:

- visual changes to the character and setting of the resource;
- demolition, isolation or restricted access to the property, or alteration of the surrounding environment;
- traffic congestion;
- increased noise and vibration;
- the introduction of modern architecture that is not compatible with the historical setting; and
- ground disturbance from construction activities would affect archaeological and traditional plant resources.

Direct Effects

The project construction will have no direct effects on the two NRHP-eligible historic buildings, the James Nelsen House (45KI596) and the Renton Fire Station/History Museum (45KI209).

The railroad grade associated with 45KI538 near the Cedar River crossing will be altered to accommodate widening of I-405, and the Houser Way bridge will be removed. However, both of these structures were determined not eligible for listing in the NRHP; therefore the project will have no effect on eligible historic resources.

Within the funded SR 515 Interchange Improvement area, construction of the new ramps and associated retaining walls and grading will remove the younger of two coal mine hoist houses and the Renton Civic Dump site. However, both of these resources were determined not eligible for listing in the NRHP. No other archaeological sites were located in this portion of the APE, the only portion currently fully accessible and funded for study. Any direct effects to archaeological sites in currently unfunded and inaccessible areas will be determined under provisions of the I-405 Programmatic Agreement.

Indirect Effects

The Tukwila to Renton Project will have no adverse indirect effects on the NRHP-eligible Nelsen House. Although construction will produce noise and vibration in the vicinity, and the

project will introduce an access ramp directly adjacent to the property, the Nelsen House is already surrounded by freeway features and urban development. Therefore, noise and vibration will be similar to existing levels and the property's setting will change little.

The construction of a proposed retaining wall and road improvements along Benson Road in the funded SR 515 Interchange Improvement Project area will not have any indirect effects on historic properties. Indirect effects to archaeological sites in currently unfunded and inaccessible areas will be determined under provisions of the I-405 Programmatic Agreement.

Operation

Operational impacts that may cause adverse effects on historic properties include visual changes to the character and setting of the resource, demolition, isolation or restricted access to the property, or alteration of the surrounding environment, traffic congestion, noise and vibration out of character with the historic resources, and the introduction of modern architecture that is not compatible with the historical setting.

Direct effects would result from operation-related activities that would physically disturb a cultural resource. Indirect effects would be caused by development located near a cultural resource that does not directly disturb the site, but changes the setting of the area or offers increased opportunities for human disturbance.

Direct Effects

Operation of this project will have no direct effect on NRHP-eligible historic buildings or structures in the entire APE, or on archaeological sites within the currently accessible portion of the APE. Direct operational effects to archaeological sites in currently unfunded and inaccessible areas will be determined under provisions of the I-405 Programmatic Agreement.

Neither the Mill Avenue design option nor the Main Avenue design option will have direct effects on NRHP-eligible resources. By utilizing existing right-of-way, the Mill Avenue design option will not have any direct effects on NRHP-eligible historic buildings or structures, including the NRHP-eligible Renton Fire Station/Renton Historical Museum. The Main Avenue design option would acquire and remove seven commercial properties in the downtown Renton area. However, none are listed in or eligible for inclusion in the NRHP. This option would not have a direct effect on the NRHP-eligible Renton Fire Station/Renton Historical Museum.

Indirect Effects

Operation of this project will have no additional indirect effect on NRHP-eligible historic buildings or structures in the entire APE, or archaeological sites within the currently accessible portion of the APE. Although the Nelsen House and Renton Fire Station are within the APE, the project will have no adverse effect on either property. Indirect operational effects to archaeological sites in currently unfunded and inaccessible areas will be determined under provisions of the I-405 Programmatic Agreement.

By utilizing existing right-of-way, the Mill Avenue design option will not have any indirect effects on NRHP-eligible historic buildings or structures. Increased traffic flow could

potentially increase noise or vibration, and may further affect the setting of the building. However, the building has already experienced a change in setting from its original construction, so the proposed project will not further alter the setting. In addition, this building is separated from Main Avenue by the Veteran's Memorial Park in the Main Avenue design option, so increased noise and vibration should be minimal, if present at all.

No Build Alternative

Because no construction is proposed under this alternative, there would be no effect to archaeological sites or historic properties.

Conclusions and Recommendations

The I-405 cultural resources team identified the following NRHP-eligible historic properties:

- Two NRHP-eligible historic buildings are within the entire APE: the Renton Fire Station/History Museum (45KI209) and the James Nelsen House (45KI596).
- Five known archaeological sites are within the entire APE:
  - The Henry Moses Aquatic Center site (45KI686), which has been determined NRHP-eligible;
  - The Green River shell midden site (45KI6) and an unnamed historic debris scatter (45KI542), which are potentially NRHP-eligible;
  - The C&PS railroad grade and trestle and the Renton Coal Mine, both of which are ineligible for listing in the NRHP.

  Further evaluation of the three eligible or potentially eligible sites, all of which are outside the funded SR 515 portion of the APE, will take place under the I-405 Programmatic Agreement.
- No NRHP-eligible archaeological sites were found within the currently funded and accessible portion of the APE.

Neither of the NRHP-eligible historic buildings will be adversely affected by the project.

Because the possibility of encountering prehistoric archaeological material beneath mine tailings has not been ruled out, archaeological monitoring is recommended for the construction of the proposed retaining wall in the vicinity of the Renton Coal Mine Site (45KI211), coal mine hoist foundation. Monitoring should be limited to the disturbance of potentially intact Holocene soils with the potential for archaeological materials, and should be staged to terminate if evidence of widespread disturbance is revealed.

Since portions of the Tukwila to Renton Project are unfunded, inaccessible, or have not yet been acquired, and the project will use the design-build procurement method, a Programmatic Agreement has been developed (Appendix E). Regulations (36 CFR 800.14) provide for the development of a programmatic agreement where effects to historic properties "cannot be fully determined prior to approval of an undertaking" or where circumstances "warrant a departure from the normal Section 106 process." The agreement will provide for archaeological testing when funding becomes available or access is gained. Future testing will be conducted with the understanding that certain areas have high probability for encountering cultural resources, including crossings of the Green River, Springbrook Creek, and the Cedar River, and the banks of Panther Creek.

Measures to Avoid or Minimize Adverse Effects

Construction

None of the identified historic properties within the APE will be adversely affected by the construction of the project.

Construction of this project will follow the I-405 Programmatic Agreement in Appendix E. This document identifies areas where the likelihood of finding archaeological sites is high, medium, or low. If work is required in a high probability area, WSDOT will decide the level of monitoring that is appropriate. If archaeological sites are discovered during future work, the I-405 Programmatic Agreement affirms that avoidance and minimization are the preferred options where possible.

An Unanticipated Discovery Plan (Appendix G) will apply to all construction activities.

Operation

The I-405 Team does not anticipate direct or indirect adverse effects to historic properties from operation.

Unavoidable Adverse Effects

There are no unavoidable adverse effects to historic properties within the funded and accessible portion of the APE.

If there are unavoidable adverse effects to archaeological sites discovered during future work in the currently unfunded and inaccessible portions of the APE, the I-405 Programmatic Agreement provides for the development of mitigation measures in consultation with DAHP and interested and affected Indian tribes.

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Exhibit 1

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