

CULTURAL RESOURCES REPORT COVER SHEET

Author: Kainoa Little, BA and Lynn Compas MA, RPA

Title of Report: Archaeological Monitoring Report for The Proposed Redmond Downtown Park Project, City of Redmond, King County, Washington

Date of Report: October 2015

County(ies): King Section: 12 Township: 25 N Range: 05 E

Quad: Redmond Acres: 1

PDF of report submitted (REQUIRED) Yes

Historic Property Inventory Forms to be Approved Online? Yes No

Archaeological Site(s)/Isolate(s) Found or Amended? Yes No

TCP(s) found? Yes No

Replace a draft? Yes No

Satisfy a DAHP Archaeological Excavation Permit requirement? Yes # No

Were Human Remains Found? Yes DAHP Case # No

DAHP Archaeological Site #:

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Archaeological Monitoring Report for the Proposed Redmond
Downtown Park Project, City of Redmond, King County,
Washington

Submitted to:
PFS Studio
and
City of Redmond

Submitted by:
Historical Research Associates, Inc.
Kainoa Little, BA
Lynn Compas, MA

Seattle, Washington
October 2015



HISTORICAL
RESEARCH
ASSOCIATES, INC.

This monitoring report was prepared by HRA Archaeological Technician Kainoa Little, BA, and Principal Investigator Lynn Compas, MA, who meets the Secretary of the Interior's professional qualifications standards for archaeology. This report is intended for the exclusive use of the Client and its representatives. It contains professional conclusions regarding the results of archaeological monitoring during the Project. This report should be submitted to the appropriate state and local review agencies for their records

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1. Introduction

1.1 Project Description

The City of Redmond (City) and PFS Studio (PFS) are proposing to construct the Redmond Park Project (Project) in the City of Redmond, King County, Washington. The Project will redesign and remodel the property at the intersection of Redmond Way and 161st Avenue Northeast (NE) in Redmond, Washington into a public open space. The Project is located in Township 25 North, Range 6 East, Section 12, Willamette Meridian (Figure 1-1). It is in the vicinity of several early prehistoric sites, including one of the earliest sites known in the Pacific Northwest along Bear Creek. This report documents the results of archaeological monitoring of geotechnical bores for the Project.

1.2 Regulatory Context

The Project requires compliance with the State Environmental Protection Act (SEPA) and state regulations related to archaeological sites and materials, including Title 27, Revised Code of Washington (RCW), Chapter 27.44, Indian Graves and Records and RCW 27.53 regarding Archaeological Sites and Resources.

1.3 Area of Impacts and Areas Monitored

The Area of Impacts (AI), for the purpose of this monitoring effort, included an area bounded by Redmond Way to the north, Cleveland Street to the south, and 161st Avenue NE to the west. Private homes and businesses to the west of Leary Way Northwest (NW) make up the eastern boundary of the site. Brown Street, a short dead end street entered from the north, bisects the site. Significant disturbance was limited to soils and sediments within the geotechnical bores, which reached a maximum of 51.5 feet below surface (Figure 1-2). There were no anticipated impacts to the surrounding buildings, structures, and objects (BSOs) during geotechnical boring.

Boring locations were selected to create an accurate map of subsurface soils and sediments across the AI, and were sometimes chosen specifically as the location of planned park features.

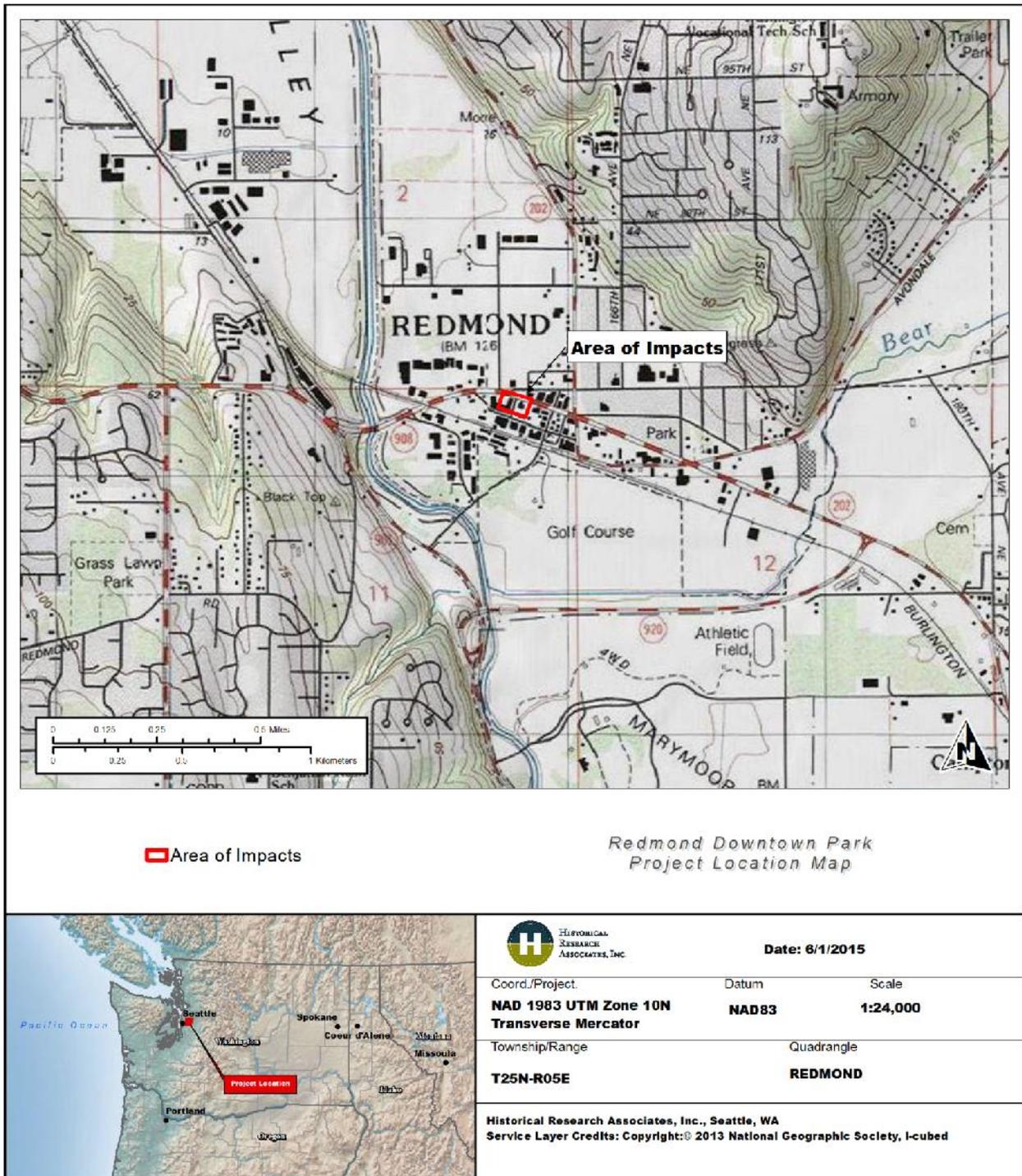


Figure 1-1. Project area and vicinity.

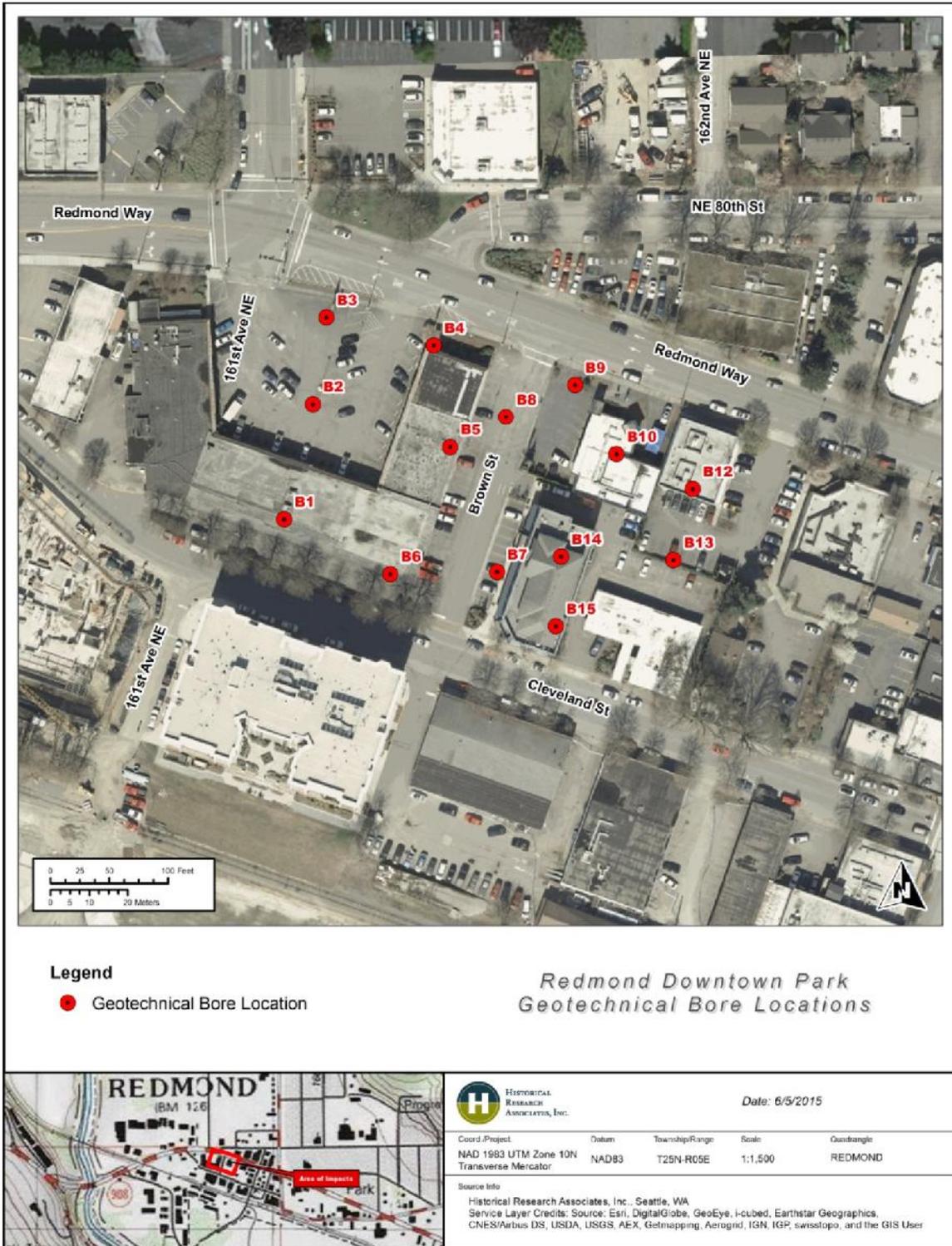


Figure 1-2. Aerial showing project Area of Impacts and geotechnical bore locations.

2. Background Research

2.1 Methods

Historical Research Associates, Inc. (HRA), searched the Department of Archaeology and Historic Preservation's (DAHP) online database WISAARD for cultural resource survey reports, archaeological site records, cemetery records, and National Register of Historic Places (NRHP) and Washington Heritage Register (WHR) resources. DAHP's statewide predictive model layer was also reviewed for probability estimates of prehistoric cultural resources, and to aid in developing the field strategy. Background research for archaeological sites and cultural resources studies was conducted using an approximate 0.25-mile (mi) research radius from the AI. There are, at this time, no anticipated aboveground impacts associated with the Project.

HRA's in-house library and on-line sources were used to obtain information on the environmental, archaeological, and historical context of the AI. Historic nineteenth- and twentieth-century plats and maps from the US Surveyor General (USSG), General Land Office (GLO); US Geological Survey (USGS); Sanborn Fire Insurance Company, and King County atlases were reviewed for historic structures, features, and land use patterns within the vicinity of the AI. The GLO plats are available online at the US Department of the Interior's Bureau of Land Management website, while the USGS maps are available on the USGS website. County atlases were reviewed online through HistoricMapWorks.com, and they are also available at the Seattle Public Library, Central Branch.

2.2 Results

Five cultural resources studies have been conducted within approximately 0.25 mi of the AI (Table 2-1). One such study, focusing on aboveground historic structures in the City of Redmond (Emerson and Gundy 1998), overlaps with the AI. Buildings within the AI were inventoried and evaluated but were not recommended eligible for listing in the NRHP (Emerson and Gundy 1998:2: Historic Property Table). To the north of the AI, three cultural resources studies were performed in conjunction with development of the Redmond downtown core. Rooke and Goetz inventoried the proposed location of the Redmond Transit Center (2005) and Parking Garage (2006) at the intersection of 161st Avenue NE and NE 83rd Street. The AI was included in the inventory carried out by Durio Price (2013) in conjunction with general street improvements.

Table 2-1. Previous Cultural Resources Studies Performed Within an Approximate 0.25 mi of the AI

NADB #	Reference	Title	Distance from AI	Identified Cultural Resources within AI
130492	Emerson and Grundy 1998	<i>A 1998 Inventory of 165 Historic Properties Within the City of Redmond</i>	Overlaps AI	None
1346247	Rooke and Goetz 2005	<i>Cultural Resources assessment for the Redmond Transit Center, Redmond</i>	~ 0.2 mi north	None
1682040	Chambers and Montgomery 2012	<i>Cultural Resources Assessment for the Redmond Central Connector Project, Phase 1, Redmond, King County, Washington</i>	~ 0.2 mi south	None
1684403	Durio Price 2013	<i>Redmond Way and Cleveland Street complete conversion Final cultural Resources Technical memorandum</i>	~ 0.2 mi south	Site 45KI451 Historic Railroad near the AI
1348506	Rooke and Goetz 2006	<i>Technical Memorandum RE: Redmond Parking Garage project</i>	Includes AI	None

To the south of the AI, archaeological inventory was carried out as part of the Redmond Central Connector Project, which converted the abandoned railroad corridor in to a multi-use trail and accompanying amenities (Chambers and Montgomery 2012).

One prehistoric and one historic-period archaeological site are located within 0.25 mi of the AI. The prehistoric site (45KI8) is approximately 0.2 mi to the southwest and is located along the bank of the Sammamish River. It was recorded by Robert Greengo as a ¼-mi-long lithic scatter in 1966. At that time, he collected a chert stemmed point, two lanceolate points, and some basalt blades. A looter had previously reported collecting a fluted point at the same location (Greengo 1966). The historic site (45KI451) is the railway grade of the Seattle, Lake Shore and Eastern Railroad (Hudson and Nelson 1997). It dates to 1888 and is about 0.2 mi south of the AI.

Outside the 0.25 mi buffer, but important to note, is the Bear Creek Site (45KI839), which is located approximately 1 mi to the south (Rinck 2008). It dates to the late Pleistocene-Holocene transition, with deposits in the 10,000 to 12,000 years before present (B.P.) range (Kopperl et al. 2015). The AI is inland, while 45KI839 is along the bank of the creek, so it is in a somewhat different depositional environment.

 The property in the search radius, the Justice William White House, was listed in the NRHP in 1979. This property was built in 1900 and is located approximately 0.2 mi east of the AI (Hascom

1979). William White was an early state politician whose father, Luke McRedmond, surveyed and platted the town of Redmond in 1891.

There are no cemeteries or recorded burials within 0.25 mi of the AI. The closest cemeteries are approximately 1.2 mi to the east. The Old Redmond Cemetery was started in the 1880s by the local Perrigo and Tosh families, and the Redmond Cemetery was formally established in 1904. The near by Cedar Lawns Memorial Park was established in 1952 (DAHP 2013a, 2013b).

An inventory of the AI and surrounding area was completed prior to the removal of the buildings in the AI (Emerson and Montgomery 2012).  properties were recommended eligible for listing in the NRHP.

HRA examined historic-period maps to identify additional cultural features and, when feasible, land ownership in the APE (Table 2-2). The 1871 GLO plat for Township 25 North, Range 6 East, contains no cultural features in the APE. Examination of the Kroll Map Company and Metsker Map Company maps shows little development of the AI until the twentieth century, although the draining of wetlands for agriculture appears to have taken place after 1895 and before 1950 as depicted on the USGS quadrangles in the vicinity of Redmond and the AI. HRA also referenced Sanborn Fire Insurance Company Maps for Redmond, Washington (available as an electronic reference at the Seattle Public Library), and determined that they did not include the AI.

Table 2-2. Historic Period Maps Referenced for Archival Research.

Map Reference	Ownership	Cultural Features and Comments
General Land Office Surveyors Map (USSG 1871)	None shown.	No structures depicted in or near the AI.
Snohomish, Washington Topographic Map (USGS 1895)	None shown.	Undeveloped in and near the AI. Sammamish River is not rechanneled and surrounded by Wetlands. Wetlands are also close to the AI.
Atlas of King County, Washington (Kroll Map Company 1926)	AI is subdivided into very small parcels, but no ownership is shown. To the south, W. H. White is the owner, and to the north is Perrigo Plat, and a School is shown.	Main roads and RR are depicted in the same locations as at present, near the AI.
Redmond, Washington 7.5-Min topographic map (USGS 1950)	None shown.	Main roads and RR are depicted in the same locations as at present, near the AI.

Table 2-2. Historic Period Maps Referenced for Archival Research.

Map Reference	Ownership	Cultural Features and Comments
Atlas of King County, Washington (Metsker 1936)	Platted sections too small to read ownership.	Heavily subdivided into small plats in the AI. The AI was part of the urban core of Redmond. The railroad runs directly south of the AI.

3. Environmental Setting

The landscape of the Pacific Northwest would have been available for human occupation approximately 14,000 years ago, after the retreat of the glaciers. New radiocarbon and DNA analysis information from the Manis Mastodon Site (45CA218) dates pre-Clovis occupation to 13,800 years ago, one of the oldest sites in North America (Waters et al. 2011:351). Although a bone point fragment was found in faunal remains at Site 45CA218, early sites typically consist of low density lithic scatters, believed to represent campsite or foraging areas. Highly acidic soils in the Puget Sound region commonly decompose softer materials such as bone, antler, shell, and other organics. More dense material like lithics tend to be preserved (Nelson 1990:481). Subsequently, the archaeological record for early sites is sparse, making it difficult to recreate the timeline for human land use patterns. Nevertheless, several cultural chronologies have been compiled for the region. Ames and Maschner (1999) have perhaps the most comprehensive chronology.

Ames and Maschner's cultural chronology indicates changes are based on technological advances and the increase in sedentism (1999:57–112). Their chronology is divided into five periods: Paleo-Indian, Archaic, Early Pacific, Middle Pacific, and Late Pacific.

The earliest occupants were nomadic, large-game hunters who would have left minimal trace in the archeological record. Early sites in the Puget Sound primarily consist of lithic scatters, most likely representing short-term camping or foraging locations.

Over time, changes in settlement patterns included the use of semi-subterranean pithouses in semi-permanent and permanent village sites, indicating an increase in sedentism (Nelson 1990:483). Use of a variety of microenvironments encouraged the development of the seasonal round, with an emphasis on fishing, hunting, and gathering plants and other materials. Ames and Maschner (1999:25) suggest this is indicative of the emergence of a complex hunter-gather economy, a transitional time from the foraging economy in the Paleo-Indian phase.

Overall there were increasing social and cultural traits, such as intensification of resources, innovations in technology, permanent winter village sites, and social stratification (Ames and Maschner 1999:87). These factors continued throughout the Late Prehistoric and the Ethnographic Periods.

4. Cultural Setting

4.1 Prehistory

Contemporary archaeological research indicates that humans have occupied North America as early as 14,500 years ago, based on finds at Buttermilk Creek, Texas (Pringle 2011), and Meadowcroft Rockshelter, Pennsylvania (Adovasio et al. 1990), among others. Nearby Site 45KI839, along Bear Creek less than 1 mi to the south of the AI, is among one of the earliest human habitation sites discovered in North America. It includes a variety of lithic material including projectile point bases and prepared blade cores that fit well into the Late Pleistocene and Pleistocene-Holocene cultural transitions. Radiocarbon dates received from sediments below cultural layers indicate that the site exceeds 10,000 years in age, during the oldest occupation (Kopperl et al. 2010:69, 2015).

Other early sites have been found in the Pacific Northwest. At the Manis Site near Sequim, there is a mastodon skeleton that has been radiocarbon dated to 13,800 years ago (Waters et al. 2011). The mastodon was impaled with a bone spear point, proving the presence of human populations using technologies that were culturally related to Upper Paleolithic people of the Bering Strait area (Lawler 2011). Corroboration for these early dates is found at the rock shelter site at Paisley Cave, Oregon, where human coprolites may have been radiocarbon dated to between 12,750 and 14,290 years ago (Wolman 2008).

There may have been multiple, successive migrations following coastal and inland routes (Dillehay 2000). However, the largest and most well-documented migration continues to be that of hunting peoples crossing the Beringia land bridge after the opening of an ice-free central corridor that was created by warming global temperatures, circa 14,700 B.P. (Fiedel 2000:56), often referred to as the Clovis culture, after a distinctive type of fluted projectile point found in some assemblages of this period. Clovis culture emphasizing high skill projectile point production and accompanying stone toolkits amenable to the processing of larger game. Such point types are not uncommonly found in the interior of the Pacific Northwest, including at the Marmes Rockshelter (Hicks 2004), and a sizable cache of Clovis points uncovered inadvertently at the Wenatchee Richey-Roberts site near Cooper's Ferry, Washington (Beck and Jones 2010).

Following this earliest occupation of the interior Pacific Northwest, the period from 8000 B.P. to around 5000 B.P. is known as the Early Pacific or Archaic Period. This occupation is characterized by cobble-derived materials from what is known as the "Olcott" phase, including other styles of leaf-shaped projectile points, as well as stemmed points, scrapers, utilized flakes, and blade cores

made of basalts or dacite (Carlson 1990; Kidd 1964; Nelson 1990). Olcott sites are usually situated inland, on raised terraces, which were more stable landforms as the earth shifted to accommodate the receding glaciers.

Site 45KI834, located less than 1 mi northeast of the APE, has been tentatively identified as an Olcott-period site based on certain characteristics of the lithic assemblage and its provenience. The single temporally diagnostic artifact recovered from the site, unfortunately, is characteristic of a large date range (9950 to 500 BP) (Ferris et al. 2010; Kiers 2007). Closer to the center of Redmond, archaeologists have recorded a cluster of archaeological sites at the confluence of Bear Creek, the Sammamish River, and Lake Sammamish—these sites, including 45KI9, 45KI492, and 45KI493, have been reported to have had fluted (Clovis-style) points and yielded radiocarbon dates as old as 3,000 years (Greengo 1961, 1966; Greengo and Houston 1971; Kopperl et al. 2010).

Over time, changes in lithic technologies and site locations suggest increased sedentism and specialization in the use of particular environments and resources across the regional landscape (Ames and Maschner 1999; Mierendorf 1986; Mierendorf et al. 1997). The Middle Pacific Period spans approximately 5000 to 2500 B.P., and numerous coastal sites from this period appear to indicate more socio-economically complex populations with a rising dependence on marine resources. Inland archaeological sites are rare in comparison to coastal settlements; work conducted in the foothills of the Cascade Mountains increasingly shows that inland regions were selectively and seasonally utilized by more nomadic populations drawn to resources less readily available along the coast (i.e., deer, elk, and huckleberry) (Burtchard 1998; Mierendorf 1986). In many archaeological and ethnographically documented cases (see Schalk 1988), this likely would have also included an increasing reliance on salmon as a bulk staple.

Nonetheless, a variety of sites with assemblages suggestive of multi-task, mixed group, and moderate-term residential base camps and hunting activities (including hunting, butchering, and lithic reduction areas) have been recorded and may represent smaller subsets of a larger and more complex social system based at lower elevations; Burtchard hypothesizes that, by around 3000 B.P., people traveled into the uplands seasonally, in a very structured manner (i.e., groups of a certain size, and/or with a particular set of skills and goals), to exploit animal and plant resources (Burtchard 1998).

The Late Pacific Period extended from approximately 3,500 years ago through the ethnographic period. Archaeological assemblages are composed of a variety of objects, including shells, art objects, and a range of hunting, fishing, woodworking, and plant processing tools made of stone, bone, and wood. Seasonal use of resources and locations within the inland region continued to characterize the Late Pacific Period, along with permanent or semi-permanent villages closer to year-round resources along the coast and shorelines of larger drainages and lakes. These sites also extend into the ethnographic period as components of large, permanent residences and seasonal base camps

(Ames and Maschner 1999; Dampf 2006). Locally, shell midden site 45KI22 in the upper Bear Creek drainage (approximately 5 mi north of the APE) is representative of a pre-contact camp, and it contains a local, readily-available resource (i.e., freshwater clams) within organic sediments.

4.2 Ethnography and Ethnographic Land Use

The area in the vicinity of the Project was occupied and utilized by a number of Native American groups, including the Snoqualmie, Duwamish, Stillaguamish, Snohomish, and Skykomish Indians (Haeberlin and Gunther 1930; Spier 1936; Swanton 1952). The peoples now referred to as the Duwamish ethnographically consisted of a number of bands whose traditional territory stretched from the Duwamish River at Elliott Bay, to Lake Union and Lake Washington, and east to the project area. The Snoqualmie people, who occupied much of the area along the river and Sammamish Lake, have been grouped with the Duwamish, although they may have been a separate group with Duwamish affiliations (Ballard 1951:2:404–405; Haeberlin and Gunther 1930:8; Smith 1940:17; Spier 1936:34, 42; Swanton 1952).

The Snoqualmie and other nearby groups such as the Duwamish are considered members of the Puget Sound Coast Salish culture. Peoples moving through the project area spoke various dialects of the Coast Salish Lushootseed language. Characteristic of the groups within the Coast Salish culture were seasonal settlement patterns, economies based on salmon as a staple, and a stratified society (Miss and Campbell 1991:22).

Coast Salish groups oriented settlement and subsistence systems toward saltwater, riverine, and inland environments in their territories (Haeberlin and Gunther 1930). Over the winter, Coast Salish groups including the Snoqualmie inhabited permanent villages, usually located close to a major source of water (i.e., the sea or lakeshore). Winter villages consisted of one or more cedar plank longhouses in which as many as eight families resided (Haeberlin and Gunther 1930; Suttles and Lane 1990). The closest documented winter village to the AI was *íçqusalçtù*, meaning “a high place with a house on it.” This village site was located on “a creek entering the [Sammamish] river from the east below Redmond,” possibly meaning Bear Creek (Hilbert et al. 2001:114; Waterman ca. 1920). The winter was spent not only repairing and constructing tools needed in the upcoming harvesting season, but in ritual storytelling and communal gatherings and travel between villages. Families subsisted largely on processed and stored foods from the previous seasons, although hunting and fishing activities certainly took place.

During the spring, summer, and fall, the Coast Salish used temporary pole and reed mat structures that were easily transported to traditional hunting, gathering, and fishing locations. Family groups moved to various environmental zones seasonally to harvest abundant resources, process them for storage, and then transport the supplies to the permanent village. Resources included roots, berries,

and other plant products. Salmon and shellfish harvested from local lakes, rivers, and creeks were staple resources. Groups established fishing stations, at which salmonid runs were available at various times throughout much of the year (Campbell 1981; Haeberlin and Gunther 1930). Inland groups hunted land mammals in addition to collecting marine and riverine resources. Some men in these groups specialized in the pursuit of deer, elk, bear, or beaver. Waterfowl and other birds were also important parts of the Coast Salish diet, and were either trapped in nets or hunted. From prehistory through historic and modern times, the Redmond area had a prominent role in cross-country travel. Native Americans used the Evans Creek Valley as a transportation route from Lake Sammamish to the Snoqualmie River (Murphy et al. 2001).

T. T. Waterman recorded a number of ethnographic place-names within the vicinity of the AI, close to Lake Sammamish between 1 and 2 mi southwest. The name for the Redmond vicinity was *óué*, or “crowded in, poked in” (also “stuff into, plug in, plug up”) (Hilbert et al. 2001:114).

The Euroamerican influence was felt long before most Native groups met incoming settlers to the Pacific Northwest. Many populations in the vicinity of the project area were decimated by at least one smallpox epidemic, only one of several European diseases that traveled long distances without the aid of direct Native American/Euroamerican contact (Newcombe 1923; Suttles and Lane 1990). In 1855, under the Treaty of Point Elliott, the Native Americans living in the vicinity of the project area (including the Snoqualmie tribe) were assigned to the Tulalip or Port Madison Reservations. However, few people relocated to these relatively distant locations, choosing to stay in their traditional lands (Ruby and Brown 1992). Some Native Americans who remained in the Redmond area continued to follow their traditional way of life, while others worked with and for the incoming settlers, clearing land and practicing agriculture. Early accounts place Native Americans arriving in large numbers during the hop-picking season (Way 1989:4, 5).

4.3 Historic-Period Non-Native Settlement

The first Euroamerican settlers arrived in the project area in the mid- to late 1800s. The GLO first surveyed the Township in 1874. The Warren Wentworth Perrigo and Luke M. McRedmond families were the first permanent Euroamerican settlers in the Redmond area, and they took up residence on rich bottom lands east of the Sammamish River in the early 1870s (Bagley 1929:847; McConaghey 1993:30). Perrigo ran a successful trading operation from his farmhouse with both neighboring Native Americans and Euroamericans. Additional settlers soon arrived, and in 1875, a log schoolhouse was constructed for the local children. By 1876, 25 land claims in the vicinity were made and occupied by claimants (McConaghey 1993:30). Of the 50 residents of what is presently Redmond in the 1880 census, 14 were “Indians” and the remaining 36 were members of three local Euroamerican families (Perrigo, Tosh, and Perry) (Malowney 2002:11). The town of Redmond itself was platted in either 1887 or 1891, and incorporated on December 31, 1912 (Bagley 1929;

McConaghey 1993). By 1909, Redmond was reported to have two mills, “three general stores, three hotels, two livery stables, two blacksmith shops, a grocery, shoe store, restaurant, two churches and four saloons” (McConaghey 1993:216).

Historically, Perrigo used the established trails along Evans Creek to transport his trade goods from (now) Redmond to the Snoqualmie Valley (Way 1989). By the early 1900s, the Yellowstone Trail was established, linking Seattle to Boston. A portion of this early highway is still visible as the Old Red Brick Road (or Old Yellowstone Road; 196th Avenue NE, south of Union Hill Road to 55th Place NE). The town’s depot also served as an important hub for the Northern Pacific Railroad (Malowney 2002; Way 1989).

On logged-out parcels and swamp lands reclaimed with the straightening of Squak (Sammamish) Slough, farming soon flourished in Redmond’s renowned rich soils. The Evans Creek Valley, located east of the AI, was known by its early Scandinavian settlers as “Happy Valley.” Lumbering, dairying, and poultry-raising were the principal industries, with the Avondale and Happy valleys supporting the farm industries outside town limits. A variety of logging and lumber operations and their associated lumber camps were in full operation in the area from the early 1880s through the 1920s, by which time the logging industry was waning due to declining areas of uncut timber (Bagley 1929:850; Way 1989).

The Happy Valley Grange, founded in 1909, played a vital role in the social, educational, and political life of Redmond’s farmers. Eventually the Grange became one of the largest grange organizations in Washington during the Progressive Era, a short period of populist sentiment and reform in the Pacific Northwest (Bagley 1929:850; Schwantes 1996:349–350). In the 1930s and 1940s, Redmond’s farming and dairy industries expanded. The dairy industry peaked in 1948, when 25 dairy farms operated between Redmond and Bothell (Way 1989:115).

The AI was developed as part of the Downtown Redmond core and was particularly densely occupied, perhaps in conjunction with a railroad stop associated with it, given the high density of development shown on the 1936 Metsker Map (Metsker 1936).

5. Anticipated Archaeological Finds

HRA developed a probability model for prehistoric and ethnographic Native American and historic Euroamerican archaeological resources in the AI prior to fieldwork. The assessment of probability was based on review of environmental, geological, ethnographic, and historical archival data and review of previously recorded archaeological sites in the vicinity of the Project.

The AI was historically disturbed by logging and farming practices, and more recent urbanization. Based on archival research, including the number of archaeological sites and isolated finds recorded in the near vicinity, HRA determined that if the AI had not been subjected to a great deal of disturbance, it had a high to very high likelihood of containing prehistoric archaeological resources. Local access to freshwater sources heightened the probability that archaeological remains associated with temporary or seasonal fishing and processing camps, as well as hunting and tool repair/manufacturing debris, could exist.

The historic period map and literature research revealed that this area of Redmond was sloped  drained and developed as the core of downtown. Given this growth, there is a moderate probability of identifying historic period archaeological resources within the AI.

6. Procedures Used During Archaeological Monitoring

On the first and second days of monitoring, prior to the commencement of excavation activities, HRA's Archaeological Monitor, Kainoa Little, briefed GeoEngineers's geologist/engineer and Geologic Drill Explorations' drill crews about potential cultural resource issues. Little briefly explained the purpose of the work and what crew members needed to help watch for.

6.1 Archaeological Monitoring of Geotechnical Borings

1. Little monitored excavation for all geotechnical testing locations.
2. Little recorded the monitoring work as follows: daily activities were recorded in a field notebook. Photographs of the geotechnical testing locations and work in progress were taken and were promptly logged in a field notebook. In addition, the locations of testing that had been monitored were noted on a field map for the Project.
3. During geotechnical drilling, Little examined soils and sediments from borings and in soil cuttings. Equipment for examination of soils included, as appropriate, the appropriate personal protective equipment (PPE—nitrile gloves as well as hard hat, eye and ear protection, work boots, and a safety vest), a shovel, and trowel. The archaeologist watched for prehistoric and historic-period artifacts, layers/lenses of organic material and shell, and organically enriched midden soils that might have indicated past human use.
4. Little worked with GeoEngineers' geologist/engineer, Eliya Hogan, to obtain accurate sediment descriptions for use in the monitoring report.
5. Excavation at each testing location did not continue until Little had an opportunity to inspect the sediments.
6. GeoEngineers authorized Little to stop geotechnical testing periodically, as needed, for a closer examination of exposed soils. GeoEngineers informed onsite personnel about the archaeological monitoring work, and made provisions, within its agreement with them, for work stoppage, when applicable, for inspection of possible finds.
7. Little followed instructions from GeoEngineers' geologist/engineer, Eliya Hogan, in matters pertaining to safety and geotechnical exploration activities.

7. Monitoring Results

HRA monitored geotechnical exploration at the Project on June 3 and 4, 2015. Fourteen bores were augered in the AI. Bores were placed both near the perimeter of the AI and in more central locations (Figure 1-2). Thirteen of the bores were in grassy areas on the site of recently-demolished commercial buildings and parking areas (Figure 7-1). One bore was excavated through asphalt in Brown Street (Figure 7-2).



Figure 7-1. Overview of project area. Facing northwest from Cleveland Street at the southeast corner of the site.



Figure 7-2. The beginning of bore B8 through the asphalt in Brown Street. View is southeast.

Sampling was conducted using the Standard Penetration Test (or “split spoon”) method. Bore locations were augered to a predetermined depth, then a sampling cylinder was pounded 18 inches through the hollow auger shaft to retrieve sediment samples.

On June 3, the excavation crew used a Bobcat MT55, a rubber-tracked modular excavator with an auger attachment. The auger flight diameter was 6.5 inches. The sample diameter was 2.25 inches. Maximum sample depth using this auger was 21.5 feet below surface (ftbs). Samples were taken every 2.5 ft until the crew reached 15 ftbs. If the auger was continuing to 20 ftbs, the crew then used a 5 ft interval for the final sample at 20 ftbs. Bores B1, B2, B3, B4, B5, and B15 were completed in this manner.

On June 4, a different excavation crew used a Diedrich D50, a larger rubber-tracked auger rig. This rig used an auger with a flight diameter of 8 inches. The sample diameter was 3.25 inches. Maximum

sample depth using this auger was 51.5 ftbs. Samples were taken every 2.5 ft until the crew reached 15 ftbs, after which 5 ft intervals were used. Bores B6, B7, B8, B9, B10, B12, B13, and B14 were completed in this manner.

The purpose of this sampling was to determine soil stability for the planned construction of a park and associated features and buildings. After the bores were completed, a mixture of granular bentonite concrete and water was used to fill in the holes. Care was taken to return the area to its original condition. Samples were removed offsite and analyzed by GeoEngineers. GeoEngineers geologist Eliya Hogan was present onsite to observe excavation activities and record the boring results. Drill cuttings and other material not sampled were removed offsite and disposed of by Geological Drilling Exploration at Pacific Topsoils in Redmond.

Evaluation of the auger samples revealed both fill and native strata (Table 7-1). A stratum of peat was evident in most boreholes, being absent only in the four bores closest to the eastern border of the AI. The peat was found between 5 and 13 feet below surface and is expected to be a reliable indicator of where intact native soil begins (Figure 7-3).

There were no significant cultural items found during geotechnical boring. Non-diagnostic materials, such as clear flat glass fragments, were found in sample probes, and nails, fragments of a concrete slab, and synthetic foam were identified in auger cuttings. These materials were most likely from recently-demolished businesses on the site. No cultural materials were observed deeper than the fill strata.

Table 7-1. Sediments and Cultural Materials Observed in Geotechnical Bores.

Bore	Maximum Depth Below Surface (ftbs)	Description	Cultural Materials Identified
B1	16.5	2.5-6.5 ftbs: silty sand with mixed gravels 7-8 ftbs: wet peat 10-11.5 ftbs: reddish brown coarse sand with some round to subround gravels 12.5-14 ftbs: coarse gray sand with some round to subangular gravels 15-16.5 ftbs: coarse grayish brown sand with few round gravels	None

Table 7-1. Sediments and Cultural Materials Observed in Geotechnical Bores.

Bore	Maximum Depth Below Surface (ftbs)	Description	Cultural Materials Identified
B2	16.5	2.5-4 ftbs: brown silty sand with few mixed gravels 5-6 ftbs: sandy silt 6-10 ftbs: wet peat 10-16.5 ftbs: pure fine gray sand	None
B3	16.5	2.5-4 ftbs: mottled gray brown silty sand fill, with asphalt fragment in sample 5-6.5 ftbs: mixed coarse sand with some round to subround gravels 7.5-11.5 ftbs: peat with two thin lenses of light brown sandy silt 12.5-16.5 ftbs: gray sand	None
B4	16.5	2.5-4 ftbs: light gray fine silt with few round to subround gravels 5-6.5 ftbs: gray sand and pea gravels 7.5-13 ftbs: peat 13-16.5 ftbs: fine gray sand	None
B5	16.5	2.5-4 ftbs: mottled brown and gray sandy silt with organics 5-11 ftbs: peat with two thin light brown silt lenses 11-16.5 ftbs: gray sand	None
B6	16.5	2.5-4 ftbs: tan sandy silt with angular to subround gravels 5-6 ftbs: light brown sandy silt 6-6.5 ftbs: peat 7.5-9 ftbs: brown silty sand with subround to subangular gravels of assorted size 10-11.5 ftbs: brown sandy silt with subround to subangular gravels of assorted size 15-16.5 ftbs: silty sand with some angular gravels	None

Table 7-1. Sediments and Cultural Materials Observed in Geotechnical Bores.

Bore	Maximum Depth Below Surface (ftbs)	Description	Cultural Materials Identified
B7	16.5	2.5-4 ftbs: sticky brown sandy silt with some gravels 5-6.5 ftbs: peat 7.5-9 ftbs: sandy silt with large angular to subangular gravels 10-14 ftbs: gray silty sand with subangular to subround gravels 15-16.5 ftbs: mottled brown and gray sand with many round to subround mixed gravels	None
B8	21.5	2.5-4 ftbs: brown sand and mixed round gravels 5-9.5 ftbs: peat 9.5-14 ftbs: gray sandy silt with small round to subround gravels 15-21.5 ftbs: mixed coarse sand	3 ftbs: 1 cm thick steel plate spanning at least diameter of auger bore
B9	21.5	2.5-4 ftbs: gray silty sand with several small pieces of charcoal near 3 ftbs 5-8.8 ftbs: peat with intermediary lens of a fine silt above gray sand (as often found in deeper samples) 8.8-9 ftbs: fine gray clayey silt 10-11.5 ftbs: gray and brown sand with small round to subround gravels 12.5-14 ftbs: light brown silty sand with small round gravels 15-21.5 ftbs: coarse multicolored sand	Brick fragments near surface

Table 7-1. Sediments and Cultural Materials Observed in Geotechnical Bores.

Bore	Maximum Depth Below Surface (ftbs)	Description	Cultural Materials Identified
B10	26.5	<p>2.5-4 ftbs: grayish brown sandy silt with small subround to subangular gravels</p> <p>5-5.5 ftbs: fine gray sand with no gravels</p> <p>5.5-6 ftbs: peat</p> <p>7.5-16.5 ftbs: yellow sand with angular to subround gravels</p> <p>25-26.5 ftbs: mixed round to subround gravels with sand, very wet</p>	None
B12	21.5	<p>2.5-3 ftbs: organic fill/duff</p> <p>3-3.5 ftbs: gray sand with no gravels</p> <p>3.5-4 ftbs: brown sticky silt with round to subround gravels of multiple size</p> <p>5-6.5 ftbs: mixed round to subround gravels with sandy silt</p> <p>7.5-21.5 ftbs: alternately multicolored and yellow sand with mixed subround to subangular gravels</p>	Until 5 ftbs: blue foam and asphalt fragments in cuttings
B13	21.5	<p>2.5-6.5 ftbs: sandy grayish brown silt with some round to subround gravels</p> <p>7.5-21.5 ftbs: yellow silty sand with mixed subangular to round gravels</p>	<p>concrete slab fragment, 4.5 cm thick, found near surface in cuttings</p> <p>2.5-4: multiple small fragments of clear flat glass in probe</p>
B14	51.5	<p>2.5-6 ftbs: imported sandy humus</p> <p>6-6.5 ftbs: fine gray sand with many small round gravels</p> <p>7.5-9 ftbs: brown sandy organics and mottled yellow and brown sand with some small round gravels</p> <p>10-10.5 ftbs: many round gravels with silty multicolored sand</p> <p>10.5-11.5 ftbs: yellowish brown sand with few gravels</p> <p>12.5-51.5 ftbs: coarse mottled yellow and gray sand with some round to subangular gravels</p>	None

Table 7-1. Sediments and Cultural Materials Observed in Geotechnical Bores.

Bore	Maximum Depth Below Surface (ftbs)	Description	Cultural Materials Identified
B15	21.5	<p>5-6.5 ftbs: many gravels with yellowish brown silty sand</p> <p>10-11.5 ftbs: brown and gray mottled sandy silt with some round and angular gravels</p> <p>12.5-14 ftbs: coarse sand with some round and angular gravels</p> <p>15-21.5 ftbs: coarse sand with small round and subround gravels. Very wet – probably groundwater.</p>	<p>Until 10 ftbs: fragments of rusted flat metal and a small fragment of turquoise-tinted glass were found in cuttings</p>



Figure 7-3. Peat stratum (right) transitioning to a fine gray clayey silt (left) in bore B9.

8. Conclusions

The project vicinity has been previously disturbed by the construction of roadway, and industrial/commercial ventures, along with associated utilities. Although the general area has been heavily modified, HRA observed intact native sediment beginning between 5 and 8 ftbs throughout most of the site. Due to the high likelihood of early prehistoric activity in the project area, HRA recommends archaeological monitoring of ground disturbing activities during excavation below 5 ft within the APE.

8.1 Inadvertent Discovery of Cultural Materials

If archaeological deposits are inadvertently discovered during construction, ground-disturbing activities at the encounter location should be halted immediately, the City should be notified, and the procedures set forth in the MIDP will be followed (Dellert and Gilpin 2014). The City would then contact DAHP and the interested Tribes, as appropriate, with support provided, as requested, by HRA.

8.2 Procedures for the Discovery of Human Skeletal Material

Any human remains that are discovered during project-related geotechnical exploration, construction, maintenance, or operation activities will be treated with dignity and respect.

In the event that human remains are discovered during geotechnical, construction, maintenance, or operation of the Project, the following procedures are to be followed to ensure compliance with RCW 68.60: *Abandoned and Historic Cemeteries and Historic Graves*, and RCW 27.44: *Indian Graves and Records*.

If ground disturbing activities encounter human skeletal remains during the course of geotechnical, construction, maintenance or operation of the Project, then all activity **must** cease that may cause further disturbance to those remains and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the King County Medical Examiner **and** local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

The King County Medical Examiner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the King County

Medical Examiner determines the remains are non-forensic, then they will report that finding to DAHP, who will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected tribes. DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

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