Pacific Legacy

Historic Preservation

DRAFT

ARCHAEOLOGICAL INVENTORY SURVEY AT 820 ISENBERG STREET, WAIKĪKĪ AHUPUA‘A, KONA DISTRICT, ISLAND OF O‘AHU

[TMK (1) 2-7-008:018 and 020]

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[TMK (1) 2-7-008:018 and 020]

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ABSTRACT

Pacific Legacy Inc., at the request of the Department of Hawaiian Home Lands (DHHL) conducted an Archaeological Inventory Survey (AIS) on an ca. 1.9-acre property located at 820 Isenberg Street in Mōʻiliʻili on the island of Oʻahu [TMK (1) 2-7-008:018 and 020]. The AIS was undertaken between July 10-14, 2017. The investigations were lead by Dr. Paul L. Cleghorn, Ph.D. with fieldwork conducted by James D. McIntosh, B.A. and Caleb C. Fechner, B.A.

A total of 24 test trenches were dispersed evenly throughout the project area to identify the presence of any cultural resources. The results identified a single site (SIHP No. 50-80-14-08210) covering portions of the project area. The historic dump site consists of natural limestone depressions filled in with silt soil deposits, interspersed with glass, ceramic and metal artifacts dating between 1896 and the 1960s. There area is also uniformly covered by several layers of fill material that appears to have capped the site and prepared the area for use as a parking lot. A total of 141 artifacts were recovered from the site.

The proposed development of 820 Isenberg Street is subject to the regulations associated with the National Register of Historic Places (NRHP) of 1966 (as amended). The project has secured Federal funding through HUD, due to the this federal participation, this project is considered an "undertaking" and is subject to Section 106 requirements of the National Historic Preservation Act of 1966, as per 36 CTR 800. This project is also subject to Hawai'i Revised Statutes (HRS) 6E.

Based upon criteria set forth by the NRHP and the HRS 6E, Site 50-80-14-08210 is significant under criterion "D".

Archaeological monitoring is recommended for any future excavation work within the project area.

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1.0 INTRODUCTION

Pacific Legacy Inc., at the request of the Department of Hawaiian Home Lands (DHHL) conducted an Archaeological Inventory Survey (AIS) on an ca. 1.9-acre property located at 820 Isenberg Street in Mōʻiliʻili, within the Ahupuaʻa of Waikīkī, Kona District, island of Oʻahu [TMK (1) 2-7-008:018 and 020] (Figure 1). This property is the site of the former Stadium Bowl-O-Drome, which opened in 1955 and closed 49 years later in 2004. The subject parcel is currently being considered for redevelopment. As part of the development, DHHL has secured federal funding from Housing and Urban Development (HUD) to assist in planning. Due to the this federal participation, this project is considered an "undertaking" and is subject to Section 106 requirements of the National Historic Preservation Act of 1966, as amended. As part of the project, an Environmental Impact Statement is required that triggers HRS Chapter 343, which includes the necessity of an archaeological inventory survey of the project area.

In February 2017, Pacific Legacy submitted an Archaeological Inventory Survey Strategy to the State Historic Preservation Division (SHPD) that defined the APE. In March 2017, DHHL submitted a letter that redefined the APE, addressed the visual effects and propose three surveys (a Cultural Impact Assessment, a Reconnaissance Level Survey and an Intensive Level Survey of the Bowl- O-Drome building) in addition to the AIS. SHPD subsequently approved the Archaeological Inventory Survey Strategy plan in a letter dated June 6, 2017 (Log No: 2017.00486, Doc. No. 1705KN04).

1.1 PROJECT DESCRIPTION

The 820 Isenberg project has both a defined Area of Potential Effect (APE) and a Project Area, with the APE being larger and more encompassing that the Project Area (Figure 2). The larger APE was defined to assess effects on adjacent historic architectural properties. The APE boundaries run from the *mauka* (north) side of Citron Street to the *makai* (south) side of Young Street. The area is bounded on the west by Paʻani Street and Makahiki Way, and on the east by both sides of Coolidge Street. This area may be indirectly affected should a high-rise building be erected on the Stadium Bowl-O-Drome property. The surrounding area consists primarily of residential and commercial properties.

The project area consists of the existing building parcel (1) 2-7-008:018, and a neighboring parcel (1) 2-7-008:020, also owned by DHHL. The Bowl-O-Drome structure was constructed in 1956 and sits on a 0.918-acre site; the neighboring parcel consists of a 0.976-acre site, together totaling the ca. 1.9-acre project site.

1.2 ENVIRONMENT

The entire project area consists of active roadways, covered with asphalt. The setting is entirely urban in design. Rainfall in Waikīkī averages 20 inches per year, with the wettest months being December and January (Juvik and Juvik 1998). Temperatures typically range between 61° F. in January and 90° F. in August.

1.2.1 Geomorphology of the Area

The island of Oʻahu is comprised of two extinct shield volcanoes that erupted 1.3 and 2.2 million years ago: Koʻolau on the east side of the island and Waiʻanae is on the west side. The Koʻolau mountain range consists of eruptive material from the shield and rejuvenated stages in the evolution of a Hawaiian volcano (Juvik and Juvik 1998).

> In the early Pleistocene Period, one million to ten thousand years ago, the sea level alternately rose and receded +55 feet, then -55 feet, then +95 feet, then +70 feet, then +40 feet. With each rise of the sea, the Koʻolau Formations became eroded by marine action and coral was deposited. Shorelines were farther inland then those of today. The land was deeply dissected streams. This was the time of widespread glaciations, causing the sea to fall with the freezing part of the cycle, and rise with the melting part of the cycle (Gardner and Ruby 2005: 2-3).

The lavas present in the Honolulu area are rejuvenated-stage lavas — specifically, Honolulu Volcanics and Koʻolau basalt — and include flows of alkali basalt, basanite, nephelinite, and melilitite. Flows from inland eruptions funneled down valleys such as Nuʻuanu and Mānoa, creating flat valley floors. Explosive vent eruptions occurred along Oʻahu's south coast and produced tuff cones, such as Diamond Head. Most lavas of this area appear to be older than 100,000 years, while the most reliably dated vent, Black Point at the base of Diamond Head (aka Lēʻahi), is 410,000 years old (Juvik and Juvik 1998).

> A distinctive feature of Oʻahu's geomorphology is the broad plain that extends from Diamond Head across Pearl Harbor to ʻEwa and Barbers Point. Composed of raised coralline limestone, this emergent coastal plain is partly the result of upward seafloor warping or tilting, in response to the weight of the larger islands of Maui and Hawaiʻi (Juvik and Juvik 1998:7).

The Mōʻiliʻili area is home to a series of subterranean karst cavern and waterways commonly known as the Mōʻiliʻili Karst. The Mōʻiliʻili Karst occurs in Pleistocene reef limestone located just east of the current project area. The area in question covers approximately one square kilometer and is located between the quarry area of the lower University of Hawaii Mānoa campus, Kapiolani Blvd. to the south and Isenberg Street to the west.

1.2.2 Soils

Soils within the project area consist of the Ewa Series, specifically the Ewa silty clay loam (EmA). Other soils in the project vicinity outside of the project area include filled land (FL), Kawaihapai clay loam, 0-2 percent slopes (KIA), Makiki clay loam, 0-2 percent slopes (MkA) and Makiki stony clay loam, 0 to 3 percent slopes (MIA**)** (Figure 3).

Ewa Series
This soil consists of well drained soils in basins and on alluvial fans…These soils developed in alluvium derived from basic igneous rock. They are nearly level to moderately sloping. Elevation ranges from near sea level to 150 feet.

> **Ewa silty clay loam, moderately shallow, 0-2 percent slopes (EmA)**
> The depth to coral limestone is 20 to 50 inches. Runoff is very slow, and the erosion hazard is no more than slight. This soil can be used for sugarcane, truck crops, and pasture.

Fill Land
This land type consists of areas filled with material from dredging, excavation from adjacent uplands, garbage, and bagasse and slurry from sugar mills. The areas are on the islands of Kauai, Maui, and Oahu (Foote et al. 1972:31).

> **Fill land, mixed (FL)**
> This land type occurs mostly near Pearl Harbor and in Honolulu, adjacent to the ocean. It consists of areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources. This land type is used for urban development including airports, housing areas, and industrial facilities (Foote et al. 1972:31).

Kawaihapai Series
This series consists of well-drained soils in drainage ways and alluvial fans on the coastal plains…These soils formed in alluvium derived from basic igneous rock in humid uplands (Foote et al. 1972: 63).

> **Kawaihapai clay loam, 0-2 percent slopes (KIA) –** This soil occupies smooth slopes…Permeability is moderate. Runoff is slow, and the erosion hazard is no more than slight…In places roots penetrate to a depth of 5 feet or more. In some places this soil is subject to flooding…This soil is used for sugarcane, truck crops, pasture, and orchids (Foote et al. 1972: 64).

Makiki Series
This series consists of well-drained soils on alluvial fans and terraces in the city of Honolulu…These soils formed in alluvium mixed with volcanic ash and cinders (Foote et al 1972: 91).

> **Makiki clay loam, 0-2 percent slopes (MkA) –** This soil is on smooth fans and terraces…Permeability is moderately rapid. Runoff is slow, and the erosion hazard is no more than slight…This soil is almost entirely in urban use (Foote et al. 1972: 92).
>
> **Makiki stony clay loam, 0 to 3 percent slopes (MIA) –** This soil is similar to Makiki clay loam, 0-2 percent slopes, except that there are enough stones to hinder cultivation. This soil is almost entirely in urban use.

1.3 SOIL CONTAMINATION

During the current AIS, a limited Phase II Environmental Site Assessment was conducted by Element Environmental, LLC. Soil sampling was limited to within the archaeological test trenches, with the emphasis being identification of potential soil contaminants. A draft letter report of their findings has been produced (Element Environmental 2017). Soil contaminants Barium, Lead, Lindane (a pesticide), TPH-DRO and TPH-RRO (Total petroleum hydrocarbons**)** were identified in some form within 14 of the 23 trenches sampled (Trenches 3, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 22, 23) and exceed the Hawaii Department of Health (HDOH) Tier 1 Environmental Action Levels (EALs) for Residential land use and/or HDOH EALs for Commercial/Industrial land use in some way (Element Environmental 2017: 9).

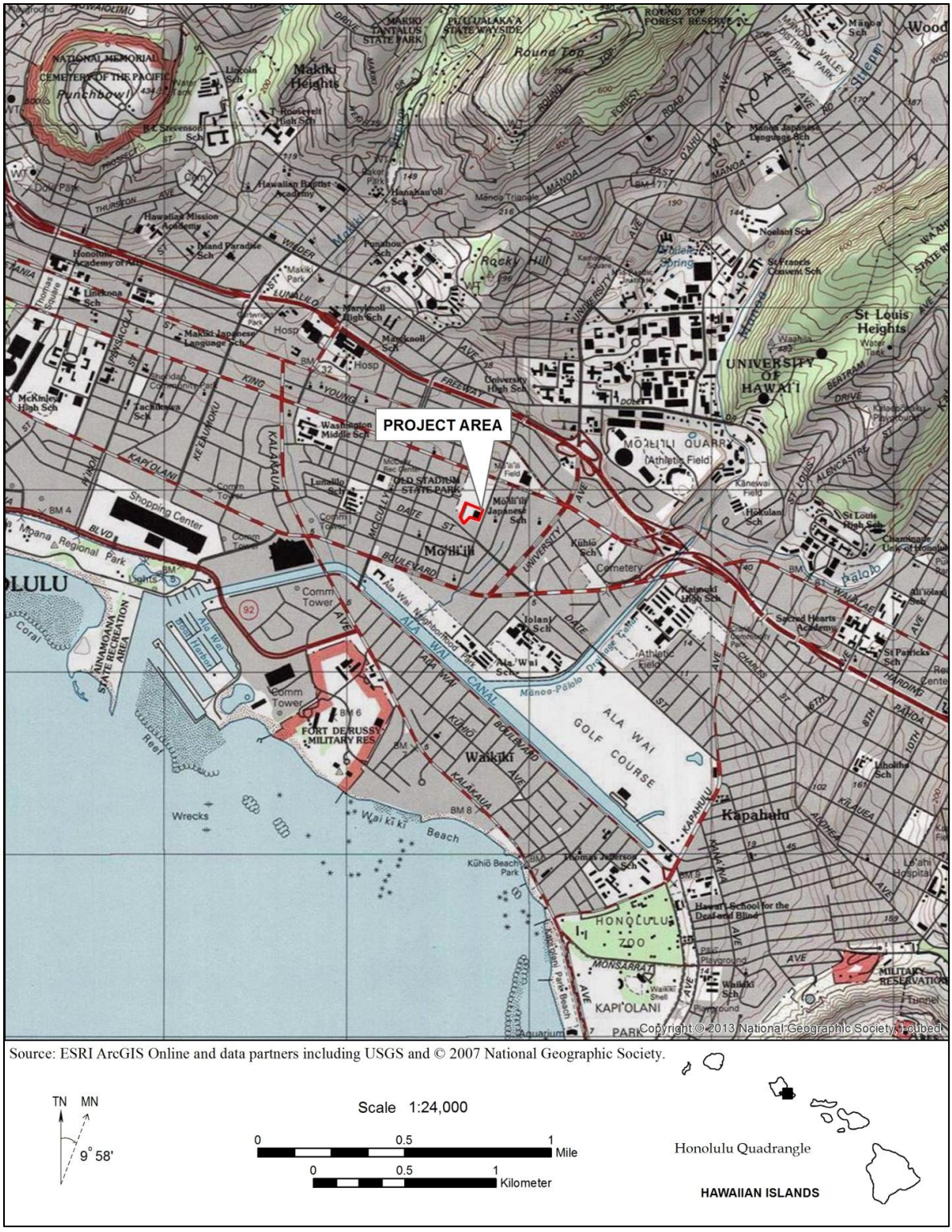

Figure 1. Project Area plotted on 2016 USGS Map, Honolulu Quadrangle.

Figure 2. Google Earth image showing both area of potential effect in yellow and project area in red (Source: Google Earth 2013).

Figure 3. Soils map indicating soil type within and around project area (Source Map: ESRI 2017).

2.0 HISTORIC BACKGROUND

Most recently, Kuni Automotive and Towing operated within the project area between 2004 and April 2017 and used the area as a parking/storage lot abandoned vehicles. However, the area is mostly known for being the former site of the "Stadium Bowl-O-Drome" which operated between 1955 and 2004 (Gardner and Ruby 2005:227). The parking lot was used by the adjacent Honolulu Stadium (1926-1975) for parking (Figure 4) and possibly as a "pit area" during stock car races that occurred at the stadium. Prior to this, the subject parcel may have been used to burn rubbish and reportedly contained an incinerator to burn rubbish, possibly from the stadium. There is no documentation that the project area contained residences.

Figure 4. The current project area in 1953, being used as the stadium parking lot prior to the Bowl-O-Drome construction. Image from the Alonzo Demello Collection, Earl MA. In Gardner and Ruby 2005.

2.1 WAIKĪKĪ AREA

The *ahupua'a* (traditional land division) of Waikīkī, literally "spouting water" (Pukui et al. 1974: 223), encompassed the land from Honolulu to Maunalua Bay and from the ocean to the ridge of the Ko'olau mountain range (Figure 5). The Waikīkī of yesterday was an important political seat and a highly utilized area for agriculture and aquaculture. The Waikīkī of today is highly urbanized, densely populated, and has the highest concentration of visitor accommodations in the State.

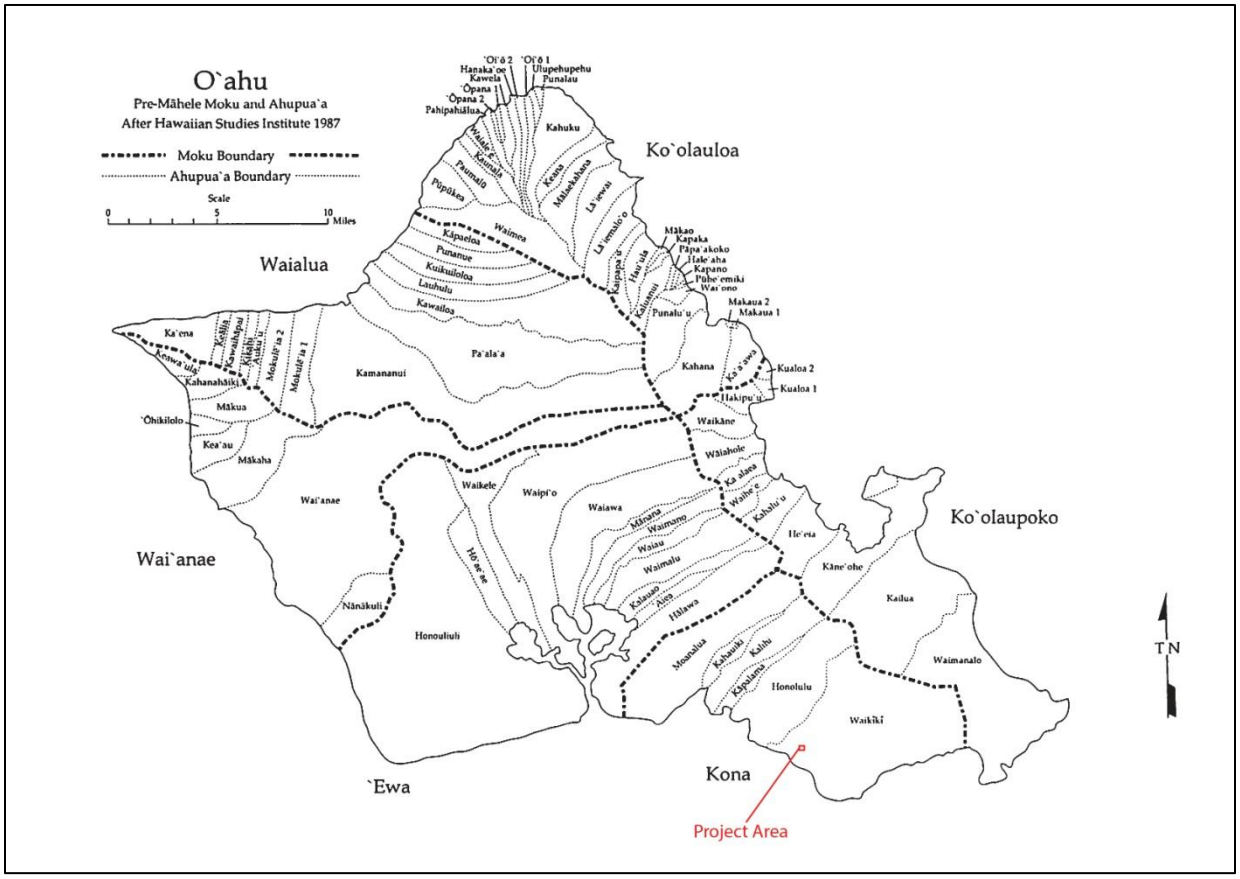

Figure 5. Traditional *moku* and *ahupua'a* names and locations on the island of O'ahu, after Hawaiian Studies Institute, 1987).

Although the project area is situated within the *ahupua'a* of Waikīkī, it is outside of what most people today would consider Waikīkī proper and is actually situated in the inland area between the areas of Kaimukī and Pāwa'a. The map by Ober (Figure 6) displays the common names in the project vicinity and indicated the area is situated between Kaimukī, Pāwa'a and Kālia ('Ī'ī 1995:93). The map also indicates the project area is in the middle of two trail systems that connected the Honolulu area to Kaimukī and Kāhala areas.

The *ahupua'a* of Waikīkī was located in the traditional district on *moku* of Kona. The Kona district *ali'i nui* (high chief) Ma'ilikūkahi made Waikīkī the seat of government at the end of the 14th century (Beckwith 1940).

The 15th century saw the construction of a vast system of irrigated *loʻi* (pondfields) and *loko* (fishponds) that extended across the littoral plain of Waikīkī. The agriculture and aquaculture consisted of extensive *loʻi kalo* (taro pondfields), *ʻauwai* and *loko* (irrigation systems) which dispersed the water resources that flowed from the mountain streams throughout the hinterland of Waikīkī (Nakamura 1979). The importance of Waikīkī as a center of political and social power was displayed in the importance of its *heiau* and continued through the time of Kamehameha I (Handy et al. 1991) who built a chiefly residential complex there after defeating Oʻahu's chief, Kalanikūpule, in 1795. John Papa ʻĪʻī (1995), retainer to Liholiho (Kamehameha II) and historian, wrote of Kamehameha I's Waikīkī residence — "Kamehameha's houses were at Puaaliilii, makai of the old road, and extended as far as the west side of the sands of Apuakehau. Within it was Helumoa…, where Kaahumanu *ma* went to while away the time. The king built a stone house there, enclosed by a fence…" (ʻĪʻī 1995:17). ʻĪʻī also noted that "this place had long been a residence of chiefs. It is said that it had been Kekuapoi's home, through her husband Kahahana, since the time of Kahekili" (ʻĪʻī 1995:17).

By the end of the 18th century, Waikīkī had developed into one of the most densely populated areas on Oʻahu as well as a rich, highly cultivated agricultural and aquacultural district (Davis 1989). According to Handy and Pukui, the Hawaiian planter "…carefully thought out procedures of cultivation…that were adjusted to every circumstance of climate, altitude, weather, exposure, soil, and locality" (Handy et al. 1991:21). In 1792, George Vancouver, captain of the HMS Discovery, described Waikīkī as follows:

> On the shores [of the bay] the villages appeared numerous and in good repair; and the surrounding country pleasingly interspersed with deep, though not extensive valleys; which, with the plains near the seaside, presented a high degree of cultivation and fertility….To the northward through the village…an exceedingly well-made causeway, about twelve feet broad, with a ditch on either side. This opened to our view a spacious plain, which…had the appearance of the open common fields of England; but on advancing, the major part appeared divided into fields of irregular shape and figure, which were separated from each other by low stone walls, and were in a very high state of cultivation. These several portions of land were planted with the eddo or taro root, in different stages of inundation; none being perfectly dry, and some from three to six or seven inches under water….Near a mile from the beach…was a rivulet five or six feet wide, and about two or three feet deep, well banked up and nearly motionless; some small rills only, finding a passage through the dams that checked the sluggish stream, by which a constant supply was afforded to the taro plantations….At the termination of the causeway the paths of communication with the different fields or plantations were on these narrow stone walls; very rugged and where one person only could pass at a time….The sides of the hills, which were at some distance, seemed rocky and barren; the intermediate valleys, which were all inhabited, produced some large trees, and made a pleasing appearance. The plains, however, if we may judge from the labor bestowed on their cultivation, seem to afford the principal proportion of the different vegetable productions on which the inhabitants depend for their subsistence. The soil, though tolerably rich and producing rather a luxuriant abundance, differs…from that of…Otaheite (Vancouver 1798: Vol. 1, 360-365).

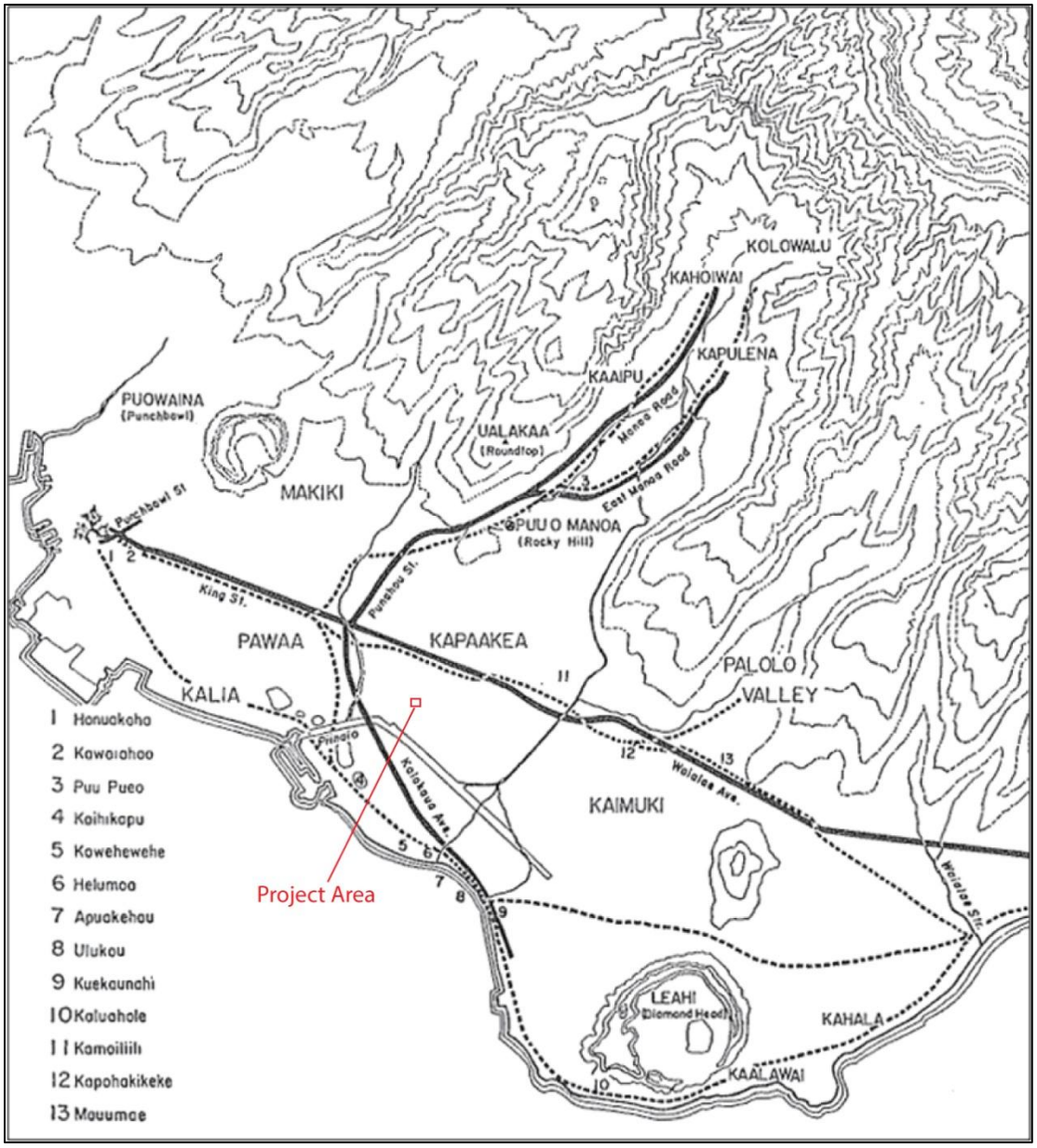

Figure 6. Trails near the project area. Map by Gerald Ober (ʻĪʻī 1995:93).

Archibald Menzies served as surgeon and naturalist aboard the HMS Discovery on three voyages to the Hawaiian Islands between 1792 and 1794. He described the large village of Waikīkī and the agriculture of the surrounding area:

> …The verge of the shore was planted with a large grove of cocoanut palms, affording a delightful shade to the scattered habitations of the natives….We pursued a pleasing path back into the plantation, which was nearly level and very extensive, and laid out with great neatness into little fields planted with taro, yam, sweet potatoes, and the cloth plant.

> These, in many cases, were divided by little banks on which grew the sugar cane and a species of Draecena [*ti* – footnote in original] without the aid of much cultivation, and the whole was watered in a most ingenious manner by dividing the general stream into little aqueducts leading in various directions so as to supply the most distant fields at pleasure, and the soil seems to repay the labor and industry of these people by the luxuriancy of its production (Menzies 1920:23-24).

Post-1778, the Native population of Hawaii entered a period of rapid decline, the result of introduced diseases that Hawaiians had no immunity to withstand (Lind 1968:40). The decrease in the Hawaiian population and the draw of Honolulu's bustling harbor and foreign trade contributed to the neglect of Waikīkī's *loʻi* which were allowed to fall into disuse and revert to what was considered by some swampland. When Levi Chamberlain, an agent of the American missionaries, toured Waikīkī in 1828, the impact of the neglect was apparent:

> …[W]e took a path on our right leading through a grove of tall cocoanut trees towards Waikiki—Our path led us along the borders of extensive plats of marshy ground, having raised banks on one or more sides, and which were once filled with water, and replenished abundantly with esculent fish; but now overgrown with tall rushes waving in the wind. The land all around for several miles has the appearance of having been once under cultivation. I entered into conversation with the natives respecting its present neglected state. They ascribed it to the decrease of population… (Chamberlain 1957:26).

The decline in the population of Native Hawaiians saw a commensurate rise in power, both economically and politically, of an oligarchy of Western capitalists (Nakamura 1979). The traditional subsistence economy yielded to external economic forces and a succession of export industries would contribute to the transformation of the social climate and economic landscape of Hawaiʻi.

From 1812 to 1830, the sandalwood trade with China thrived. This industry was monopolized by *nā aliʻi nui* (high chiefs) who required burdensome tributes and taxes from the *makaʻāinana* (commoners) to pay off debts and support a growing desire for foreign status goods (Juvik and Juvik 1998). Beginning in 1819 and lasting into the 1860s, the Pacific whaling industry found the harbors of Honolulu and Lāhainā opportune and profitable ports of call. As the whaling industry declined, the American Civil War created a demand for sugar that *haole* (Caucasian) businessmen were quick to exploit. "From 1860 to 1900, sugar production and exports increased steadily, sugarcane acreage expanded, and sugar profits grew. Cultivated on large landholdings with hand labor, sugar turned Hawaiʻi into a plantation society. It was dominated by mostly American elite of plantation owners and their financial associates in Honolulu, tied culturally and economically to the United States" (Juvik and Juvik 1998:174). A decreased, economically and socially disenfranchised Hawaiian population could not satisfy the massive amounts of labor required to support expanding sugar production, thus, requiring the importation of foreign labor. The first influx of indentured laborers arrived from China in 1852 and 1855 (Daws 1982) followed by the Portuguese and Japanese, and by 1896 the "massive infusions of new blood…greatly outnumbered the native Hawaiians" (Schmitt 1968:5).

Another burgeoning agricultural industry in the latter half of the 19th century was rice cultivation. In 1858, investors in the Royal Hawaiian Agricultural Society appointed Dr. H. Holstein as proprietor and manager of a tract of land in Nuʻuanu valley where he "…planted seed-rice imported from China in a former taro patch" (Haraguchi 1987:xiii). A new, high-yield variety was planted in 1860 and its success increased the value of *loʻi* (pond fields) once used to cultivate *kalo* (taro). On October 3, 1861, the Commercial Pacific Advertiser reported that "[e]verybody and his wife…are into rice…. Taro patches are held at fabulous valuations…." (Thrum 1877:47 as cited in Haraguchi 1987:xiii). Land investors began to acquire available *loʻi* land since "where taro grows, rice grows also" (Haraguchi 1987:30). Waikīkī was again recognized as one of the "most important growing districts on Oahu" (Iwai 1933:38) and by 1892, about 542 acres of *loʻi* were planted in rice (Nakamura 1979; Iwai 1933; Coulter and Chun 1937). The U.S. Department of Commerce reported that by the 1900 census, rice production in Hawaiʻi was second only to sugar in value and acreage (Coulter and Chun 1937 as in Haraguchi 1987).

2.2 LAND COMMISSION AWARDS

Private land ownership was established in Hawaiʻi with the Māhele ʻĀina, also known as the Great Māhele of 1848. Crown and *aliʻi* lands were awarded in 1848 and *kuleana* titles were awarded to the general populace in 1850 (Chinen 1958). Awarded lands in this process are referred to as Land Commission Awards (LCAs). Over time, government lands were sold off to pay government expenses. The purchasers of these lands were awarded Grants or Royal Patent Grants (Chinen 1958). LCA's offer the native and foreign testimonies recorded during the claiming process, which shed light on what the land use of the area was in the early historic period. This information can be used to predict the types of resources may still be present in the project area.

A review of the available records indicates that seven LCAs were awarded near the immediate vicinity of the current project area (Table 1) and (Figure 7, Figure 8, and Figure 9). LCA 2017 was awarded to Ohule, LCA 1047 was awarded to Naukana, LCA 8841 was awarded to Kapeau, LCA 6235 was awarded to Kapaakea, LCA 8035 was awarded to Akaole, LCA 4313 was awarded to Paukaa, and 3721B to Makuaole.

Table 1. Land Commission Awards near the project area.

LCA No.	Awardee	Acreage	Usage
1047	Naukana	-	-
2017	Ohule	ʻili of Kamookahi	Two taro lʻoi, one house site, irrigation ditch, hau tree
3721B	Makuaole	-	-
4313B	Paukaa	Within ʻili of Opukaala	One house lot
6235	Kapaakea	3 sections in Waikiki	-
8035	Akaole	-	2 lʻoʻi, house lot
8841	Kapeau	½ of the Pawaa ʻili	-

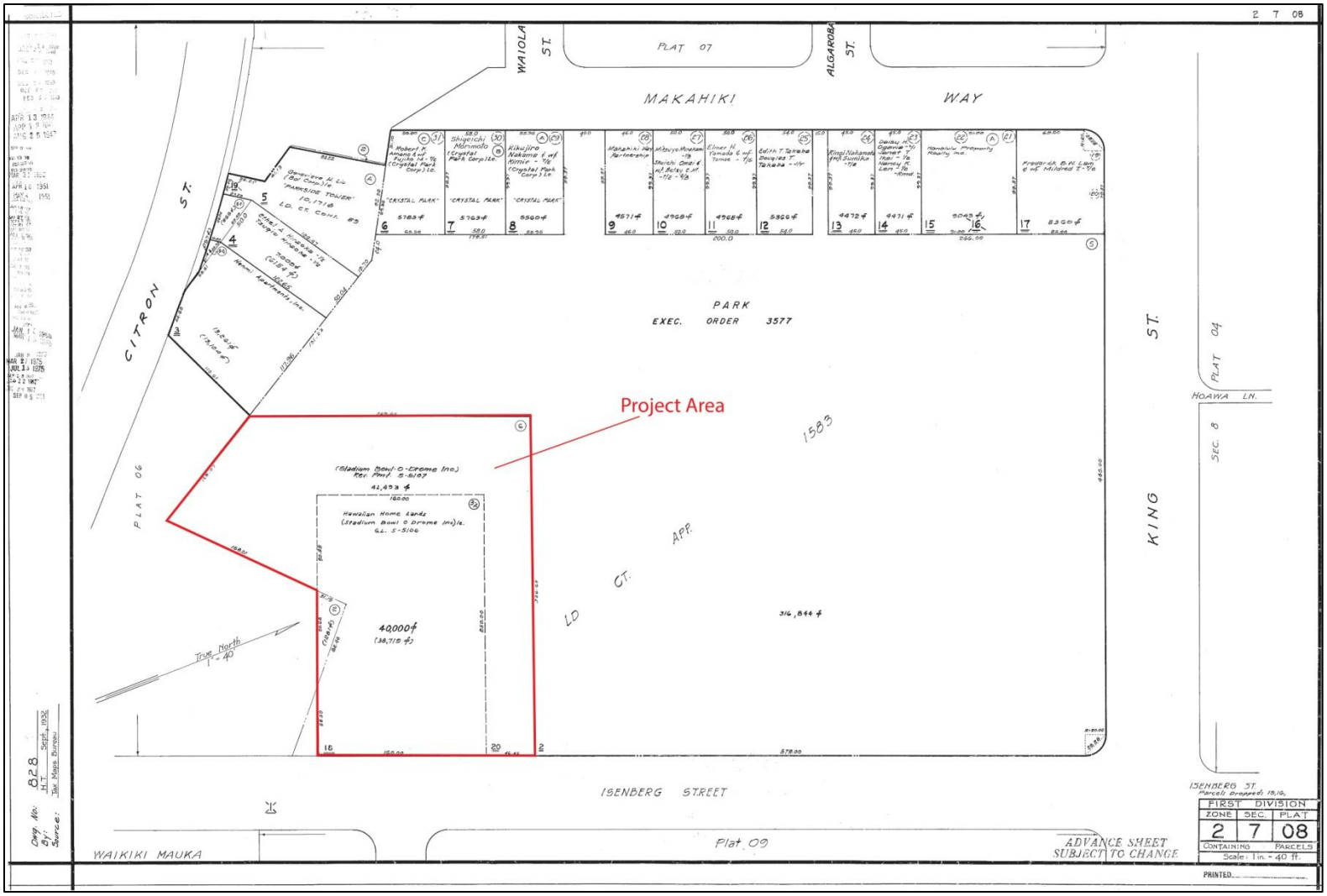

Figure 7. Project area shown on Tax Map Key.

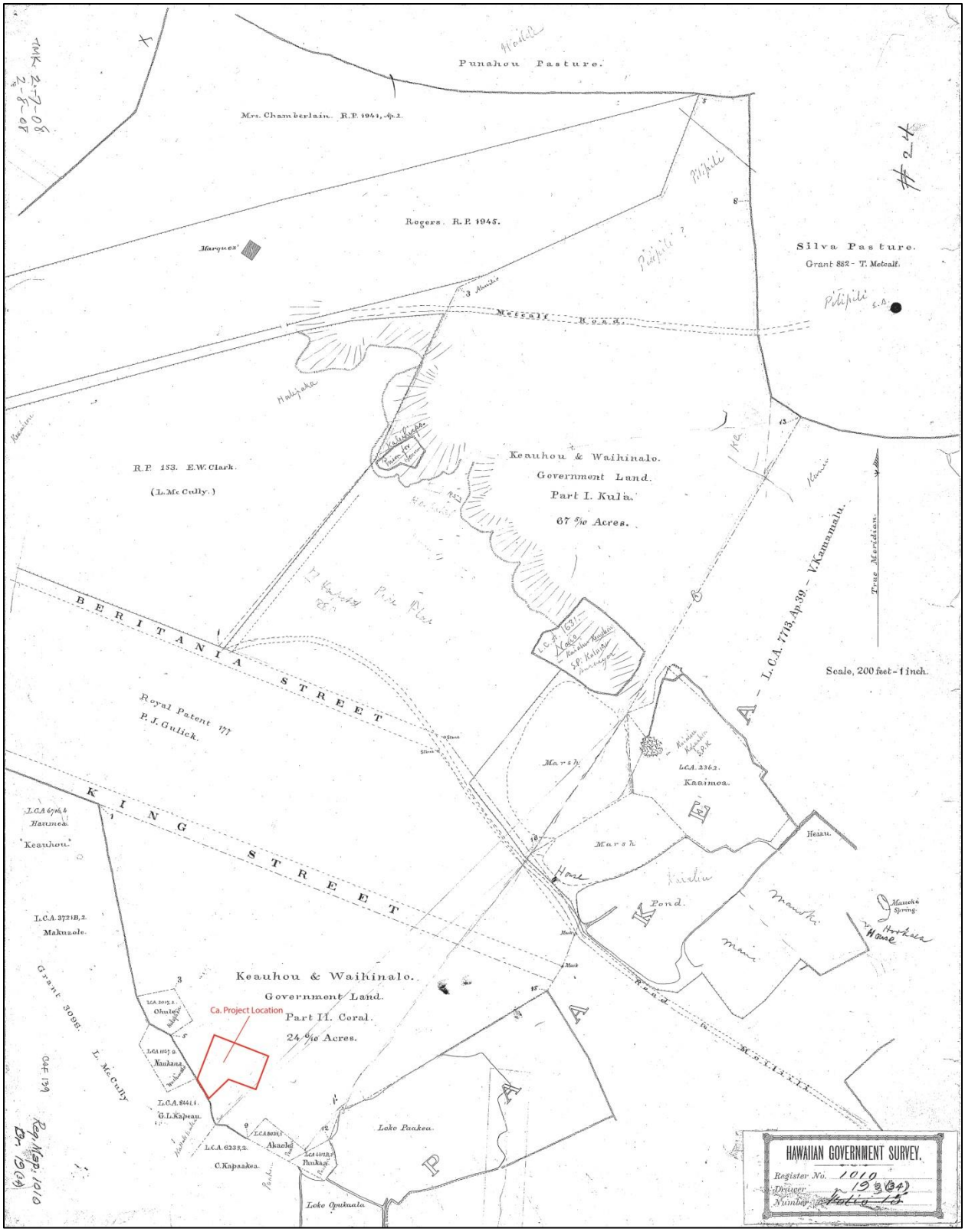

Figure 8. Land Commission Awards plotted on Reg. Map No. 1010.

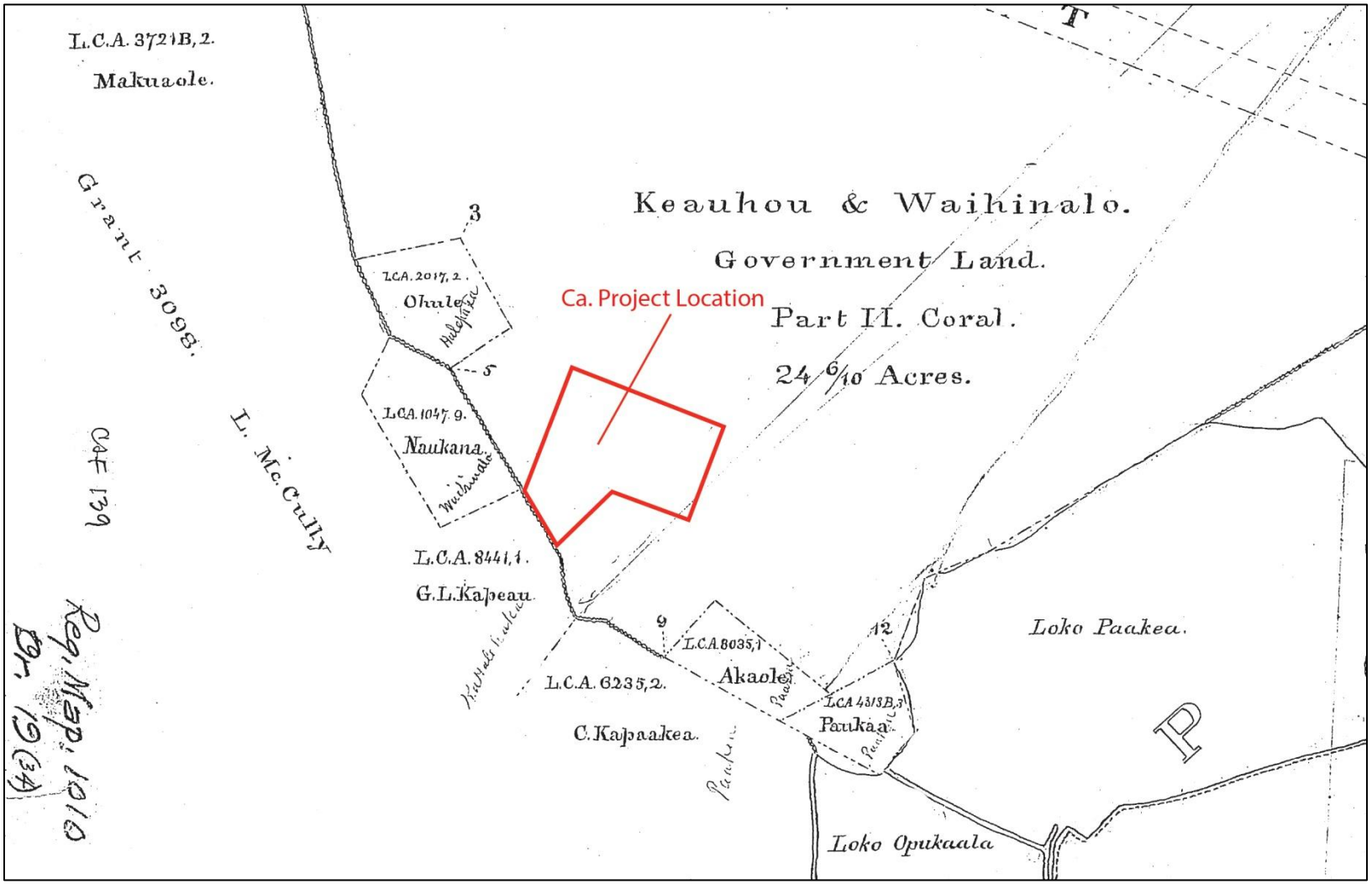

Figure 9. Close up of Land Commission Awards located near the project area (Reg. Map No. 1010)

3.0 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

A review of the previous archaeological investigations was conducted at the State Historic Preservation Division library in Kapolei. The review determined that no previous archaeological investigations have occurred within the current project area. However, several studies have taken place north of the current project area within the Mōʻiliʻili/University area.

The coral limestone under Mōʻiliʻili is referred to as the Mōʻiliʻili Karst covers approximately one square kilometer and is located between the quarry area of the lower University of Hawaii Mānoa campus, Kapiolani Blvd. to the south and Isenberg Street to the west (Figure 10). This system once contained untapped fresh water fed from several natural artesian springs. The water was reportedly cool, clean fresh containing a type of blind mullet (Mugilidae – typically a salt water fish) (Gardner and Ruby 2005: 7). As modern development expanded the use of the Mōʻiliʻili area, these springs and waterways were impacted by increased urbanization. Concrete piles used to support structures have penetrated the karst systems and altered springs. Access to these caverns was once allowed but today it's limited. The caverns have become polluted and dangerous and have been closed off to public access.

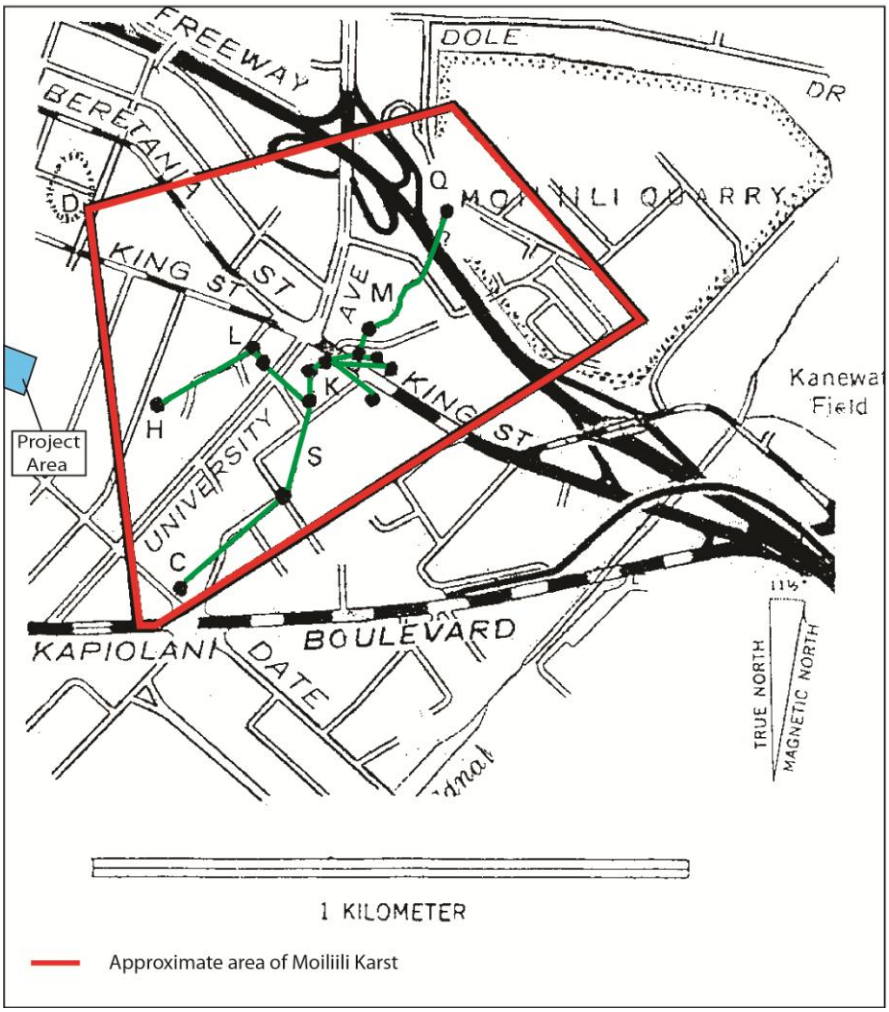

Figure 10. The Mōʻiliʻili Karst area (adapted from Halliday 1998). The green lines indicate the locations documented drainage conduits.

In 1991, (Figure 11) Allan Schilz conducted an archaeological literature review and archival research for a proposed drainage improvement project in Mōʻiliʻili (TMK: 2-7-16, 17). Schilz concluded that two ponds were in the vicinity of the project area but "appear to be situated well away from the trenching (Schilz 1991: 8). As a result, he recommended periodic monitoring.

In 1994, Scientific Consultant Surveys, Inc., (Chaffee and Spear 1994) conducted an archaeological assessment of four parcels along Hausten Street (located two blocks east of the current project area) [TMK] 2-7-9:13, and 14; and 2-7-10:8 and 9. Although no archaeological sites were observed within the project area, the authors did note that two sites in the area. Kanewai (located in the University of Hawaii quarry) was a large underground pool of water said to be the "healing waters of Kane"and Kumulae Springs (located at the Willows restaurant) whose water was also said to have healing powers.

Between 2013 and 2014, Cultural Surveys Hawaiʻi (Medina et al. 2014) conducted archaeological monitoring of a 12-inch water main located on University Avenue (TMKs: [1] 2-7-016, 2-8-006, and 2-8-024) in Mōʻiliʻili . The project area was located within University Avenue between University Place and confluence of South Beretania Street, South King Street and University Avenue. The monitoring uncovered "various imported fill deposits associated with modern urban development (i.e., construction of roads and installation of utilities) and historic land reclamation (i.e., the in-filling of ponds and marshland)" (Medina et al. 2014).

> Of note is the presence of a clay loam deposit beneath the imported fill in the northernmost portion of the project area. This deposit has been interpreted as buried wetland soil associated with Loko Kaiʻaliʻu (SIHP # 50-80-14-7588). In addition, a buried asphalt road surface, associated base coarse fill, and a construction pit feature (Feature 1) (SIHP # 50-80-14-7732) likely associated with the 1959 development and paving of University Avenue were identified. Also of interest is the presence of a raised coral shelf encountered in the southern portion of the project area. This was likely exposed prior to the construction of the current road surface, but has since been filled over (Medina et al 2014:ii).

In 2014, Cultural Surveys Hawaiʻi (Enanoria et al. 2016a), conducted archaeological inventory survey for a proposed redevelopment project at Puck's Alley (TMKs: [1] 2-8-024:013 and 030–033). Three archaeological historic properties were identified: State Inventory Survey of Historic Properties (SIHP) # 50-80-14-7666, subsurface remnants of wetland soils (Loko Mauʻoki) SIHP # 50-80-14-7667, subsurface remnants of wetland soils (Maui Loko), and SIHP # 50-80-14-7668, post-Contact structural remnants and trash pit associated with early to mid-twentieth century development. All three sites were assessed as significant under criterion "d" and archaeological monitoring was recommended during construction.

Between 2014 and 2015, Cultural Surveys Hawaiʻi (Enanoria et al. 2016b), conducted an archaeological inventory survey for a proposed redevelopment project located at various parcels in the Varsity area of Honolulu (TMKs: [1] 2-8-006:001, 032, 036, 038–043). The AIS built upon a study by O'Hare et al. (2007) which had previously determined the presence of three *loko* (ponds) which were used for cultivation (O'Hare et al. 2007).

During the most recent study, Enanoria et al. (2016b) identified three archaeological historic properties: State Inventory of Historic Properties (SIHP) # 50-80-14-7588, subsurface remnants of wetland soils (Loko Kaiʻaliʻu) SIHP # 50-80-14-7667, subsurface remnants of wetland soils (Maui Loko) SIHP # 50-80-14-7670, post -Contact structural remnants associated with early to mid-twentieth century development. All three sites were assessed as significant under criterion "d" and archaeological monitoring was recommended during construction.

In January 2016, Keala Pono (McElroy & Duhaylonsod 2016) conducted an archaeological assessment of a 4.45 acre parcel on the campus of the University of Hawaiʻi at Mānoa. The project area is currently occupied by the UHM William S. Richardson School of Law. They conducted a 100% pedestrian survey and determined the entire area had been modified and developed. Subsurface test excavation identified a series of fill layers but no cultural resources. No further work was recommended for the project Pono (McElroy & Duhaylonsod 2016: 43).

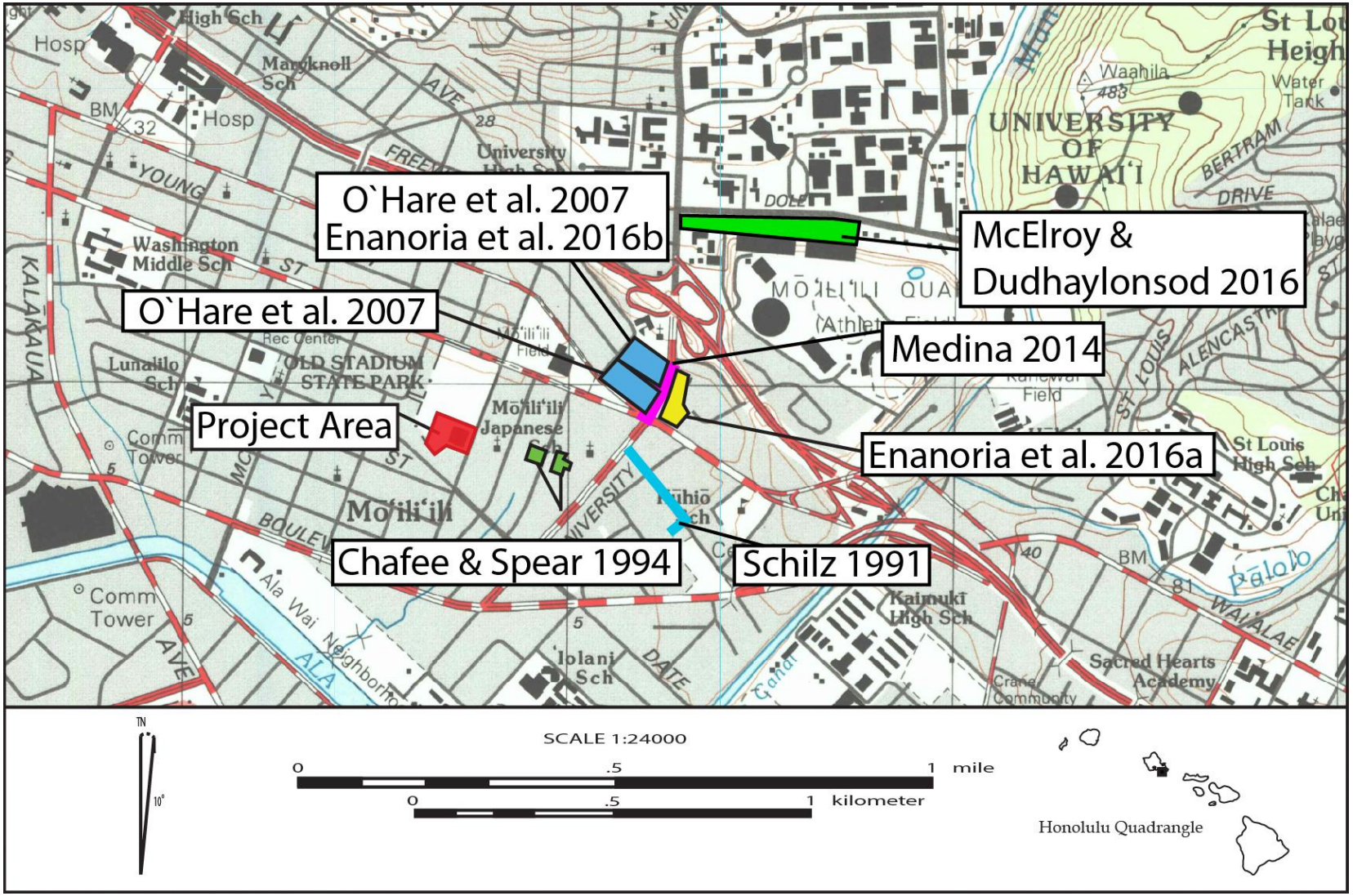

Figure 11. Map depicting previous archaeological investigations in the vicinity of the current project area.

4.0 METHODS

Subsurface trench excavations were conducted throughout the current project area between 10 - 14 July, 2017. The project was under the overall supervision of Principal Investigator Paul L. Cleghorn, Ph.D. Pacific Legacy archaeologists James McIntosh, B.A., Caleb Fechner, B.A. and Mike Placher, B.A. conducted the excavations for the project.

Prior to excavation, the proposed excavation trenches in the project area were marked with white paint and The One Call center was contacted to determine if the proposed trenches would possibly encounter buried utilities (see capitol.hawaii.gov for regulations). The One Call center issued Ticket No. 17007772 for our excavation project.

A total of 24 trenches were excavated on the subject parcel. The locations of these trenches are shown in Figure 12 and have been spaced to spatially sample the exterior area. All excavations were closely inspected by the project archaeologists.

Each trench was closely monitored during excavation. Excavated material was inspected as it was removed from the trenches and emptied from the backhoe bucket. After excavation, the walls of each trench were cleaned and straightened using a flat nose shovel and trowel in order to clearly distinguish the stratigraphy of the soils. The stratigraphy was recorded for each trench with profiles drawn of at least one sidewall. Standard metric measurements were used in all aspects of recording. All soils were recorded using standard United States Department of Agriculture (U.S.D.A.) nomenclature (1951) and Munsell Soil Color Chart designations (2000).

Photographs of the project area, work in progress, and trench wall profiles were also taken. The photo scale in all of the profile photographs measures 50 cm in length. The location of each trench was recorded with a Trimble GPS unit and processed through ESRI software. Trenches were backfilled after documentation was complete.

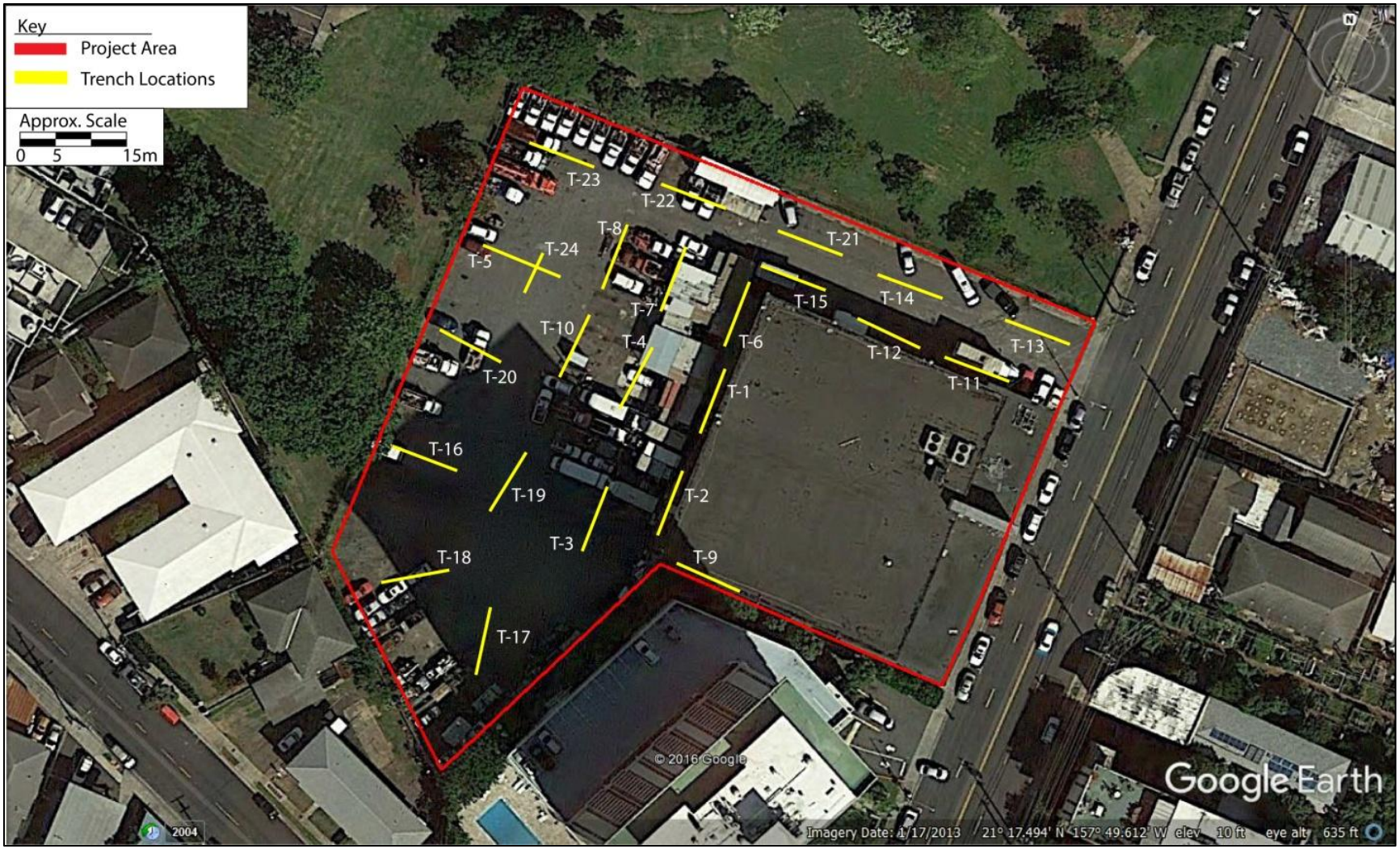

Figure 12. Location of trenches excavated during the current project.

5.0 RESULTS

A total of 24 trenches were excavated during the archaeological inventory survey (Figure 12). The trenches were spaced evenly throughout the project area to obtain a complete coverage and determine the previous use of the subject parcel. All 24 trenches were excavated down to the coral limestone at which point the excavations were terminated. The surface of the coral limestone was encountered at relatively shallow depths in the majority of the trenches, the shallowest instance being ca. 14.0 cm below surface. The maximum depth of the surface of the coral limestone was encountered at ca. 1.6 m below surface.

Trench No. 1

Trench No 1 (Figure 13 and Figure 14) was located ca. 3.4 meters (m) northwest of the former bowling alley building. The trench was oriented at 20°-200° and measured ca. 9 m long, between 0.85 and 1.5 m wide and 1.15 m deep.

Layer I	0-6 cmbs	Asphalt; abrupt smooth boundary.
Layer II	7-14 cmbs	White (10 YR 8/1) crushed coral base course. Abrupt smooth boundary.
Layer III	15-18 cmbs	Very dark brown (10 YR 2/2) silt; strong, fine sub-angular blocky; firm, slightly sticky, slightly plastic; abrupt smooth boundary.
Layer IV	19-43 cmbs	Very dark grayish brown (10 YR 3/2) cinder; moderate very fine sub-angular blocky; very firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	44-119 cmbs	Very dark brown (7.5 YR 2.5/3) silty clay weak medium crumb; friable, very sticky, very plastic; contains rocks and charcoal flecking.

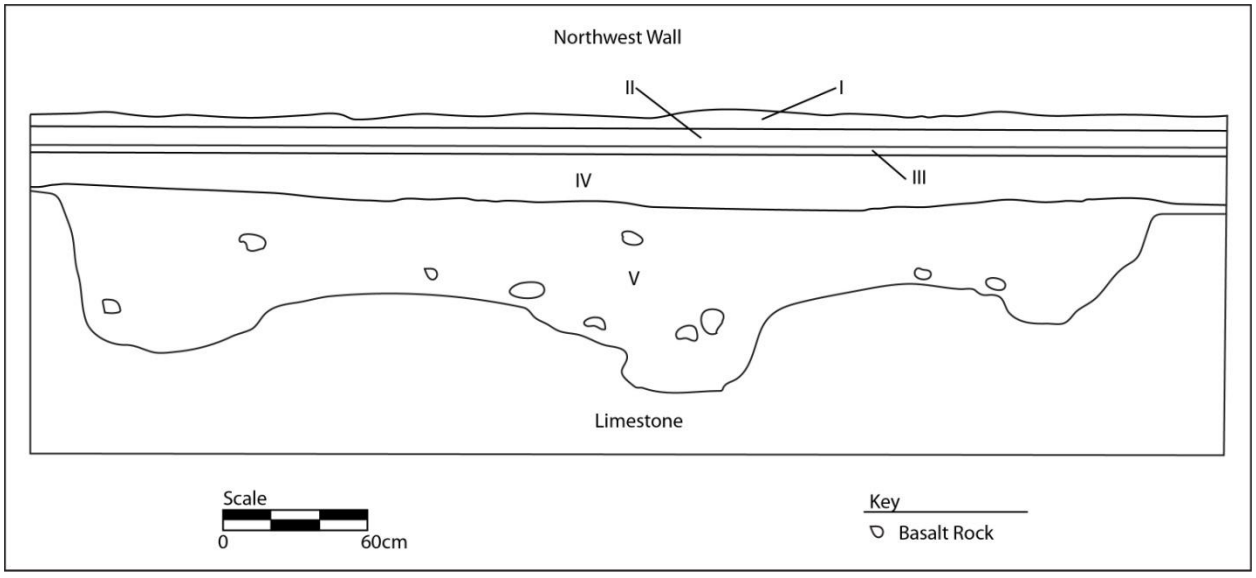

Figure 13. Trench 1, Northwest Wall profile.

Figure 14. Photo of Trench 1 profile, view west.

Trench No. 2

Trench No. 2 (Figure 15 and Figure 16) is located ca. 10 m south of Trench No. 1 and 1 m west if of the southwest corner of the bowling alley building. It is oriented at 195° and measured ca. 9.5 m long, 1.3 m wide and 1.26 m deep.

Layer I	0-8 cmbs	Asphalt; abrupt smooth.
Layer II	9-27 cmbs	White (10 YR 8/1) crushed coral base course. Abrupt smooth boundary.
Layer III	28-36 cmbs	Dark brown (7.5 YR 3 /4) silty clay loam; moderate medium crumb; friable, sticky, plastic; abrupt smooth boundary.
Layer IV	37-47 cmbs	Black (10 YR 2/1) cinder; moderate fine, sub-angular blocky; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	48-46 cmbs	Very dark grayish brown (10 YR 3/2) silt; moderate, medium granular; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer VI	56-126 cmbs	Very dark brown (7.5 YR 2.5/2) silty clay; weak, fine crumb; friable, sticky, plastic; contains charcoal and metal.

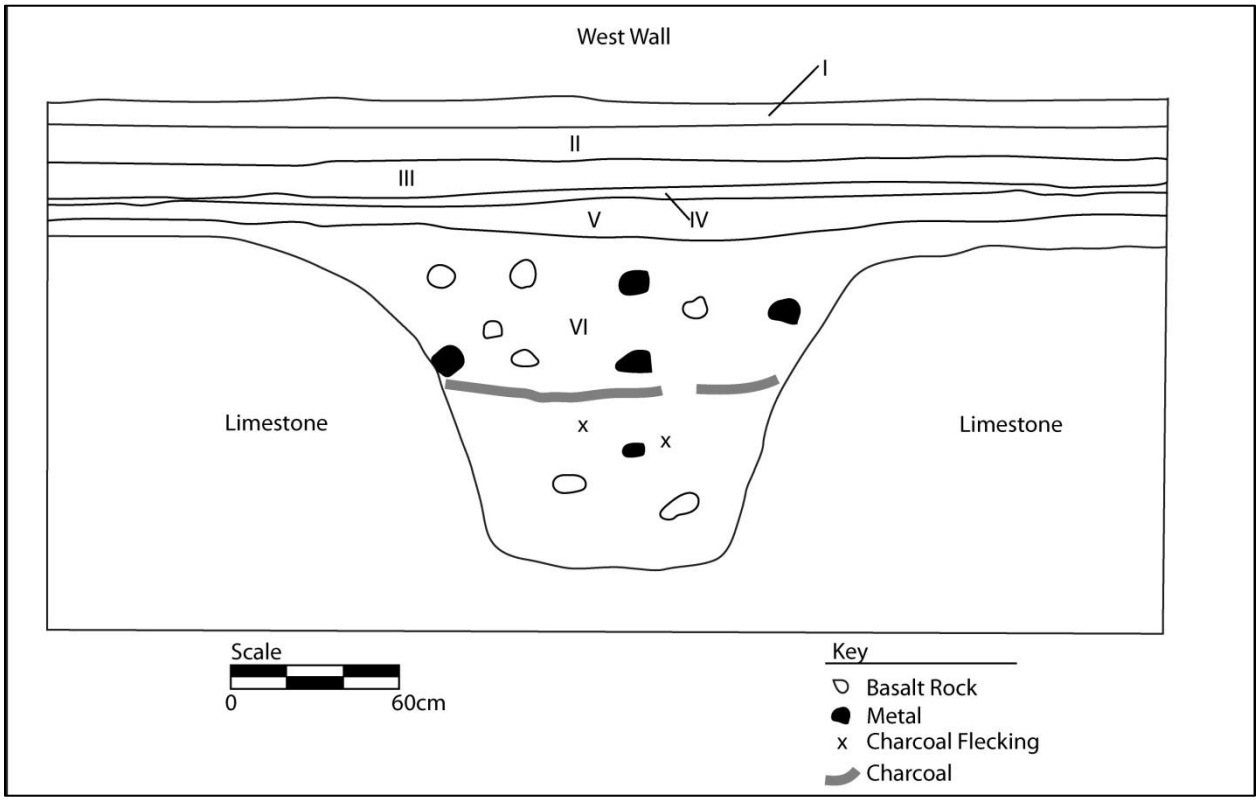

Figure 15. Trench 2, West Wall profile.

Figure 16. Photo of Trench 2 profile, view west.

Trench No. 3

Trench No. 3 (Figure 17 and Figure 18) was located on the northwest side of the bowling alley building. It was oriented at 210° and measures ca. 10 m long, 0.90 m wide and 0.80 m deep.

Layer I	0-10 cmbs	Light gray (10 YR 7/1) silt; moderate, very fine, sub-angular blocky; very firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer II	0-7 cmbs	Asphalt, abrupt smooth boundary.
Layer III	7-22 cmbs	White (10 YR 8/1) crushed coral base course. Abrupt smooth boundary.
Layer IV	17-27 cmbs	Dark brown (7.5 YR 3/3) silty clay loam; moderate, fine, sub-angular blocky; firm, sticky, plastic; abrupt smooth boundary.
Layer V	28-35 cmbs	Black (10 YR 2/1) cinder; moderate, fine sub angular blocky; very firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer VI	36-44 cmbs	Brown (10 YR 5/3) silt; moderate fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer VII	30-80 cmbs	Dark brown (7.5 YR 3/3) silty clay; weak, fine crumb; friable, sticky, plastic; contains glass, ceramics and cut animal bone.

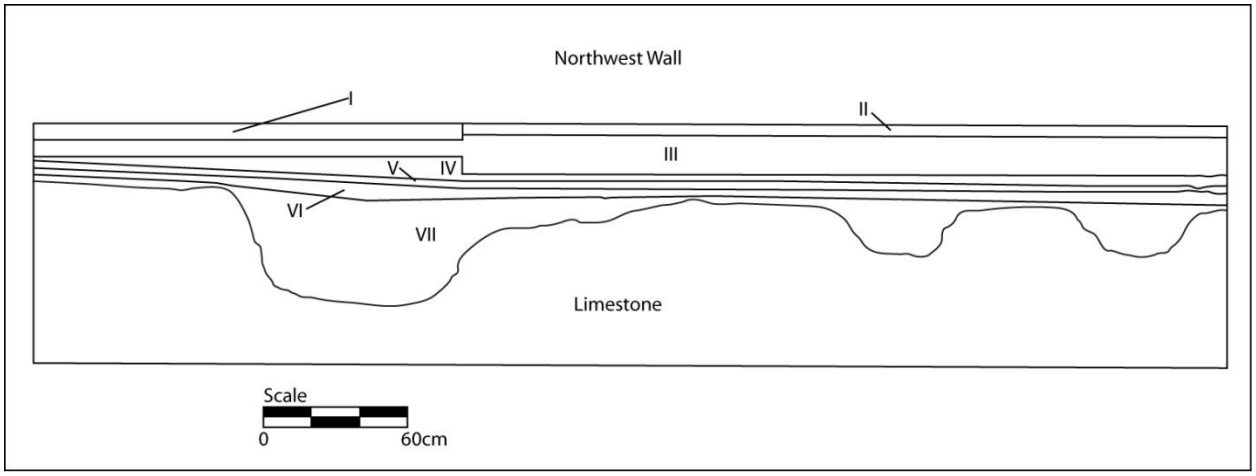

Figure 17. Trench 3, Northwest Wall profile.

Figure 18. Photo of Trench 3 profile, view west.

Trench No. 4

Trench No. 4 (Figure 19 and Figure 20) is located ca. 10 m west of Trench No. 1. It is oriented at 195° and measures ca 10.70 m long, 1.0 m wide and 130 m deep.

Layer IA	0-8 cmbs	Asphalt; abrupt smooth boundary.
Layer IB	0-8 cmbs	Concrete, abrupt smooth boundary.
Layer II	8-23 cmbs	Light gray (10 YR 7/1) crushed coral base course; abrupt smooth boundary; contains gray bricks.
Layer III	22-27cmbs	Very dark brown (10 YR 2/2) silt loam; moderate, fine crumb; firm, non-sticky, non-plastic; smooth abrupt boundary.
Layer IV	18-30 cmbs	Very dark grayish brown (10 YR 3/2) cinder; moderate, fine, sub-angular blocky; very firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	34-44 cmbs	Very dark brown (7.5 YR 2.5/2) silty clay; weak fine crumb; friable, sticky, plastic; abrupt smooth boundary.
Layer VI	35-60 cmbs	Dark reddish brown (2.5 YR 3 /4) silty clay; moderate fine, sub-angular blocky; friable, very sticky, very plastic; abrupt wavy boundary.
Layer VII	50-130 cmbs	Dark brown (7.5 YR 3/3) silty clay; weak, fine crumb; friable, very sticky, very plastic.

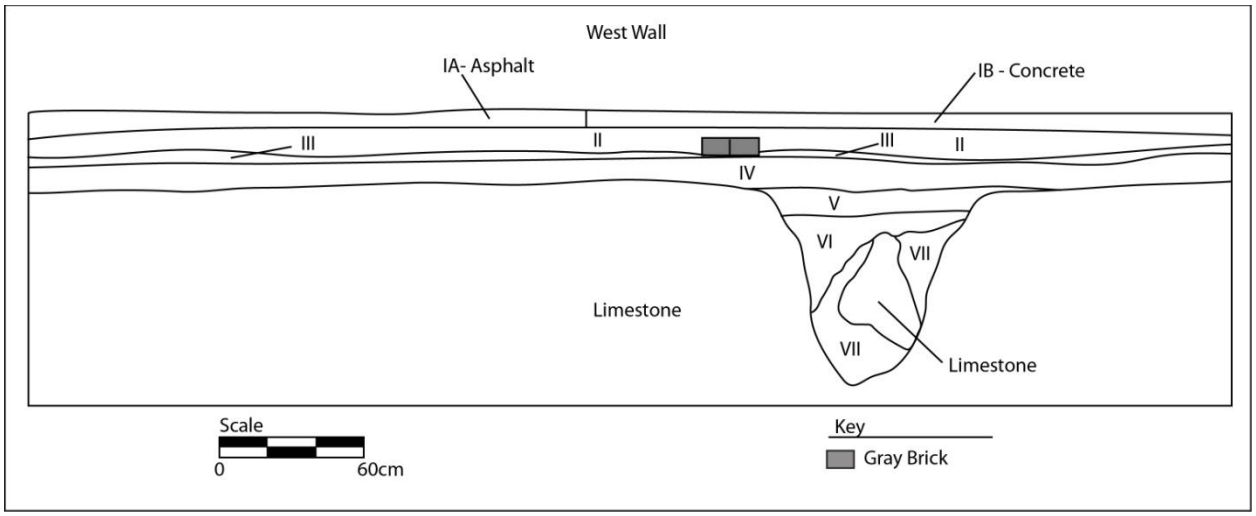

Figure 19. Trench 4, West Wall profile.

Figure 20. Photo of Trench 4 profile, view west.

Trench No. 5

Trench No. 5 (Figure 21 and Figure 22) was located on the northwest side of the bowling alley near the central portion of the project area. Concrete footings were identified within the trench and are from an unknown structure. The trench was oriented at 120° and measures ca 17 m long, 1.25 m wide and 0.95 m deep.

Layer I	0-5 cmbs	Asphalt; abrupt smooth boundary.
Layer II	5-20 cmbs	Grayish brown (10 YR 5/2) silt; moderate, fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary. Contains basalt pebbles.
Layer III	18-40 cmbs	Yellowish brown (10 YR 5/4) moderate, very fine, granular; firm; non-sticky, non-plastic; abrupt smooth boundary; contains concrete.
Layer IV	40-95 cmbs	Dark brown (7.5 YR 3/2) silty clay loam; moderate medium crumb; friable, very sticky, very plastic; contains glass bottle fragments.

The soil scientists on site from Element Environmental, LLC stated that the concrete footings could be from a former garbage incinerator that reportedly operated on the site; we could find no documentation to support this. In addition, the footings were not *in situ*, and appear to be jumbled forming no obvious pattern of a building or structure. The soils identified did not contain any evidence of burning or charring which would be expected if an incinerator were operating there. Likewise, there is no evidence of soil contamination within this trench or Trench No. 24 (excavated across trench No. 5) which would be evident if the incinerator was at this location.

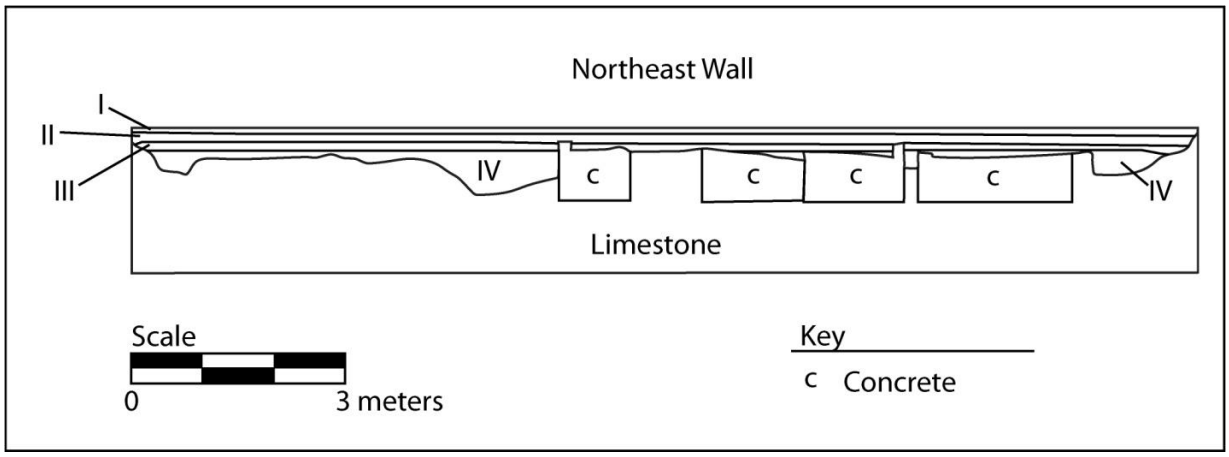

Figure 21. Trench 5, Northeast Wall profile.

Figure 22. Photo of Trench 5 profile, view northeast (Note: concrete block). Compare with Trench 24, Figure 60.

Trench No. 6

Trench No. 6 (Figure 23 and Figure 24) was located on the northwest side of the bowling alley, near the northwest corner of the building. It was oriented at 210° and measured ca. 10 m long, 1.25 m wide and 0.75 m deep.

Layer I	0-3 cmbs	Asphalt; abrupt smooth boundary.
Layer II	3-7 cmbs	Light gray (10 YR 7/1) crushed coral base course; abrupt smooth boundary.
Layer III	7-9 cmbs	Black (10 YR 2/1) silt; strong, fine, sub angular blocky; firm, slightly sticky, slightly plastic; abrupt smooth boundary. Former oil covered parking lot.
Layer IV	9-30 cmbs	Dark brown (10 YR 3/3) cinder; moderate, fine, sub-angular, blocky; very firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	30-75 cmbs	Very dark grayish brown (10 YR 3/2) silty clay; moderate medium crumb, friable, very sticky, very plastic.

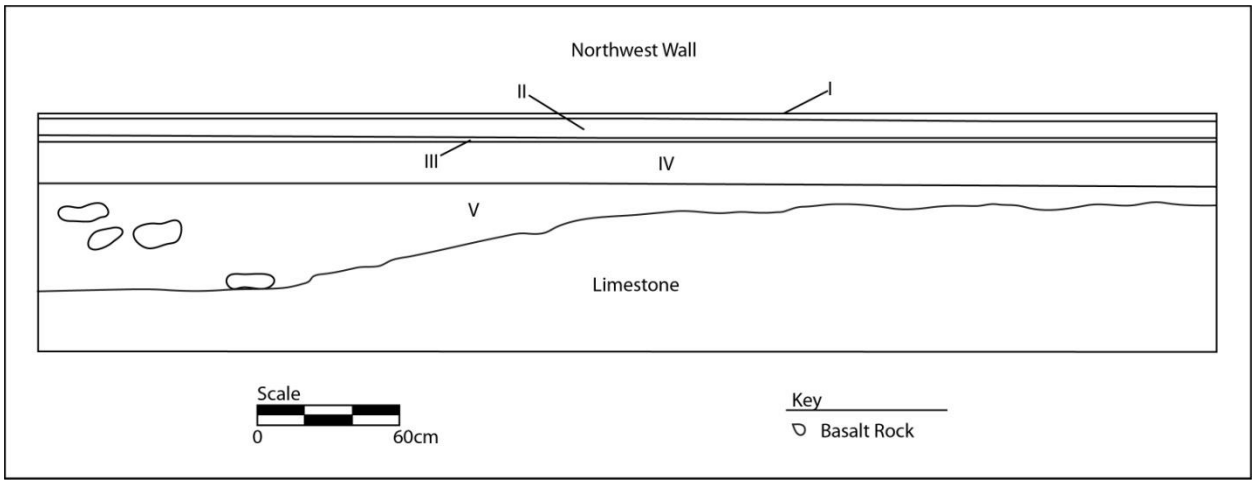

Figure 23. Trench 6, Northwest Wall profile.

Figure 24. Photo of Trench 6 profile, view northwest.

Trench No. 7
Trench No. 7 (Figure 25 and Figure 26) is located ca. 10 m west of Trench No. 6. The trench is oriented at 196° and measures ca. 11.0 m long, 1.0 m wide and 1.20 m deep.

Layer I	0-7cmbs	Asphalt; abrupt smooth boundary.
Layer II	5-12 cmbs	Light gray (10 YR 7/1) crushed coral base course; abrupt smooth boundary.
Layer III	10- 13 cmbs	Black (10 YR 2/1) silt; strong fine sub angular blocky; firm, slightly sticky, slightly plastic; abrupt smooth boundary. Former oil covered parking lot.
Layer IV	12-28 cmbs	Grayish brown (10 YR 5/2) silt; moderate fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	28-60 cmbs	Dark red (2.5 YR 3/6) silty clay; moderate medium crumb; firm, very sticky, very plastic; abrupt smooth boundary; contains met wires and a bottle cap.
Layer VI	44-70 cmbs	Dark brown (10 YR 3/3) silty clay; weak medium crumb; friable, very sticky, very plastic; wavy smooth boundary.
Layer VII	80-114 cmbs	Dark brown (7.5 YR 3/3) silty clay; weak fine crumb; friable, sticky, plastic.
Lens	20-28 cmbs	Very dark gray brown (10 YR 3/2) silty clay; moderate fine, subangular blocky; firm, very sticky, very plastic.

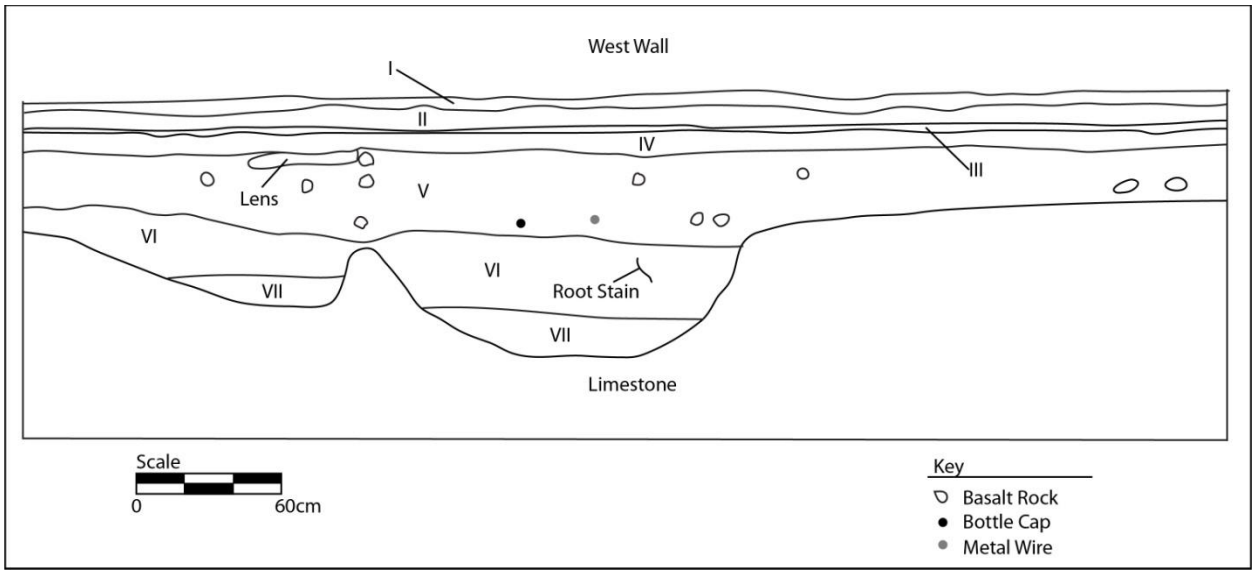

Figure 25. Trench 7, West Wall profile.

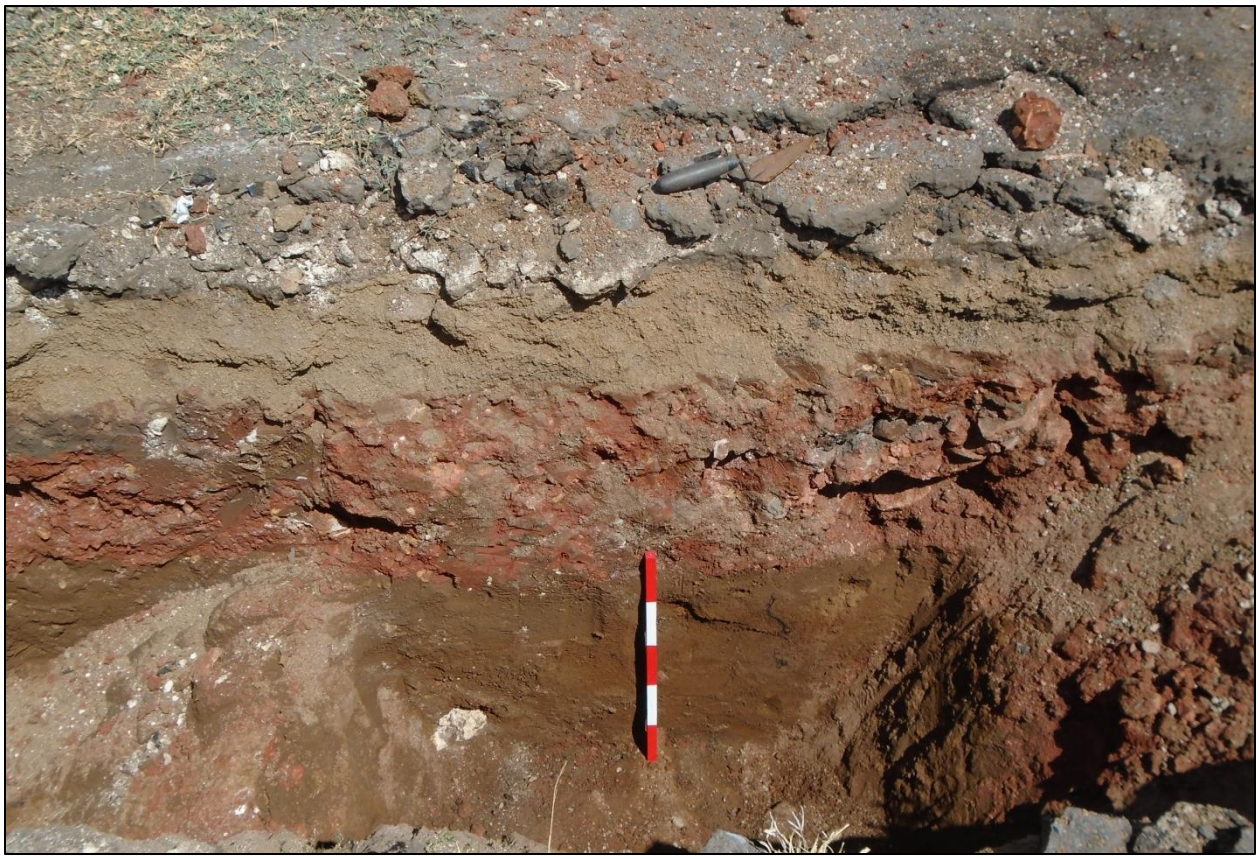

Figure 26. Photo of Trench 7 profile, view west.

Trench No. 8

Trench No. 8 (Figure 27 and Figure 28) is located on the northwest side of the bowling alley. The trench is oriented at 200°and measures ca. 11 m long, 1.0 m wide and 0.65 m deep.

Layer I	0-4 cmbs	Asphalt, abrupt smooth boundary.
Layer II	4-14 cmbs	Dark gray (10 YR 4/1) silt; weak fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary; contains basalt pebbles.
Layer III	14-35 cmbs	Very dark grayish brown (10 YR 3/2) silt; moderate, fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer IV	34-65 cmbs	Dark reddish brown (2.5 YR 3 /4) silty clay; weak, fine, crumb; friable, sticky, plastic.

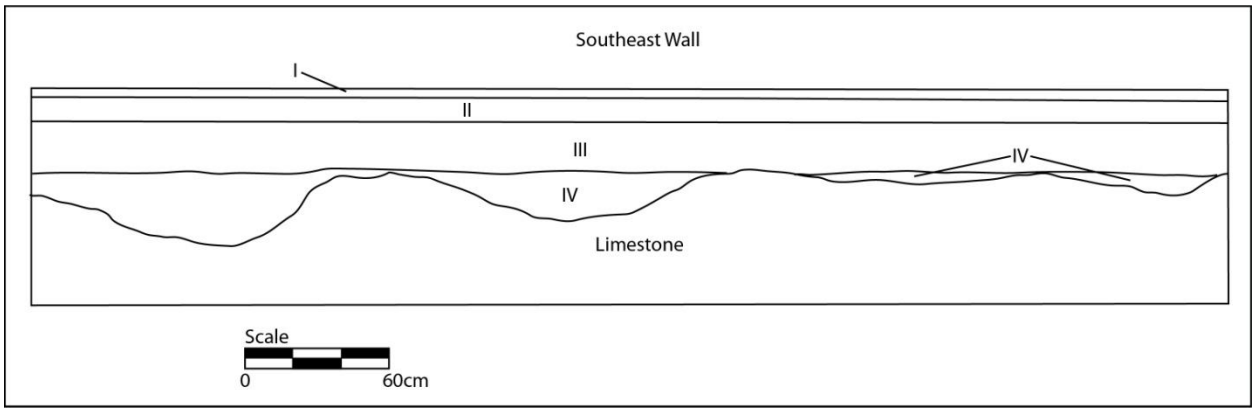

Figure 27. Trench 8, Southeast Wall profile.

Figure 28. Photo of Trench 8 profile, view to Southeast.

Trench No. 9

Trench No. 9 (Figure 29 and Figure 30) is located in a narrow alley on the southwest side of the bowling alley immediately adjacent to the property boundary. The trench is oriented at 290° and measures ca. 10 m long, 1.2 m wide and 0.90 m deep.

Layer I	0-5 cmbs	Asphalt, abrupt smooth boundary.
Layer II	5-15 cmbs	Light gray (10 YR 7/1) crushed coral base course; abrupt smooth boundary.
Layer III	15-30 cmbs	Dark grayish brown (10 YR 4/2) silt loam; moderate, fine granular; friable, slightly sticky, slightly plastic; abrupt smooth boundary.
Layer IV	30-45 cmbs	Brown (10 YR 4/3) cinder; moderate, fine, sub-angular blocky; very firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	30-65 cmbs	Black (10 YR 2/1) silt loam; moderate, medium crumb; firm, slightly sticky, slightly plastic; abrupt smooth boundary; contains glass bottles, rusted metal caps, evidence of burning.
Layer VI	60-90 cmbs	Dark brown (10 YR 3/3) silty clay; weak, fine crumb; friable, sticky, plastic.

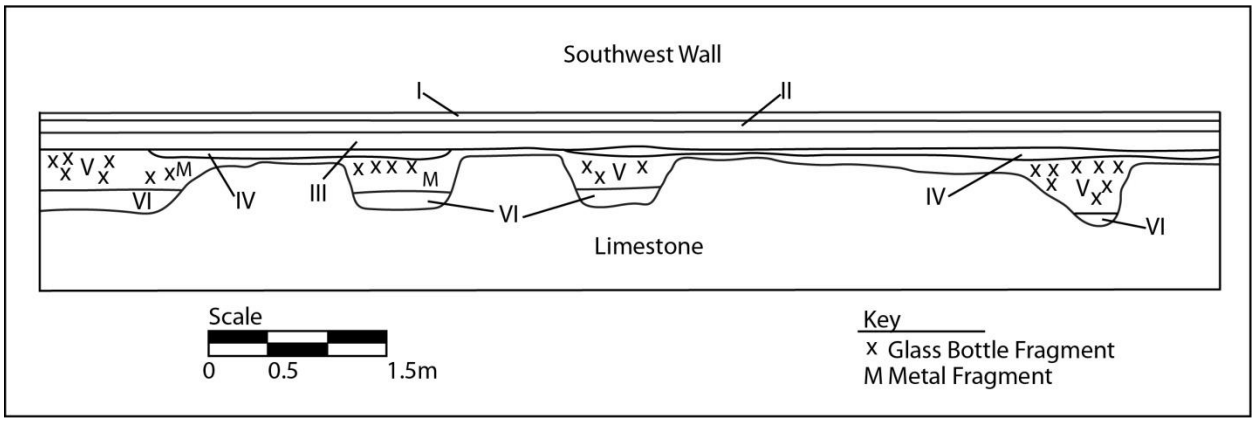

Figure 29. Trench 9, Southwest Wall profile.

Figure 30. Photo of Trench 9 profile, view to Southwest.

Trench No. 10

Trench No. 10 (Figure 31 and Figure 32) is located less than 19 m south of Trench No. 8, and ca 10 m west of Trench No. 4. The trench is oriented at 194° and measures ca. 11 m long, 1.25 m wide and 1.25 m deep.

Layer I	0-5 cmbs	Asphalt; abrupt smooth boundary.
Layer II	5-16 cmbs	Gray (10 YR 5/1) silt; moderate fine grain; firm, non-sticky, non-plastic; abrupt smooth boundary; contains basalt pebbles.
Layer III	16-34 cmbs	Brown (10 YR 4/3) silt; moderate fine grain; firm, non-sticky, non-plastic; abrupt wavy boundary.
Layer IV	16-32cmbs	Dark brown (10 YR 3/3) silty clay; moderate fine crumb; friable, slightly sticky, slightly plastic; abrupt smooth boundary.
Layer V	32-60 cmbs	Dark reddish brown (2.5 YR 3/4) silty clay loam; moderate fine crumb; firm, sticky, plastic; abrupt smooth boundary. Contains a wire.
Layer VI	60-125 cmbs	Dark brown (10 YR 3/3) silty clay weak fine crumb; friable, very sticky, very plastic; contains concrete, wires and limestone.

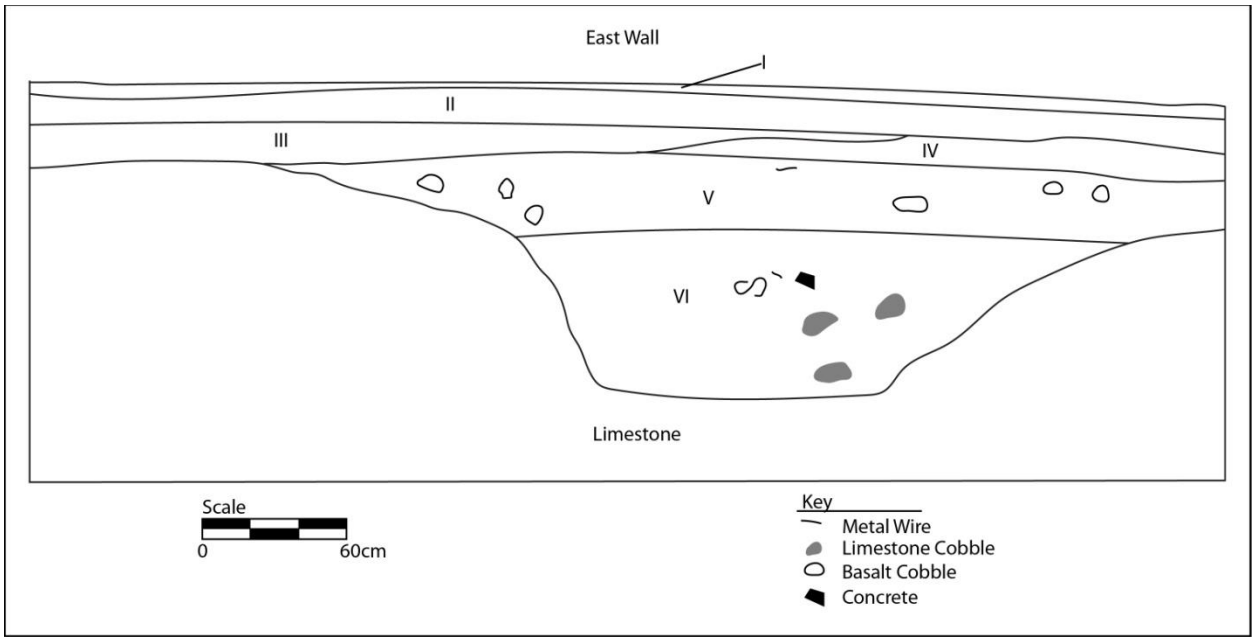

Figure 31. Trench 10, East Wall profile.

Figure 32. Photo of Trench 10 profile, view to Northeast.

Trench No. 11

Trench No. 11 (Figure 33 and Figure 34) is located on the northeast side of the bowling alley building, immediately in front of the north side staircase leading to the building. Trench No. 11 is oriented at 290° and measures ca. 9.5 m long, 1.1 m wide and 1.0 m deep.

Layer I	0-6 cmbs	Asphalt; abrupt smooth boundary.
Layer II	6-17 cmbs	White (10 YR 8/1) crushed coral; abrupt smooth boundary.
Layer III	6-100 cmbs	Brown (10 YR 4/3) silty clay loam; moderate, fine crumb; firm, sticky, plastic; abrupt wavy boundary; contains artifacts, metal fragments, concrete and utility pipes.
Layer IV	60-85cmbs	Dark brown (7.5 YR 3/3) silty clay; weak fine crumb; friable, sticky, plastic.

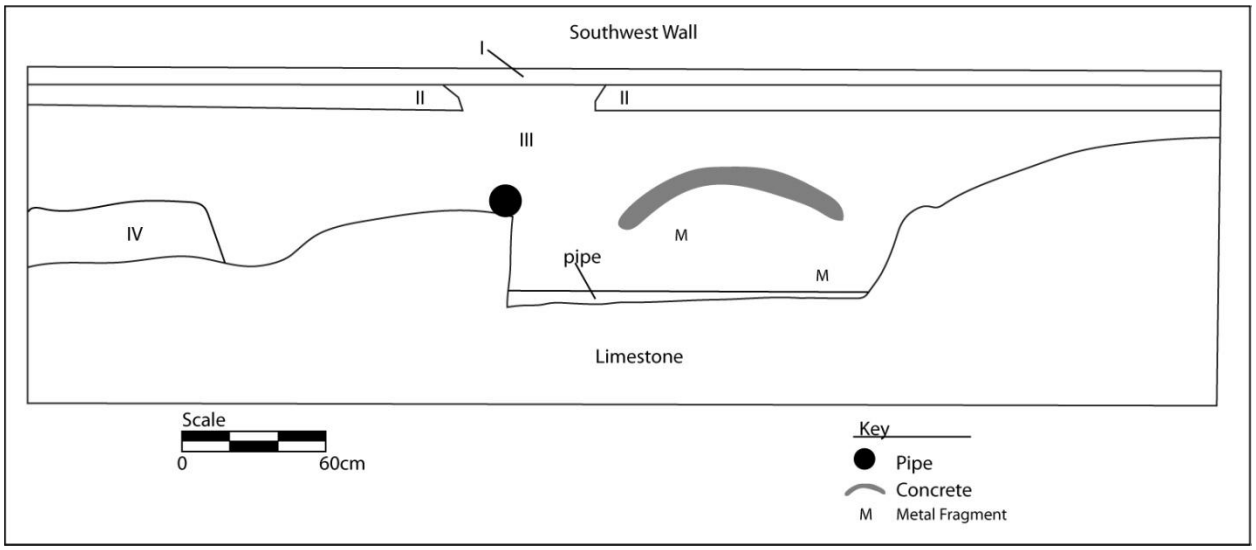

Figure 33. Trench 11, South Wall profile.

Figure 34. Photo of Trench 11 profile, view to Southwest.

Trench No. 12

Trench No. 12 (Figure 35 and Figure 36) is located ca 3 m north of the bowling alley building and is oriented at 102°, Overall the trench measures ca. 11.1 m long, 0.90 m wide and 1.45 m deep.

Layer I	0-5 cmbs	Asphalt; abrupt smooth boundary.
Layer II	4-20cmbs	White (10 YR 8/1) crushed coral base course; Abrupt smooth boundary.
Layer III	20-28 cmbs	Dark brown (7.5 YR 2.5/3) silty clay loam; moderate fine sub-angular blocky; firm, sticky, plastic; abrupt smooth boundary.
Layer IV	28-33 cmbs	Grayish brown (10 YR 3/2) silt; moderate fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	32-42 cmbs	Dark gray (2.5 YR 4/1) cinder; Moderate fine sub angular blocky; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer VI	40-57 cm	Brown (7.5 YR 4/4) silty clay; moderate medium, fine crumb; friable, sticky, plastic; abrupt smooth boundary
Layer VII	56-76 cmbs	Brown (7.5 YR 4/4) silty clay; weak, fine crumb; friable, sticky, plastic; abrupt smooth boundary.
Layer VIII	76-145 cmbs	Dark brown (10 YR 3/3) silty clay; weak very fine sub-angular blocky; friable, very sticky, very plastic; wavy boundary.
Fe. A	25-40 cmbs	Dark reddish brown (5 YR 2.5/2) silty clay moderate medium crumb; firm, sticky, plastic; contains glass and metal.

A single feature was identified within Trench 12, Layer V. Feature A was a small modern trash deposit measuring 1.2 m wide and 16 cm thick. Glass bottles, glass fragments and metal were present within the feature.

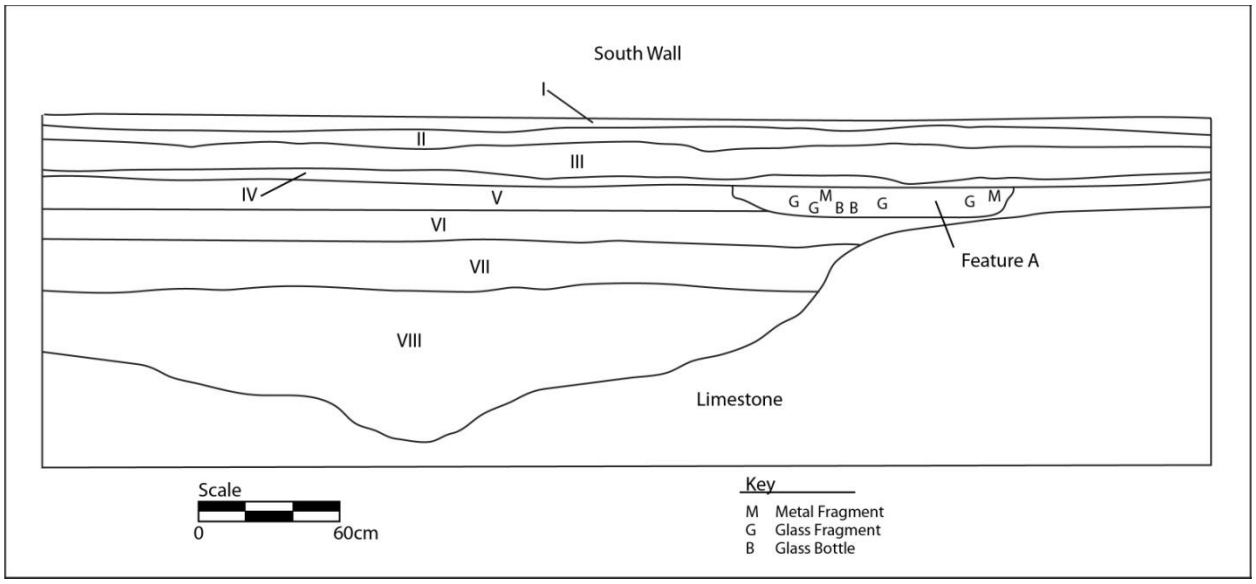

Figure 35. Trench 12, South Wall profile.

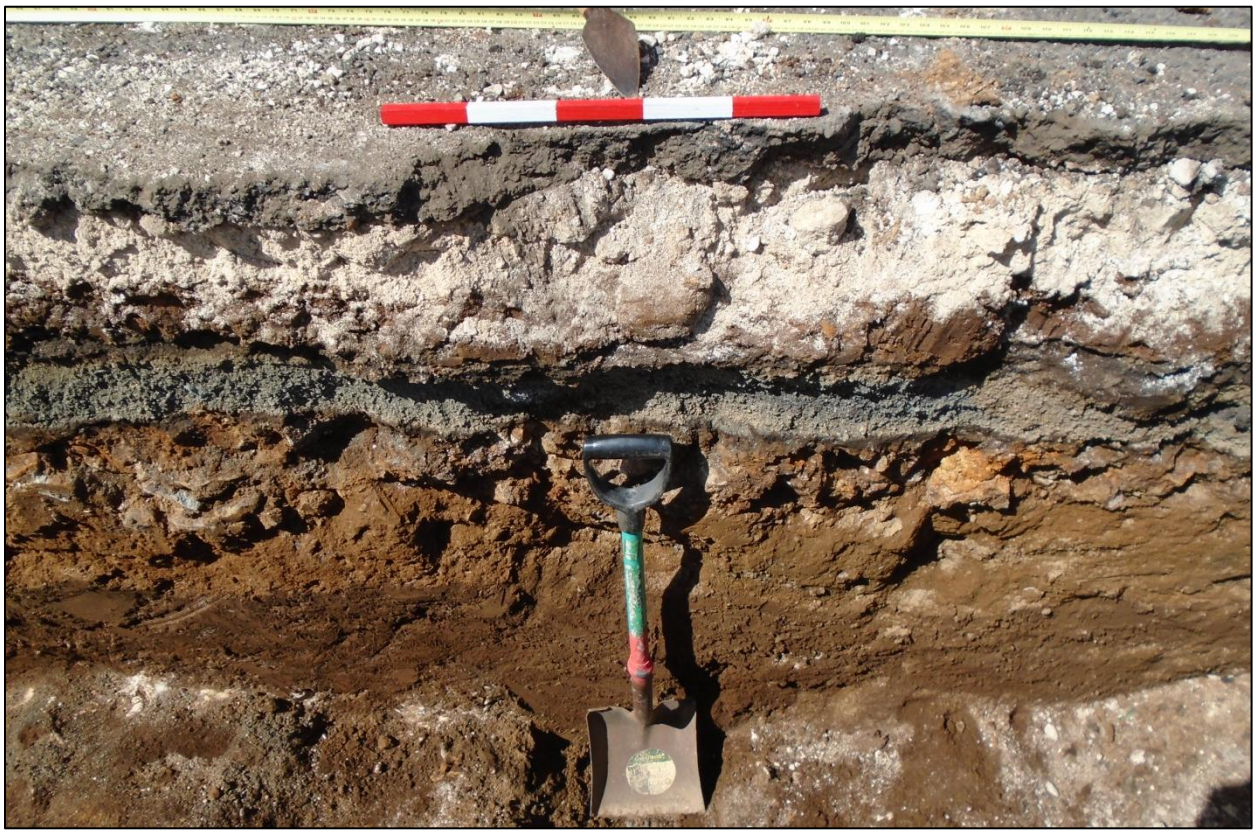

Figure 36. Photo of Trench 12 profile, view to Southwest.

Trench No. 13

Trench No. 13 (Figure 37 and Figure 38) is located in the northeast corner of the project area. The trench is oriented at 290° and measures ca. 9 m long, between 0.80 and 3.2 m wide and 0.90 m deep.

Layer I	0- 15 cmbs	Asphalt; abrupt smooth boundary.
Layer II	15-25 cmbs	White (10 YR 8/1) crushed coral base course; abrupt smooth boundary.
Layer III	15-40 cmbs	Brown (10 YR 4/3) silt loam; weak, fine granular; friable, slightly sticky, slightly plastic; abrupt smooth boundary.
Layer IV	40-90cmbs	Dark brown (7.5 YR 3/3) silty clay loam; weak fine granular; friable, sticky, plastic.

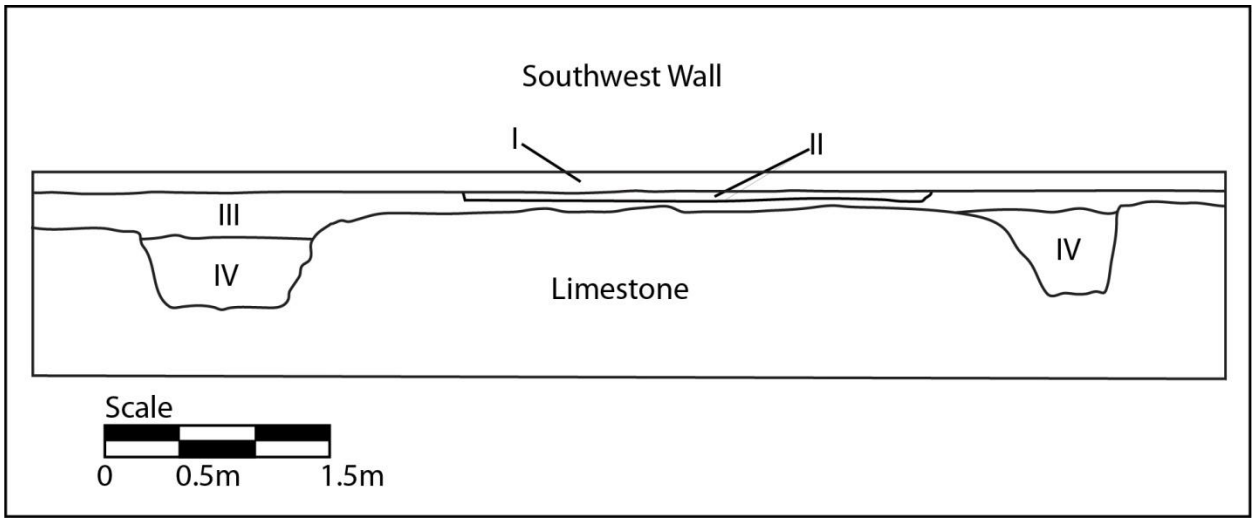

Figure 37. Trench 13, Southwest Wall profile.

Figure 38. Photo of Trench 13 profile, view to Southwest.

Trench No. 14

Trench No. 14 (Figure 39 and Figure 40) is located ca, 10 m west of Trench 13 and ca. 10 m north of Trench 12. Trench No. 14 is oriented at 102° and measures ca. 11 m long, 1.0 m wide and 1.25 m deep.

Layer I	0-6 cmbs	Asphalt; abrupt smooth boundary.
Layer II	6- 18 cmbs	White (10 YR 8/1) crushed coral base course; abrupt smooth boundary.
Layer III	18-20 cmbs	Black (10 YR 2/1) silt; strong fine subangular blocky; very firm, slightly sticky, slightly plastic; abrupt smooth boundary. Former oil covered parking lot.
Layer IV	19-30 cmbs	Grayish brown (2.5 YR 5/2) cinder; moderate fine subangular blocky; very firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	30-40 cmbs	Dark yellowish brown (10 YR 4/4) silty clay loam; weak fine crumb; friable, sticky, plastic; abrupt smooth boundary.
Layer VI	45-125 cmbs	Dark brown (10 YR 3/3) silty clay; weak fine crumb; firm, very sticky, very plastic; abrupt smooth boundary; contains ceramic bowl fragments.
Fe. B	41-59 cmbs	Dark yellowish brown (10 YR 4/4) silty clay loam; moderate fine granular; friable, slightly sticky, slightly plastic; contains fragments of concrete and coral.

A single feature was identified within Trench 14, Layer VI. Feature B was a small modern trash deposit measuring 1.9 m wide and 18 cm thick. Concrete chunks and coral cobbles were present within the feature.

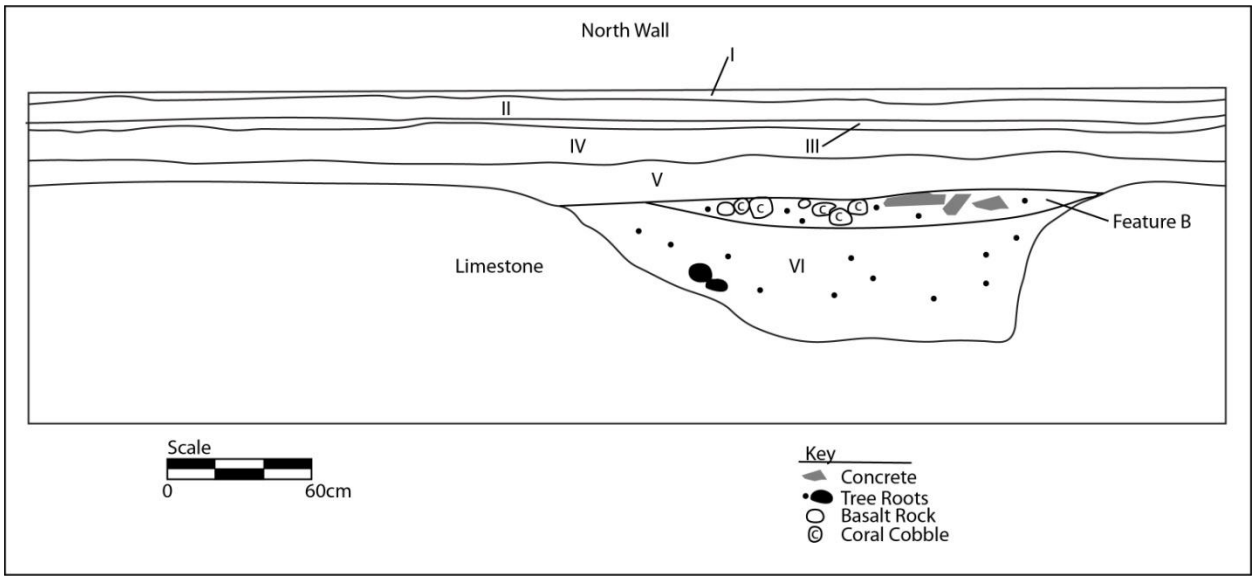

Figure 39. Trench 14, North Wall profile.

Figure 40. Photo of Trench 14 profile, view to Northeast.

Trench No. 15

Trench No. 15 (Figure 41 and Figure 42) is located on the northeast side of the bowling alley building. The trench is oriented at 280° and measures ca. 10 m long, 1.3 m wide and 1.08 m deep.

Layer I	0-6 cmbs	Asphalt; abrupt smooth boundary.
Layer II	6-18 cmbs	White (10 YR 8/1) crushed coral base course; abrupt smooth boundary.
Layer III	18-30 cmbs	Very dark brown (7.5 YR 2.5/2) silty clay; moderate fine crumb; friable, very sticky, very plastic; abrupt smooth boundary.
Layer IV	30-33cmbs	Black (10 YR 2/1) silt; strong fine subangular blocky; very firm, slightly sticky, slightly plastic; abrupt smooth boundary. Former oil covered parking lot.
Layer V	32-44 cmbs	Very dark grayish brown (10 YR 3/2) silt; moderate fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer VI	32-60 cmbs	Dark brown (7.5 YR 3/3) silty clay; moderate medium crumb; friable, very sticky, very plastic; wavy smooth boundary.
Layer VII	58-81 cmbs	Very dark brown (7.5 YR 2.5/2) silty clay; moderate fine crumb; friable, sticky, plastic; contains glass fragments.

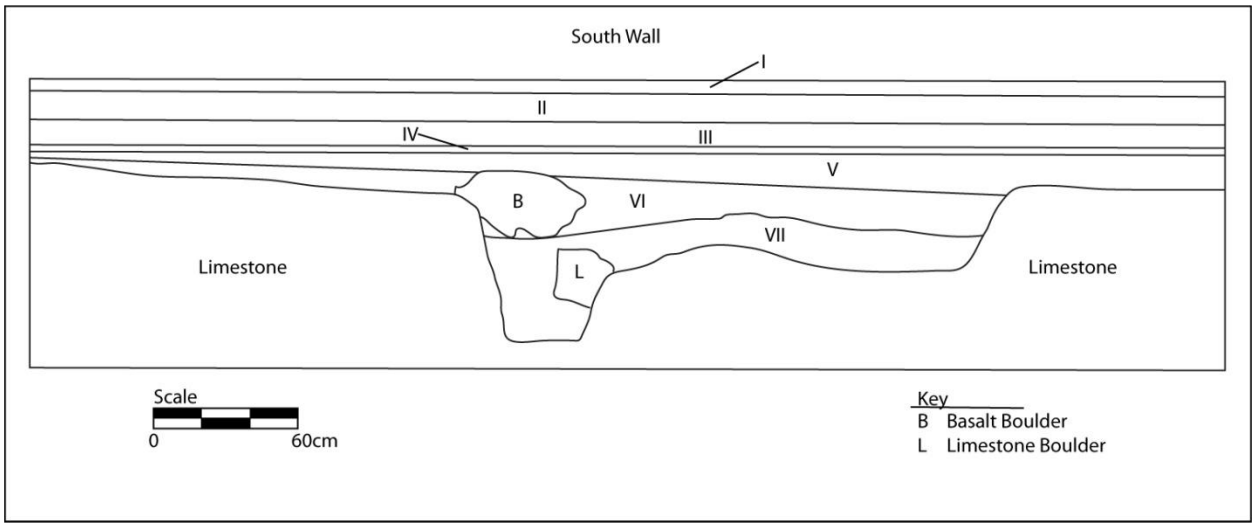

Figure 41. Trench 15, South Wall profile.

Figure 42. Photo of Trench 15 profile, view to South.

Trench No. 16

Trench No. 16 (Figure 43 and Figure 44) was located near the southwest corner of the parking lot ca. 0.5 m from the Westside fence line. The trench was oriented at 130°and measures ca. 7.5 m long, 0.8 m wide, 0.65 m deep.

Layer I	0-20 cmbs	Black (10 YR 2/1) silty clay; weak fine crumb; friable, very sticky, very plastic; abrupt smooth boundary.
Layer II	10-24 cmbs	Black (10 YR 2/1) silt; strong fine subangular blocky; very firm, slightly sticky, slightly plastic; abrupt smooth boundary. Former oil covered parking lot.
Layer III	20-38 cmbs	Dark gray (2.5 Y 4/1) silt; moderate fine granular; firm, slightly sticky, slightly plastic; abrupt smooth boundary; contains basalt pebbles and a strong petroleum smell.
Layer IV	30-40 cmbs	Very dark grayish brown (2.5 Y 3/2) silty clay loam; moderate fine crumb; friable, sticky, plastic; abrupt smooth boundary.
Layer V	35-45 cmbs	Strong brown (7.5 YR 4/6) silty clay; moderate fine subangular blocky; friable, very sticky, very plastic; abrupt smooth boundary.
Layer VI	44-65 cmbs	Very dark brown (10 YR 2/2) silty clay; moderate fine crumb; friable, sticky, plastic; contains ceramics.

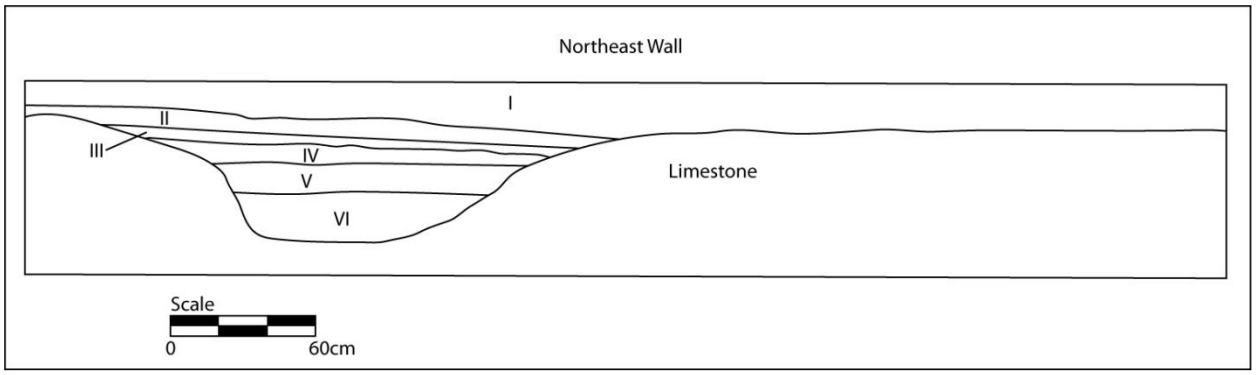

Figure 43. Trench 16, Northeast Wall profile.

Figure 44. Photo of Trench 16 profile, view to Northeast.

Trench No. 17

Trench No. 17 (Figure 45 and Figure 46) is located on the south side of the project area. It is oriented at 191° and measures ca. 11 m long, 1.0 m wide and 0.02 m deep.

Layer I	0-3 cmbs	Dark brown (10 YR 3/3) silty clay loam; Weak, fine, granular; friable, slightly sticky, Slightly plastic; abrupt, smooth boundary.
Layer II	0-12 cmbs	Brown (7.5 YR 5/4) silty clay loam; Moderate, medium, sub-angular, blocky; firm, sticky, plastic; abrupt, wavy boundary.
Layer III	5-8 cmbs	Light gray (10 YR 7/1) basalt gravel.
Layer IV	10 -20 + cmbs	Concrete/Limestone. Overlaying concrete and limestone.

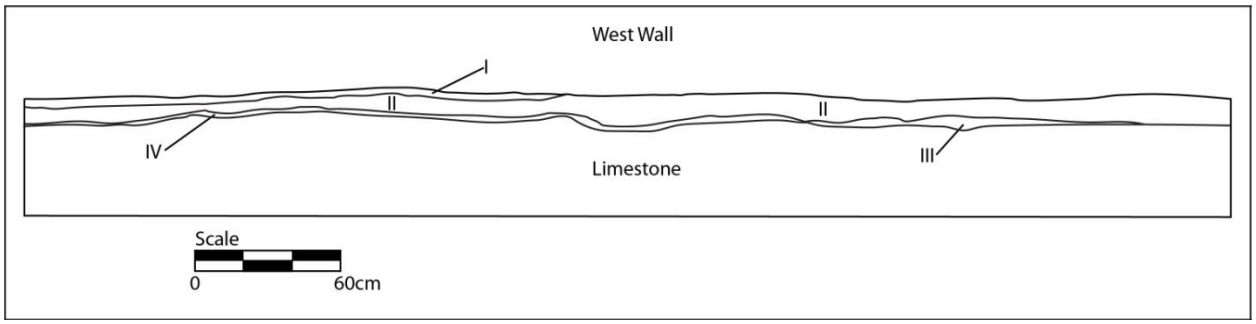

Figure 45. Trench 17, West Wall profile.

Figure 46. Photo of Trench 17 profile, view to West.

Trench No. 18

Trench No. 18 (Figure 47 and Figure 48) is located on the south side of the project area, ca. 10 m south of Trench No. 15 and is oriented at 255°. Overall, Trench No. 15 measures ca. 11 m long, 1.0 m wide and 0.75 m deep.

Layer I	0-20 cmbs	Dark gray (10 YR 4/1) silt loam; moderate Fine, sub-angular, blocky; firm, non sticky, Non plastic; abrupt, smooth boundary.
Layer II	20-32 cmbs	Brown (10 YR 5/3) silty clay; moderate, fine, crumb; firm, slightly sticky, slightly plastic; abrupt, smooth boundary. Contains bottle glass, ceramics, and plastic sheeting paper.
Layer III	28-42 cmbs	Dark yellowish brown (10 YR 3/4) silt loam; Weak, fine, crumb; friable, slightly sticky, Slightly plastic; abrupt, smooth boundary.
Layer IV	38-42 cmbs	Very dark brown (10 YR 2/2) silty clay loam; Moderate, fine, crumb; firm, slightly sticky, slightly plastic; abrupt, smooth boundary.
Layer V	12-54 cmbs	Dark brown (7.5 YR 3/2) silty clay; weak, Fine, crumb; friable, sticky, plastic; abrupt, wavy boundary.
Layer VI	50-75 cmbs	Very dark brown (10 YR 2/2) silty clay; Moderate, fine, crumb; friable, sticky, plastic.

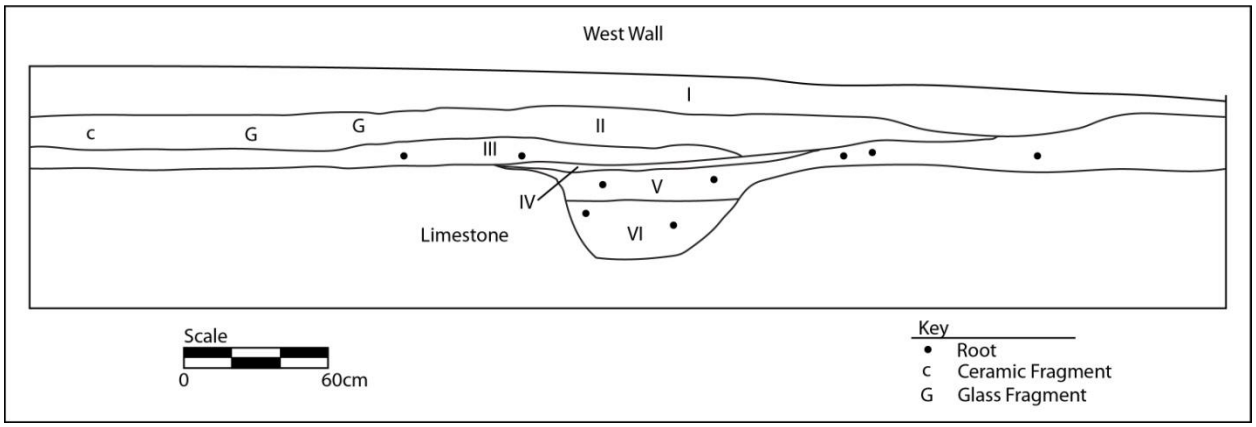

Figure 47. Trench 18, West Wall profile.

Figure 48. Photo of Trench 18 profile, view to Northwest.

Trench No. 19

Trench No. 19 (Figure 49 and Figure 50) was located on the northwest side of the bowling alley in the south west portion of the parking lot. The trench was oriented at 210° and measured ca. 12.5 m long, 1.1 m wide and 1.15 m deep.

Layer I	0-7 cmbs	Asphalt; abrupt, smooth boundary.
Layer II	5- 27 cmbs	Grayish brown (10 YR 5/2) silt; moderate, fine, granular; firm, non sticky, non plastic; abrupt, smooth boundary. Contains basalt gravel.
Layer III	26-58 cmbs	Very dark grayish brown (10 YR 3/2) silty Clay loam; moderate, very fine, sub-angular Blocky; firm, sticky, plastic; abrupt, wavy boundary.
Layer IV	50-115 cmbs	Dark brown (10 YR 3/3) silty clay; weak, Fine, crumb; friable, very sticky, very Plastic; abrupt, wavy boundary. Contains Ceramic and glass fragments.

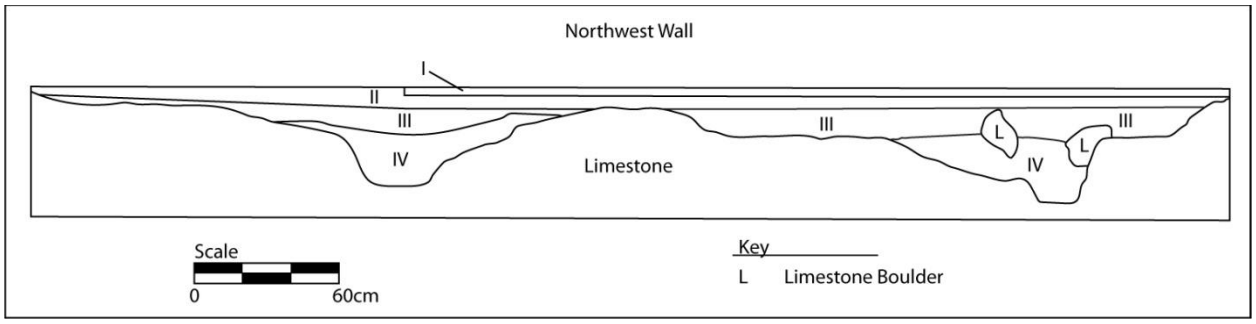

Figure 49. Trench 19, Northwest Wall profile.

Figure 50. Photo of Trench 19 profile, view to West.

Trench No. 20

Trench No. 20 (Figure 51 and Figure 52) is located ca. 10 m north of Trench No. 16. Trench No. 20 is oriented at 102° and measured ca. 11 m long, 0.90 m wide and 0.85 m deep.

Layer I	0-5 cmbs	Asphalt, abrupt, smooth boundary
Layer II	4-16 cmbs	Black (10 YR 2/1) loamy sand; strong, medium, granular; firm, non sticky, non plastic; abrupt, smooth boundary. Contains gravel. Former oil covered parking lot.
Layer III	12-24 cmbs	Very dark gray (10 YR 3/1) loamy sand; strong, medium, granular; firm, non sticky, non plastic; abrupt, smooth boundary. Contains gravel.
Layer IV	12-30 cmbs	Very dark grayish brown (10 YR 3/2) silty Clay loam; weak, fine, sub-angular, blocky; Friable, very sticky, very plastic; abrupt, Smooth, boundary.
Layer V	32-45 cmbs	Dark grayish brown (10 YR 4/2) silty clay; Weak, thin, platy; friable, very sticky, very Plastic; abrupt, smooth boundary.
Layer VI	18-30 cmbs	Very dark gray (10 YR 3/1) loamy sand; strong, medium, granular; firm, non sticky, non plastic; abrupt, smooth boundary.
Layer VII	30-85 cm	Very dark grayish brown (10 YR 3/2) silty Clay; weak, fine, crumb; friable, very sticky, Very plastic.

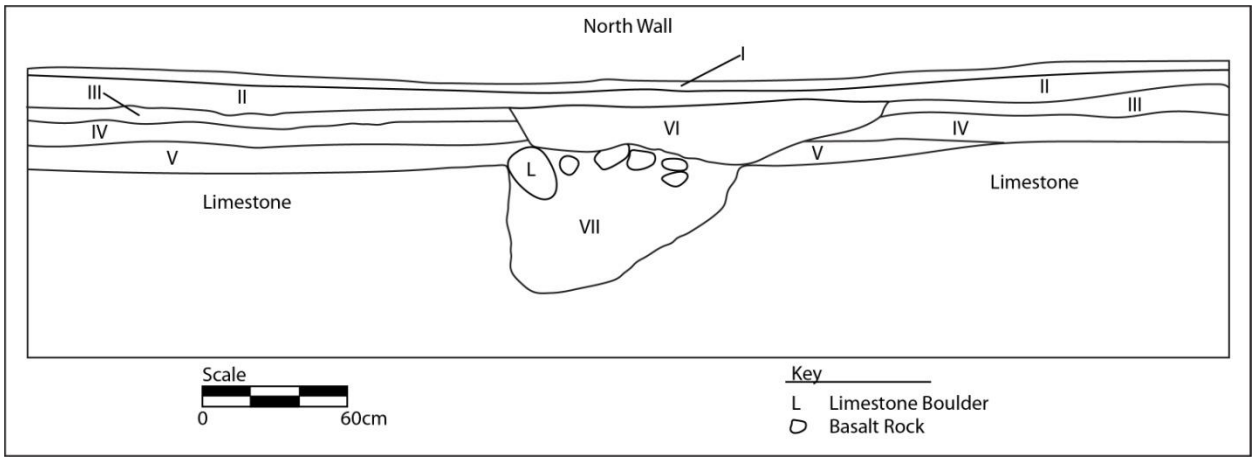

Figure 51. Trench 20, North Wall profile.

Figure 52. Photo of Trench 20 profile, view to North.

Trench No. 21

Trench No. 21 (Figure 53 and Figure 54) is located on the north east side of the bowling alley building. The trench was oriented at 290° and measured ca. 11 m long, 1.30 m wide and 0.90 m deep.

Layer I	0-6 cmbs	Asphalt; abrupt smooth boundary.
Layer II	7-13 cmbs	White (10 YR 8/2) crushed coral base course; abrupt smooth boundary.
Layer III	14-26 cmbs	Black (10 YR 2/1) silt; weak, very fine, granular; very firm, non-sticky, non-plastic; abrupt smooth boundary. Former oil covered parking lot.
Layer IV	27-32 cmbs	Dark grayish brown (10 YR 4/2) silt loam; moderate fine granular; firm, non-sticky, non-plastic; abrupt smooth boundary.
Layer V	33-63 cmbs	Dark brown (7.5 YR 3/2) silt loam; weak fine granular; friable, slightly sticky, slightly plastic; abrupt wavy boundary.
Layer VI	64-124 cmbs	Dark brown (7.5 YR 3/3) silt loam; moderate fine granular; friable, non- sticky, non-plastic; abrupt wavy boundary, contains cinder bands and ceramics.
Layer VII	125-135 cmbs	Black (10 YR 2/1) cinder.
Layer VIII	136-156 cmbs	Dark yellowish brown (10 YR 3/6) silty clay; weak very fine crumb; very friable, slightly sticky, slightly plastic; wavy boundary.
Layer IX	157+ cmbs	Black (10 YR 2/1) silty clay; weak very fine crumb; very friable, slightly sticky, slightly plastic.

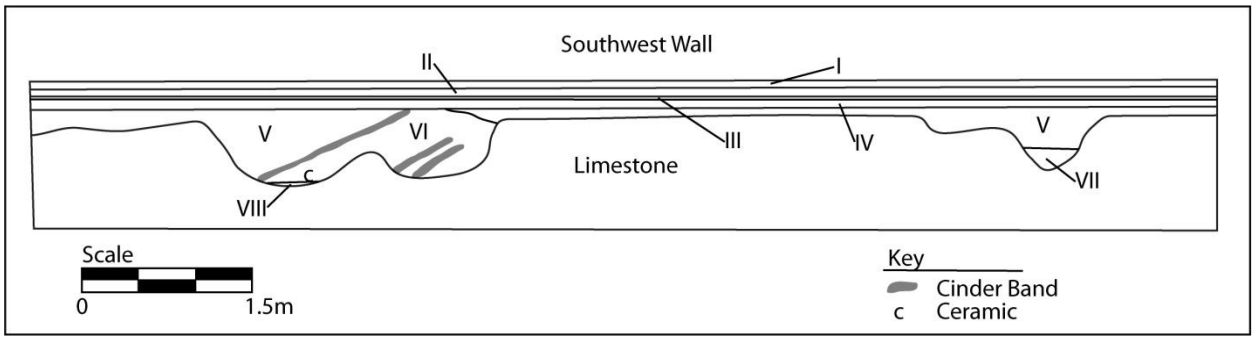

Figure 53. Trench 21, Southwest Wall profile.

Figure 54. Photo of Trench 21 profile, view to Southwest.

Trench No. 22

Trench No. 22 (Figure 55 and Figure 56) was located near the fence line along the northeast side of the parking lot. The trench was oriented at 290° and measured ca. 10.5 m long, 1.1 m wide and 0.85 m deep.

Layer I	0-5 cmbs	Asphalt; abrupt smooth boundary.
Layer II	6-16 cmbs	White (10 YR 8/1) crushed coral base course; abrupt smooth boundary.
Layer III	17-37 cmbs	Dark grayish brown (10 YR 4/2) silt; moderate, fine, granular; friable, non-sticky, non-plastic; abrupt smooth boundary.
Layer IV	38-68 cmbs	Brown (10 YR 4/3) silt; weak, fine, crumb; friable, non-sticky, non-plastic; abrupt wavy boundary.
Layer V	68-78 cmbs	Very dark gray (10 YR 3/1) cinder; abrupt wavy boundary.
Layer VI	79-100 cmbs	Very dark grayish brown (7.5 YR 3/2) silty clay; weak, fine, crumb; friable, sticky, plastic; abrupt smooth boundary; contains brick, clay sewer pipe fragments.
Layer VII	101-107 cmbs	Very dark brown (10 YR 2/2) silt; weak, very fine granular; very friable, slightly sticky, slightly plastic; abrupt smooth boundary; contains metal and ceramics.

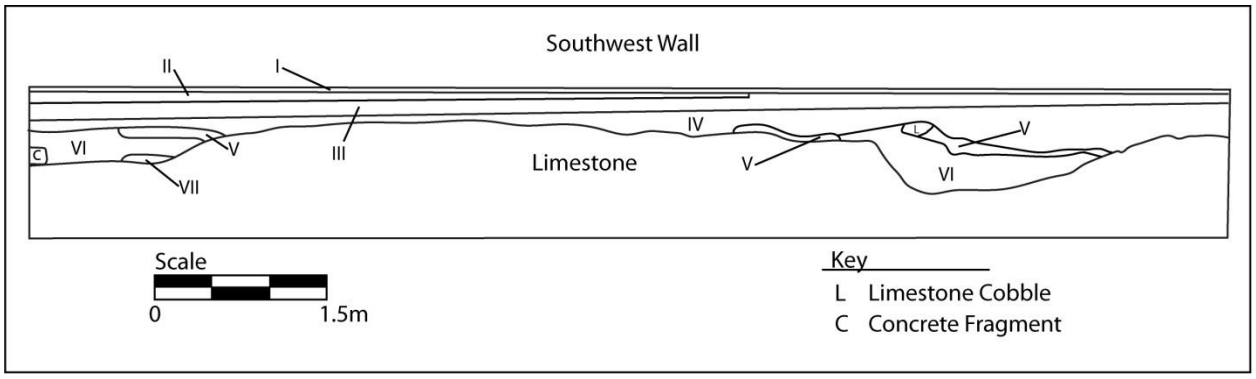

Figure 55. Trench 22, Southwest Wall profile.

Figure 56. Photo of Trench 22 profile, view to Southwest.

Trench No. 23

Trench No. 23 (Figure 57 and Figure 58) was located in the northwest corner of the project area ca. 3 m from the northwest fence. The trench was oriented at 290° and measures ca. 10.5 m long, between 0.95 and 1.7 m wide and 1.3 m deep.

Layer I	0-7 cmbs	Asphalt; abrupt smooth boundary.
Layer II	8-31 cmbs	Gray (10 YR 5/1) silt; moderate, fine, granular; firm, non sticky, non plastic; abrupt smooth boundary; contains gravel.
Layer III	32-89 cmbs	Dark brown (10 YR 3/3) silt; weak, fine, granular; friable, non-sticky, non-plastic; abrupt smooth boundary; contains glass slag and concrete.
Layer IV	90-140 cmbs	Dark brown (10 YR 3/3) silty clay; moderate, fine, crumb; firm, sticky, plastic; abrupt wavy boundary; contains historic artifacts.
Layer V	141-158 cmbs	Dark brown (7.5 YR 3/3) silty clay; weak fine crumb; friable, sticky, plastic; abrupt smooth boundary; contains rusted metal fragments.

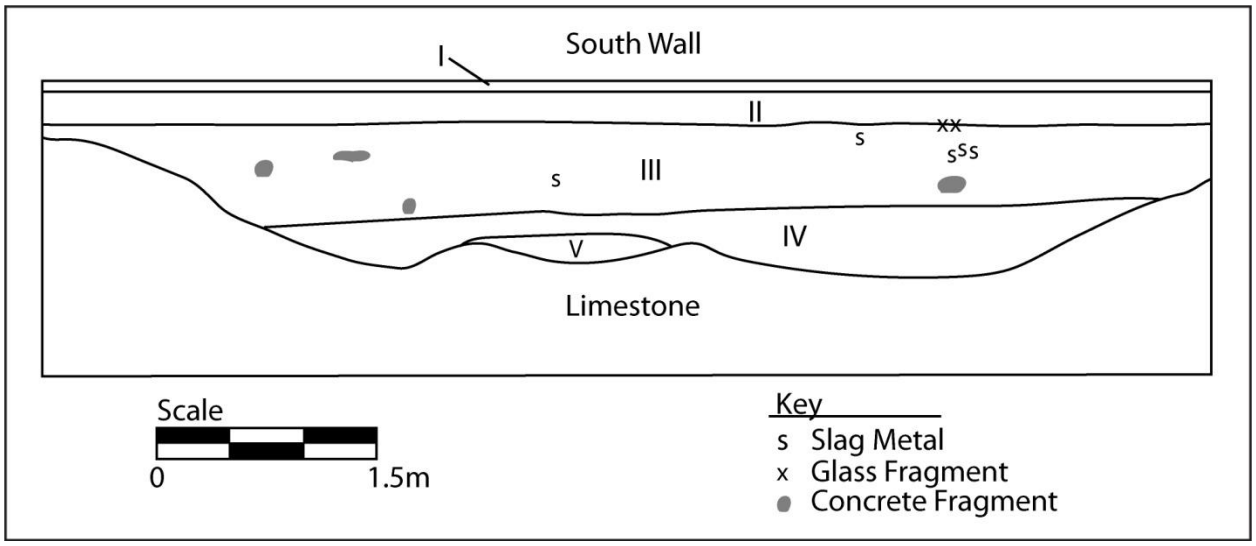

Figure 57. Trench 23, South Wall profile.

Figure 58. Photo of Trench 23 profile, view to Southwest

Trench No. 24

Trench No. 24 (Figure 59 and Figure 60) is located perpendicular to Trench No. 5 and is located on the northwest side of the bowling alley building. This trench was excavated in an attempt to better identify the concrete footing found in Trench 5. Trench 24 is oriented at 200° and measures ca. 7 m long, 1.2 m wide and 0.80 m deep.

Layer I	0-4 cmbs	Asphalt; abrupt smooth boundary.
Layer II	5-16 cmbs	Grayish brown (10 YR 5/2) silt; moderate, fine, granular; firm, non-sticky, non-plastic; abrupt smooth boundary; contains basalt pebbles.
Layer III	17-62 cmbs	Dark grayish brown (10 YR 4/2) silt; moderate, very fine, granular; firm, non-sticky, non-plastic; abrupt smooth boundary; contains basalt pebbles.
Layer IV	63+ cmbs	Dark grayish brown (10 YR 3/2) silty clay; moderate, fine, crumb; friable, very sticky, plastic; contains brass, rusted metal, plastic, glass.

The concrete rubble identified within Trench 24 confirmed to the archaeologists that the footings and slabs were indeed deposited rather than purposely placed in their location. They formed no discernible pattern and in fact, appeared to be in more disarray than they did in Trench 5.

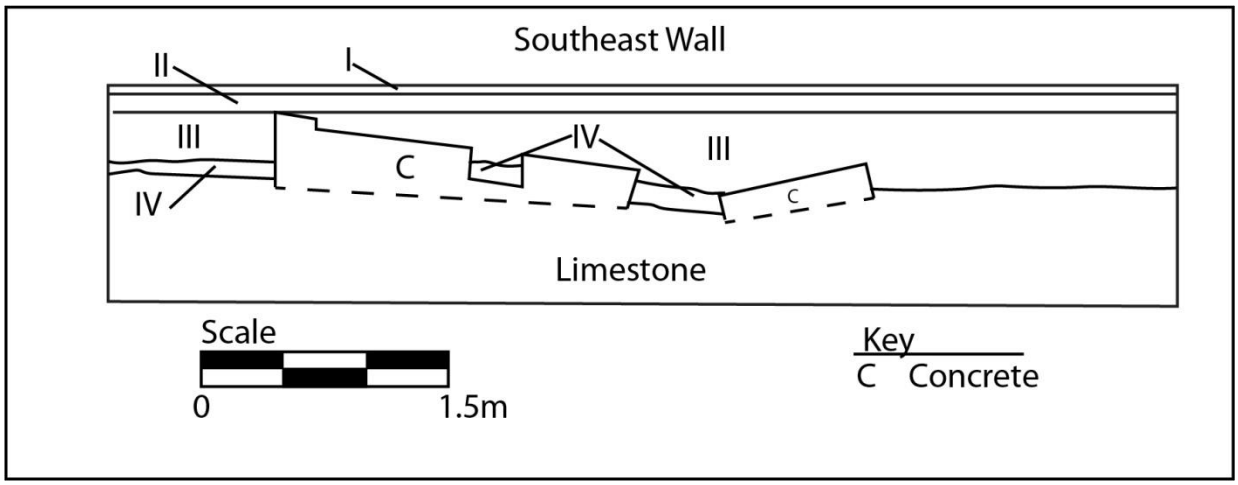

Figure 59. Trench 24, Southeast Wall profile.

Figure 60. Photo of Trench 24 profile, view to Southeast.

6.0 LABORATORY ANALYSIS

Of the 24 trenches excavated during the project, 14 of the trenches contained historic artifacts. A total of 141 historic artifacts were recovered. No traditional artifacts or resources were identified within any of the trenches. The majority of artifacts identified were whole and fragmentary glass bottles mainly associated with the use of the area for the former bowling alley (Stadium Bowl-o-Drome) constructed in 1955 and parking facility for the adjacent Honolulu Stadium. However, there were several household items that were likely deposited by residents that lived in the vicinity.

The artifacts recovered are described below and summarized in Table 2 at the end of this section.

Trench 3

All 28 artifacts recovered from Trench 3 were collected from Layer VII (Figure 61, Figure 62, Figure 63, and Figure 64). These include:

- a clear glass two-piece mold soda bottle base and side fragment. Embossed on the side is a portion of the word "Honolulu HI" and is likely a fragment from a Honolulu Soda Works bottle. The bottle likely dates between 1940 - 1950.
- Two green ceramic fragments from a straight-sided cup. Possibly a tea cup. Undetermined date.
- Six ceramic bowl base and side fragments with blue on white floral designs. Japanese origin, unknown date.
- One white porcelain plate fragment, base with a faint mark on the base: "Limoges, A. Lanternier, Franc". Undetermined date.
- Fifteen saw-cut mammal bone fragments. Most are long bone fragments cut marks in multiple locations. Likely from a cow.

Figure 61. Ceramic artifacts recovered from Trench 3.

Figure 62. Glass artifacts recovered from Trench 3.

Figure 63. Saw-cut faunal remains recovered from Trench 3.

Figure 64. A ceramic plate fragment made in France.

Trench 5

Only a single clear glass bottle body fragment was collected from Trench 5, Layer IV. The glass fragment is from a Diamond Head Beverage Company (Figure 65). This fragment dates between the 1950s and 1970s.

Figure 65. Glass bottle fragment recovered from Trench 5.

Trench 9

A total of 25 artifacts were recovered from this trench (Figure 66 and Figure 67). All artifacts were recovered from Layer V and include:

- Seven green glass bottle fragments
- One brown glass fragment
- One green glass Coke bottle
- Eleven clear glass bottle fragments
- Five clear glass bottles

Three of the clear bottles contain makers mark (Figure 67). One bottle, from the Hazel Atlas Company dates between 1923 and 1982. The second bottle contains the letter "O" within a diamond with the plant code 20, and a date code of 3. This bottle dates to the 1930s. The third bottle contains the letter "O" within a diamond with the plant code 2A, and a date code of 43. This bottle dates to 1943.

Figure 66. Selection of glass bottles recovered from Trench 9.

Figure 67. Glass bottle bases recovered from Trench 9.

Trench 11

Ten artifacts were recovered from Trench 11 from within Layer III (Figure 68, Figure 69, and Figure 70). These include:

- Five saw-cut animals bones
- Two clear glass bottle figments
- One brown glass bottle fragment
- One-ceramic tea cup fragment
- One ceramic insulation rod

The brown glass bottle is from the Dai Nippon Brewing Company which operated between 1906 and 1949.

Figure 68. Glass artifacts recovered from Trench 11.

Figure 69. Ceramic artifacts recovered from Trench 11.

Figure 70. Faunal remains recovered from Trench 11.

Trench 12
Twenty four artifacts (Figure 71, Figure 72, and Figure 73) were recovered from Trench 12 from within Feature A. These include:

- One clear glass bottle
- 11 clear glass fragments
- eight green glass fragments
- two brown fragments
- a light bulb fragment
- a saw-cut animal bone.

The green glass bottle is embossed on the bottom with t the letter "O" within a diamond with the plant code of 65 and a date code of 41. This bottle is from Owens-Illinois and dates to 1941.

Figure 71. Glass artifacts recovered from Trench 12.

Figure 72. A Glass light bulb recovered from Trench 12.

Figure 73. Saw-cut animal bone collected from Trench 12.

Trench 14
Three artifacts were collected from the backdirt pile in Trench 14 so the exact provenance is unknown (Figure 74, Figure 75, and Figure 76). These items include:

- Two ceramic bowl fragments (from one vessel)
- A concrete fragment

The ceramic fragments from a nearly complete bowl, similar to a gravy bowl or a small platter. The makers mark on the bottom of the bowl states: "John Maddock & Sons LTD England. Rec R". The company began in 1855 and operated into the 1960's. An approximate date for this item is post 1896, based upon the makers mark.

Figure 74. A concrete fragment recovered from Trench 14.

Figure 75. Conjoined ceramic bowl fragments (made in England) recovered from Trench 14.

Figure 76. Base of ceramic bowl from Trench 14 showing makers' mark.

Trench 15
Two artifacts were recovered from Trench 15, Layer VII (Figure 77). They include:

- A aqua glass bottle fragment
- Green glass bottle neck fragment

The aqua glass fragment contains a patent mark "Priof" on the neck. The groove is similar to the patented "priof" bottle feature, used to open a crown cap bottle with any non standard bottle opener. This patent mark dates to December 11, 1911.

Figure 77. A green glass bottle neck fragment recovered from Trench 15.

Trench 16
Seven artifacts were recovered from Trench 16, Layer VI (Figure 78). They include:

- Six green and white ceramic jug fragments (one vessel)
- One blue on white tea cup fragment

No makers' marks were present on the ceramics.

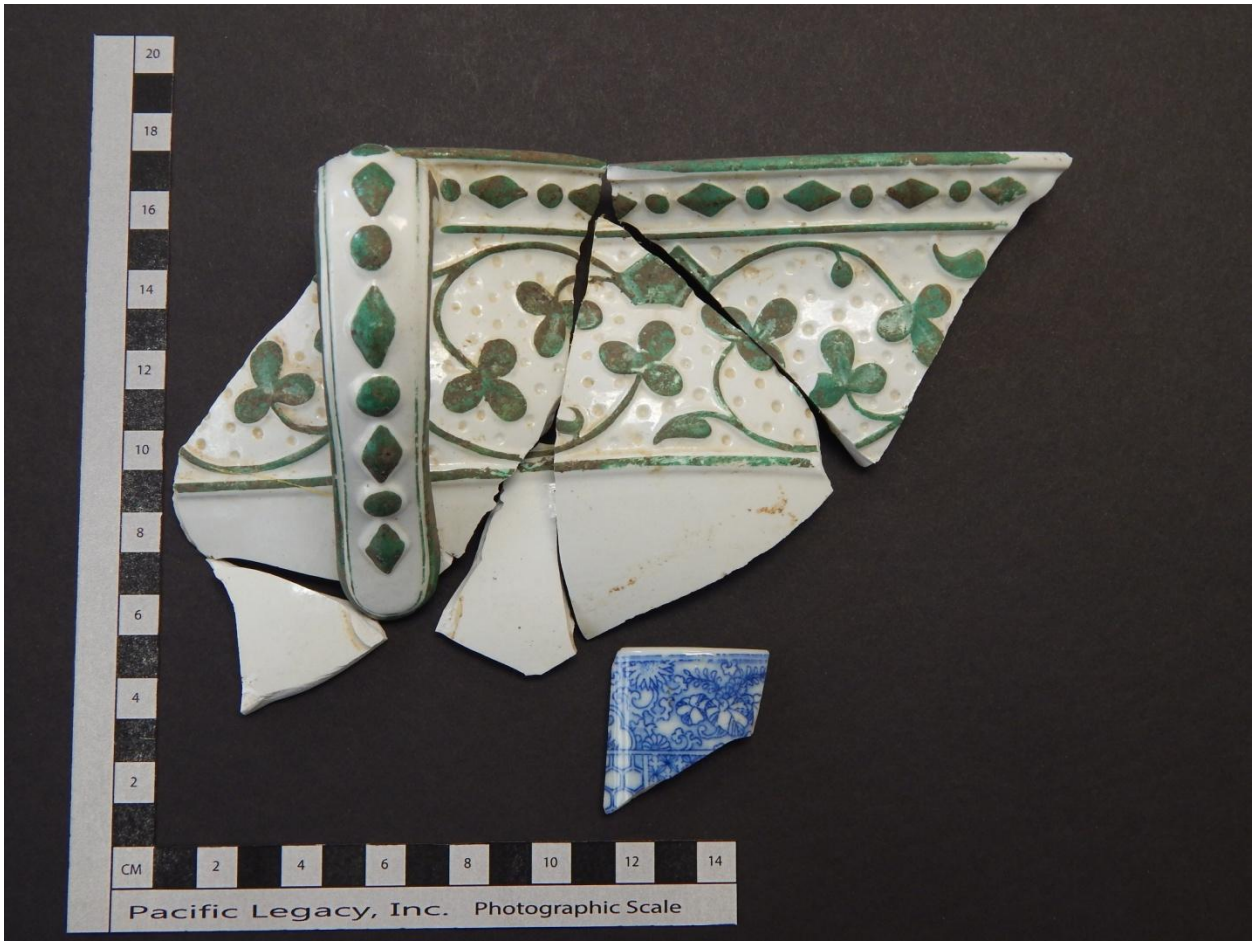

Figure 78. Ceramic artifacts recovered from Trench 16.

Trench 18

Five artifacts were recovered from Trench 18, Layer II (Figure 79). They include:

- Two green glass bottle fragments
- One white ceramic fragment
- Two fragments of plastic sheeting

The green "Coke" bottle fragment contains the "Hobble skirt" design which was created in 1915/16 and continues to today.

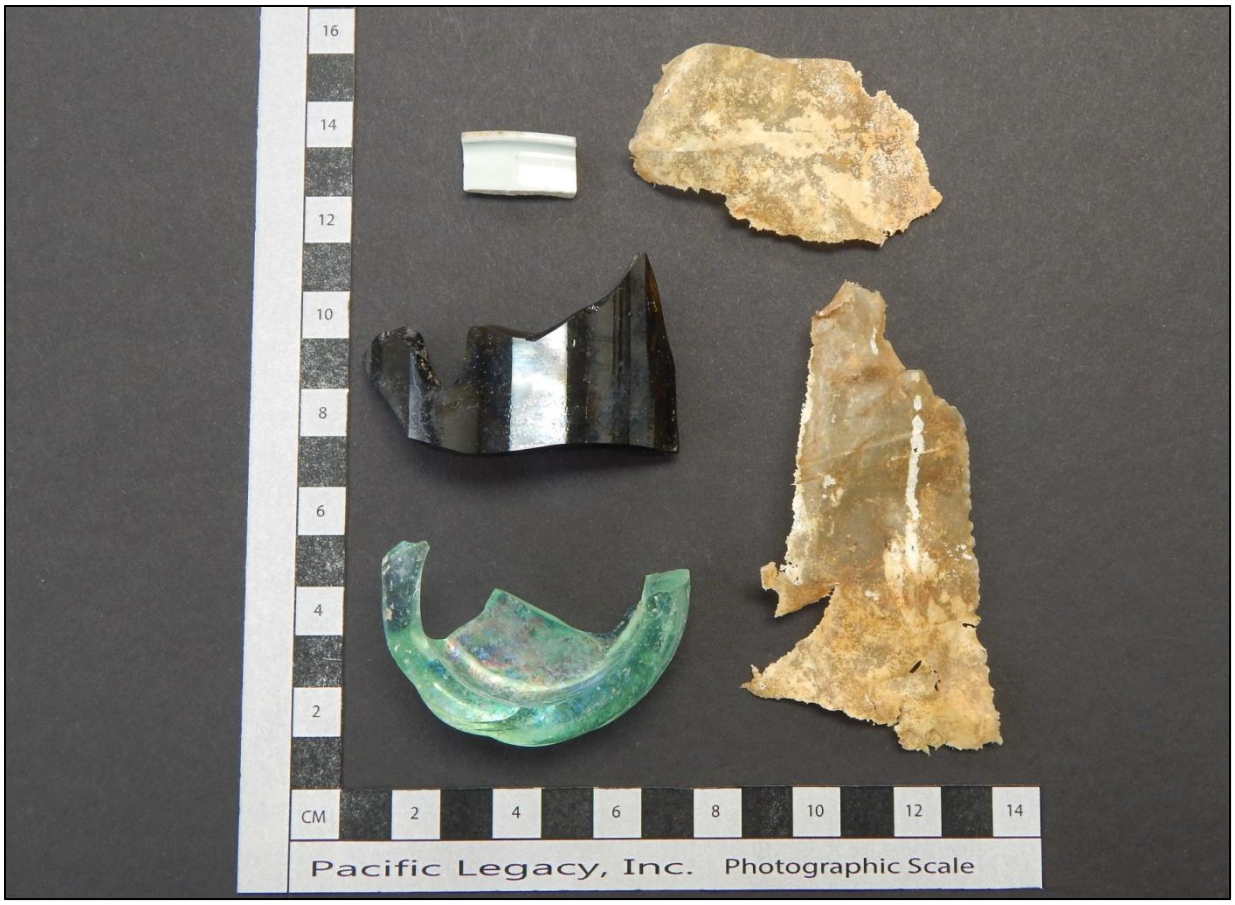

Figure 79. Artifacts recovered from Trench 18.

Trench 19
A total of 18 artifacts were recovered from Trench 19, Layer IV (Figure 80 and Figure 81). These include:

- One clear glass bottle fragment
- One aqua glass bottle fragment
- One green glass bottle fragment
- One white ceramic jug fragment
- Three white tea cup fragments
- Four white plate fragments
- Two blue on white bowl fragments
- Five undetermined ceramic fragments

One of the plate fragments contain a stamp stating "…ONSTONE CHINA". Unfortunately, no date could be determined for the artifact.

Figure 80. Glass items recovered from Trench 19.

Figure 81. Ceramic items recovered from Trench 19.

Trench 21
Four artifacts were recovered from Trench 21, Layer VI (Figure 82). All four items are white ceramic tea cup/bowl fragments from separate vessels. One contains a undetermined bronze /gold design.

Two markings were found on the ceramics (Figure 83). The first fragment is a plain white refined earthenware cup fragment consisting of a portion of a flat base, and a small amount of the body with a unidentified orange pattern.

The second fragment (Figure 83) plain white porcelain cup fragment consisting of a portion of the base and body (undetermined size). Mark on the base in dark green (*TRADE MARK*MADE IN JAPAN*) in banner around the outside, with a five-petal flower in the shape of 5 M's in the center colored in. This artifact likely dates from post WWII.

Figure 82. Ceramic artifacts recovered from Trench 21.

Figure 83. Close-up of two ceramic artifacts with markings.

Trench 22
This trench contained four artifacts collected from Layers VI and VII. The items include:

- One fragment of melted milk glass
- One metal nail
- One brick fragment
- One drainage tile fragment

The milk glass bottle (Figure 84) container measures 8 cm tall x 4.5 cm thick with a portion of the neck and body melted and collapsed into the interior. The vessel has 10 even sides with a round opening (uncertain closure type). The base has four "Kanji" characters that could not be translated.

Figure 84. Milk glass bottle recovered from Trench 22.

Trench 23
A total of three artifacts were collected from Trench 23, Layers III-V. They include:

- A clear glass bottle neck fragment
- Two ceramic fragments

One of the ceramics was a blue (Figure 85) on white transfer print porcelain rim fragment (undetermined design type); likely a shallow bowl.

Figure 85. Ceramics recovered from Trench 23.

Trench 24
Seven artifacts (Figure 86 and Figure 88) were recovered from Trench 24, Layer IV. They include:

- Green glass bottle fragment (Coke)
- Two plastic sheets
- A plastic fork fragment
- One fencepost collar
- One washer
- One crushed tin can

The green "Coke" bottle fragment contains the "Hobble skirt" design which was created in 19115/16 and continues to today.

Figure 86. Metal items recovered from Trench 24.

Figure 87. Glass fragment recovered from Trench 24.

Figure 88. Plastic items recovered from Trench 24.

Table 2. Detailed breakdown of artifacts recovered during testing.

Artifact List	Trench 3	Trench 5	Trench 9	Trench 11	Trench 12	Trench 14	Trench 15	Trench 16	Trench 18	Trench 19	Trench 20	Trench 21	Trench 22	Trench 23	Trench 24
Glass Bottles															
Clear Glass			5		1										
Fragments	2	1	11	2	11					1				1	
Aqua Glass- Fragments	2						1			1					
Milk Glass													1-melted		
Brown Glass				1											
Fragments			1		2										
Green Glass			1												
Fragments			7		8		1		2	1					1
Totals	4	1	25	3	22	0	2	0	2	3	0	0	1	1	1
Miscellaneous Glass															
Miscellaneous/Other					1-lightbulb fragment										
Totals	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Ceramics															
Jug-Fragments								6		1					
Tea cup/Mug															
Fragments	2			1				1		3		4			
Plate-Fragments	1									4					
Bowl						1									
Fragments	5					1				2					
Undetermined Fragments	1								1	5				2	
Other				1-ceramic rod											
Totals	9	0	0	2	0	2	0	7	1	15	0	4	0	2	0
Metal															
Item/Other													1-nail		1-fence post collar, 1-washer, 1-tin can(crushed)
Totals	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
Plastic															
Miscellaneous/Other									2-plastic sheeting						2-plastic sheets, 1-fork fragment
Totals	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3
Stone Artifacts															

Artifact List	Trench 3	Trench 5	Trench 9	Trench 11	Trench 12	Trench 14	Trench 15	Trench 16	Trench 18	Trench 19	Trench 20	Trench 21	Trench 22	Trench 23	Trench 24
Construction Materials													**1-brick frag, 1-drainage tile frag**		
Other						1-concrete frag									
Totals	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**
Faunal															
Animal Bone	**15**			**5**	**1**										
Totals	**15**	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Complete Totals	**28**	**1**	**25**	**10**	**24**	**3**	**2**	**7**	**5**	**18**	**0**	**4**	**4**	**3**	**7**

7.0 SUMMARY OF INVESTIGATIONS

The subsurface testing program resulted in the identification of a single archaeological site (SIHP No. 50-80-14-08210) dispersed across the nearly the entire subject parcel (Figure 89 and Figure 90). This site is a historic dumping area, the distribution of which is shown in Figure 89.

The site historic dumpsite consists of a series of informal deposits situated within the natural limestone depressions on the coral shelf. Over time, the depressions have been filled by soil through natural processes. A total of 141 artifacts were recovered from the site. Artifacts and debris have also been deposited within the depressions and within fill layers across the site with depths varying depth between 30 to 115 cmbs. The artifacts recovered from the deposits range in age between 1886 and the 1960s and are associated with the historic use of the area by residents who lived in the vicinity as well as the use of the area for a parking lot and bowling alley.

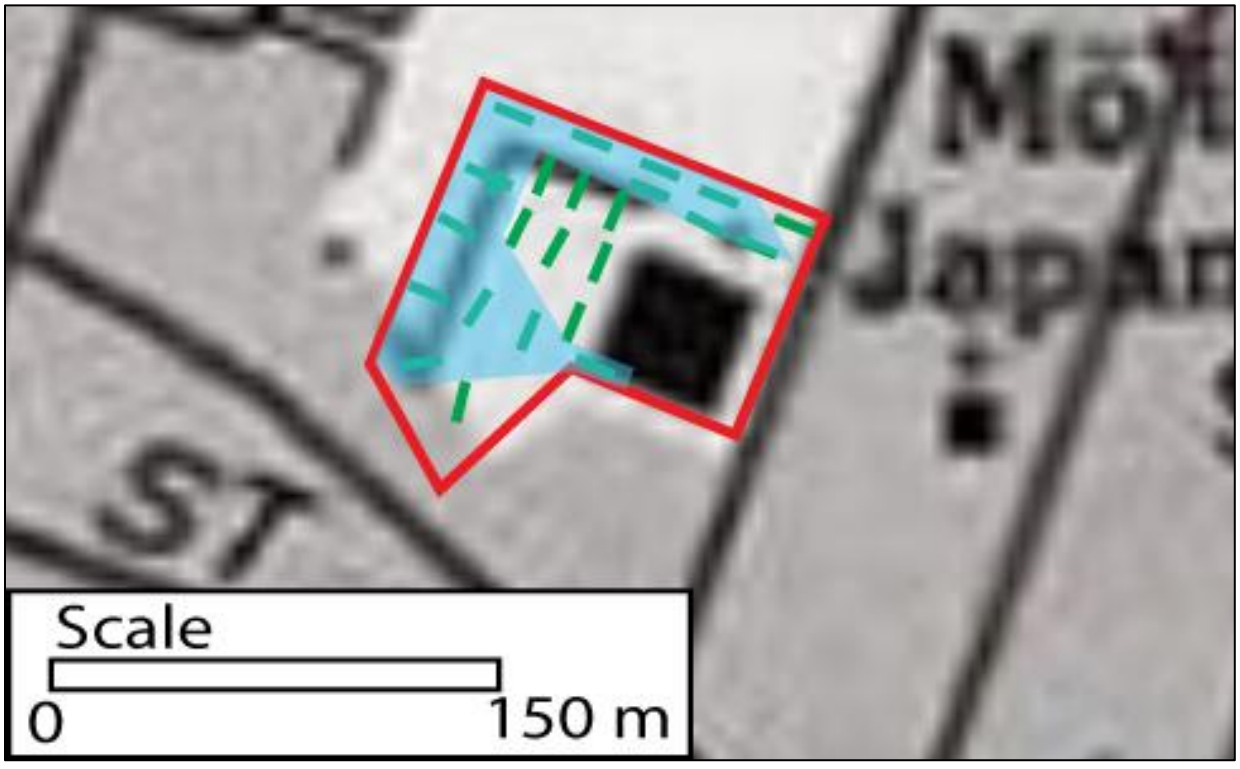

Figure 89. The project area (in red) with the location of test trenches (in green) and archaeological site 50-80-14-08210 (in blue) plotted on USGS Topographic map.

The saw-cut faunal remains and household items, ceramic teacups, bowl and plate fragments recovered from the site gives an indication that this area was used as a dumping ground by nearby residents.

These items seem appropriate for the area which had a large Japanese population and these items were common in their residences. The Dai Nippon Brewing brown glass bottle found in Layer III of Trench 11 which operated between 1906 and 1949 in Japan also supports this conclusion.

The ceramic bowl manufactured in England and recovered from Trench 14 seems to be an anomaly. The earliest date for this artifact is 1896 but seems likely to have been deposited later, possibly when the site was graded and used as a parking lot in the 1920s.

Glass soda and beer bottles recovered on the site date between the 1920s and the 1950s and represent the use of the project area related to the old Honolulu Stadium, which operated adjacent to the project area from 1926 to 1975. The glass soda bottles appear to end around 1960, just after the bowling alley began its near 50-year run of operations.

Two features identified on the site. Feature A in Trench 12 was a small modern trash deposit measuring 1.2 m wide and 16 cm thick. The top of the feature was ca. 35 cmbs. Glass bottles, glass fragments and metal were present within the feature. One bottle from within the feature dated to 1941. The second feature recorded was Feature B in Trench 14. This feature consisted of a small modern trash deposit measuring 1.9 m wide and 18 cm thick. Concrete chunks and coral cobbles were present within the feature. It is unclear whether the ceramic bowl recovered from trench 14 is associated with this feature since it was recovered from the backdirt pile.

Modern debris was also identified within the site. These items such as abandoned pipe, buried concrete chunks and footings likely indicate use of the area after the transition from a nearby parking lot used by the Honolulu Stadium (post 1926) to a active bowling alley and parking lot from 1955 when the Stadium Bowl-O-Drome was constructed.

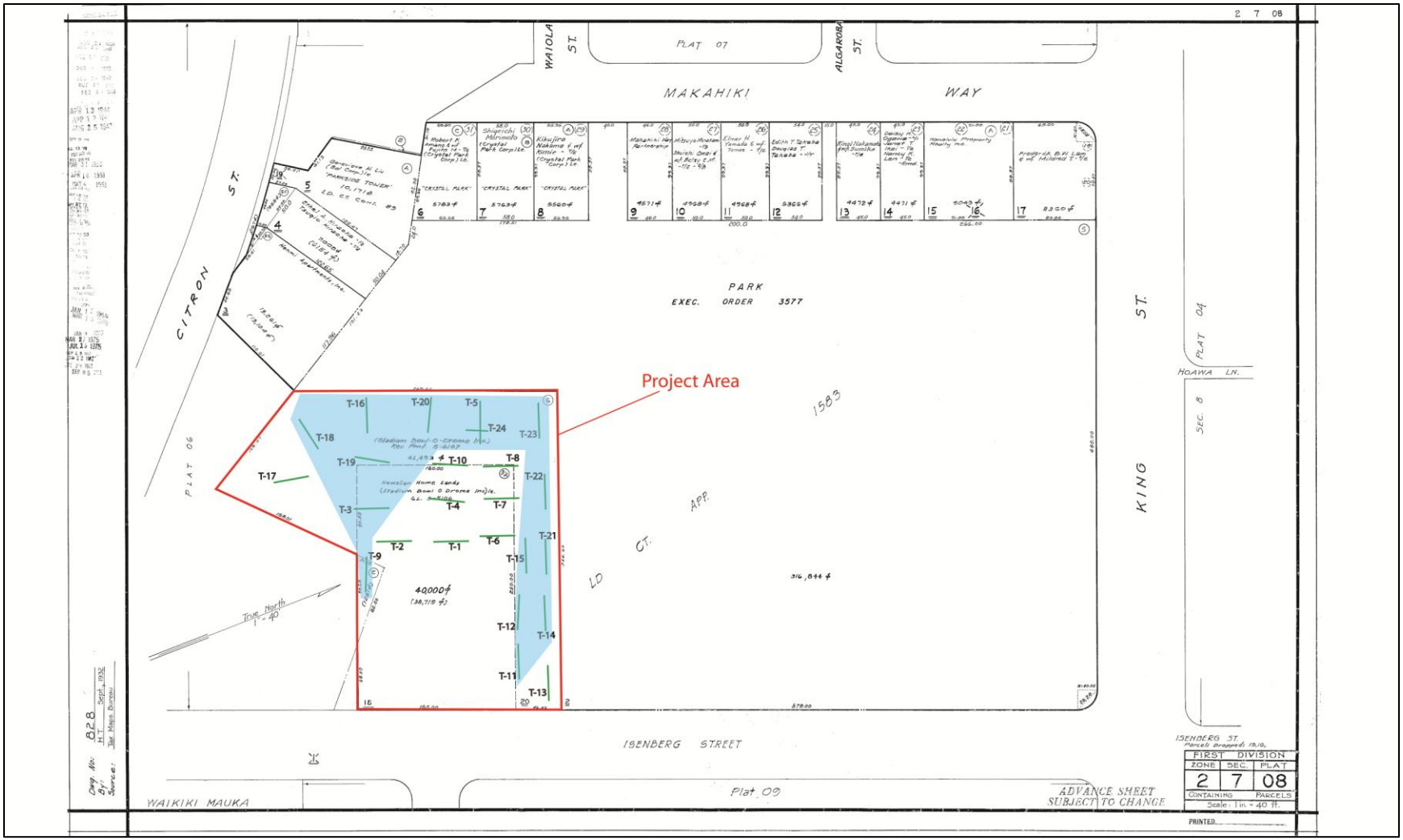

Figure 90. Project area shown on Tax Map Key with location of test trenches (in green) and approximate location of Site 50-80-14-08210 (in blue).

8.0 SIGNIFICANCE

The proposed development of 820 Isenberg Street is subject to the regulations associated with the National Register of Historic Places of 1966 (as amended). The project has secured Federal funding through HUD, due to the this federal participation, this project is considered an "undertaking" and is subject to Section 106 requirements of the National Historic Preservation Act of 1966, as per 36 CTR 800. This project is also subject to Hawai'i Revised Statutes 6E.

8.1 SIGNIFICANCE ASSESSMENTS

Hawai'i Administrative Rules §13-284-6 stipulates that all identified historic properties must be assessed for their significance and states:

> To be significant, a historic property shall possess integrity of location, design, settling, materials, workmanship, feeling, and association and shall meet one or more of the following criteria:
>
> (A) That are associated with events that have made a significant contribution to the broad patterns 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.

In addition, The State of Hawai'i recognizes the above criteria under HRS §13-275-6, and has also added a fifth significance criterion to the evaluation process:

> (e) That have an important value to the Native Hawaiian people or to another ethnic group of the State due to associations with cultural practices once carried out or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts – these associations being important to the group's history and cultural identity.

Based upon the above stated criteria, (Site 50-80-14-08210) is significant under criterion "D" for the information it may yield or is likely to yield.

9.0 DISCUSSION AND RECOMMENDATIONS

Pacific Legacy, Inc. has completed this AIS at the request of the DHHL for a ca. 1.9 acre parcel located at 820 Isenberg Street in Mōʻiliʻili on the island of Oʻahu [TMK (1) 2-7-008:018 and 020]. The property is the site of the former Stadium Bowl-O-Drome, which opened in 1955 and closed in 2004. The subject parcel is currently being considered for redevelopment; as part of the development, DHHL has secured federal funding to assist in planning. Due to the this federal participation, this project is considered an "undertaking" and is subject to Section 106 requirements of the National Historic Preservation Act of 1966, as amended. As part of the project, an Environmental Impact Statement is required that triggers HRS Chapter 343, which includes the necessity of an archaeological inventory survey of the project area.

Subsurface trench excavations were conducted throughout the current project area between 10 - 14 July, 2017. The project was under the overall supervision of Principal Investigator Paul L. Cleghorn, Ph.D. Pacific Legacy archaeologists James McIntosh, B.A., Caleb Fechner, B.A. and Mike Placher, B.A. conducted the excavations for the project.

A total of 24 trenches were excavated on the subject parcel. The locations of these trenches were located to spatially sample the area surrounding the Stadium Bowl-O-Drome. No excavations were conducted inside the former bowling alley because the environmental constraints present there posed a serious health risk. All excavations were closely monitored by the project archaeologists and were excavated to the limestone shelf.

The test excavations revealed that fill layers are present and evenly dispersed throughout the project. These fill episodes were likely done in the 1920s -1950s when the project area was used as a parking lot for the former Honolulu Stadium and later, the parking lot and structure for the Stadium Bowl-O-Drome.

A single archaeological site was identified (SIHP No. 50-80-14-08210). It is comprised of a subsurface historic deposit covering most of the parking lot area around the existing structure. The deposits consist of natural depressions within the limestone coral shelf, filled in by soil and debris. The artifacts recovered from the deposits range in age between 1886 and the 1960s. The household items, ceramic tea cups, bowl and plate fragments and saw-cut faunal remains recovered from the site points to the area being used as a dumping area by nearby residents.

The glass soda and beer bottles collected and observed in some of the trenches date to between the 1920s and the 1950s; representing the use of the project area related to the old Honolulu Stadium which operated adjacent to the project area from 1926 to 1975. The glass soda bottles appear to end around 1960, just after the bowling alley began its 50 year run of operations.

The test excavations were not able to excavate through the limestone shelf that was identified in every trench.

Although there are no reports of the Mōʻiliʻili karst being present west of Hausten Street (ca. two blocks east of the project area), it was believed there was possibility of underground cavern's being present within the project area. This possibility still exists and maybe encountered during construction.

Contaminated soil was identified within 14 of the archaeological test trenches. Barium, Lead, Lindane (a pesticide), TPH-DRO and TPH-RRO (Total petroleum hydrocarbons**)** were identified in Trenches 3, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 22, 23. The results exceeded the Hawaii Department of Health (HDOH) Tier 1 Environmental Action Levels (EALs) for Residential land use and/or HDOH EALs for Commercial/Industrial land use in some way (Element Environmental 2017: 9).

Based upon criteria set forth by the NRHP and the HRS 6E, Site 50-80-14-08210 is significant under criterion "D" for the information it may yield or is likely to yield. As a result, archaeological monitoring is recommended for any future excavation work within the project area.

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